THE

Railway and Marine World

DEVOTED TO STEAM AND ELECTRIC RAILWAY, MARINE,
GRAIN ELEVATOR, EXPRESS, TELEGRAPH AND
CONTRACTORS' INTERESTS

GENERAL INDEX

FOR 1909

ACTON BURROWS LIMITED, PUBLISHERS
157 BAY STREET, TORONTO, CANADA

STEAM RAILWAY AND GENERAL MATTER

A

Abitibi and Hudson Bay Ry...101, 347, 355, 473
Accidents at Crossings 203, 579
Accidents, Interlocking Crossing, Responsibility for 359
Acetylene, Carriage of, by Express 545
Advertisers, Index to 39, 117, 197, 275, 351, 429, 509, 589, 669, 749, 827, 905
Alaska Central Ry.....413, 747, 829, 835
(See also Alaska Northern Ry.)
Alaska Northern Ry.....881, 901
Alberta and Brazeau River Ry. 473
Alberta and British Columbia Ry. 473
Alberta and Great Waterways Ry.—
Appointments 443
Development 171, 247, 573, 743, 829, 881
Alberta and Saskatchewan Railways 125
Alberta Central Ry..17, 101, 171, 347, 355, 473, 743, 761, 841, 881
Alberta Midland Ry. 267, 427, 597
Alberta Northwestern Ry. 573
Alberta Oil, Coal and Wheat Ry. (See Pincher, Cardston and Montana Ry.)
Alberta Ry. and Irrigation Co.—
Development 473, 743
Elevators and warehouses 371, 527
Finance, Meetings, Etc. 29, 97, 179 253, 360b, 425, 505, 583, 641, 747, 835, 901
Lands Patented 363
Passenger, Etc., Rates 635
Statistics 241, 323, 471, 603
Alberta Railways 17
Alberta South Western Ry. 171, 187
Albert Ry. 583
Albert Southern Ry. 241
Alexander Gibson Ry. and Mfg. Co. 97
Algoma Central and Hudson Bay Ry.—
Development 17, 101, 171, 353, 355, 413, 442, 473, 649, 829, 881
Finance, Meetings, Etc. 425
Statistics 241, 323, 471, 603
Taxation 321
Algoma Copper Range Ry. 473
Alsek and Yukon Ry. 17, 347, 355, 473
American Association of General Passenger and Ticket Agents 631, 763, 813
American Express Co. 71, 307, 543
American Midland Ry. 573
American Railway Engineering and Maintenance of Way Association 237
American Railway Master Mechanics' Association 511, 549
Anglo-American Telegraph Co. 465
Anglo-Newfoundland Development Co....431, 731
Angus Short Line 499, 649
Anthracite Coal Ry. Co. 473
Appointments, Transportation 37, 127, 193, 269, 360d, 443 513, 593, 667, 761, 841, 915
Apprentices, Instruction of Railway Shop.. 629, 759
Arnprior and Pontiac Ry.....101, 413, 442
Ashcroft, Barkerville and Fort George Ry... 473
Associations, Directory of ...39, 117, 197, 275, 351, 429, 509, 589, 669, 749, 827, 905
Association of Railway Telegraph Superintendents 307, 465, 547, 606
Athabasca Northern Ry. 17, 443, 473
Athabasca Ry. 17, 347, 355, 473, 881
Atkinson, R., Wheel Base of Railway Rolling Stock, The *205
Atlantic and Lake Superior Ry.—
Development 473, 583
Finance, Meetings, Etc. 747
Statistics 241, 323, 471, 603
Atlantic, Quebec and Western Ry.—
Appointments 37, 413
Development 101, 131, 195, 355, 649, 881
Finance, Meetings, Etc. 29, 901
Rolling Stock 919
Statistics 241, 323
Subsidies 317, 879

B

Battleford and Lake Lenore Ry. 473
Bay of Quinte Ry. 241, 323, 471, 603, 901
Bedlington and Nelson Ry....241, 323, 471, 603
Beersville Coal and Ry. Co. 209, 241, 323, 471, 603
(See also North Shore Ry.)
Belleville and North Hastings Ry. 895
Bessemer and Barry's Bay Ry. ...241, 323, 471, 473, 603
Birthdays of Transportation Men ...13, 97, 177, 245, 337, 403, 505, 555, 631, 713, 793, 879
Blind River Colonization Ry. 355
Board of Railway Commissioners—
Accidents at Level Crossings 203
Accidents, Cost of 273
Alberta Ry. and Irrigation Co.'s Rates.. 635
Algoma Central and Hudson Bay Application for Joint Tariff with G.T.R. 35
Applications to 47
Appointments 193, 681, 761
Automatic Signalling on Railways 321
Average Demurrage Judgment 245
British Columbia and the C.P.R. 401
Canadian Freight Classification 35
Cancellation of Express Tariffs ..... 1[illegible]
Carriage of Acetylene by Express ...231, 545
Commissioners' Districts 129
Commissioners' Titles 265
Commutation Fares from Brampton and Oakville 13, 77
Distances Between Stations 91
Fences, Gates and Cattle Guards ...360c, 602
Fire Extinguishers in Passenger Cars 325, 411
Flag Stations and Stations with Agents ... 7
Freight Cars on Passenger Trains 27
High Level Bridge in Toronto 661
Highway and Farm Crossings Regulations. 191
Inspection of Electric Crossing Bells 13
Inspectors 167
Levers for Uncoupling Cars 131
Locomotive Smoke Regulations 9
Meetings 45, 129, 657
Orders by—Summaries of ...21, 85, 132, 161, 259, 339, 407, 485, 565, 643, 751, 817, 927
Packing of Railway Frogs 125
Passenger Car Lighting Regulations 31
Protection or Elimination of Grade Crossings 601
Railway Employes' Complaint 167
Railway Employes' Protection 107
Railway Grade Crossing Fund 633
Regulations for Erecting Mail Cranes ... 27
Report 360
Sanitary Precautions for Railways ...191, 425
Shipment of Long Materials and Stones 121, 637
Steel Tire Wheels for Tenders 265
Sundry Orders 821
Switch Stands, Location of 483, 571
Telegraph Rates for Press Messages 547
Telephones in Railway Stations 483
Toronto Viaduct 99
Traffic Orders ...31, 95, 129, 169, 245, 251, 329, 419, 497, 579, 665, 741, 897
Uniform Code of Operating Rules 633, 719
Book Reviews 111, 361, 417, 493, 577, 787
Boston and Albany Rd. 841
Boston and Maine Rd. 209
Boundary, Kamloops and Cariboo Central Ry. 473
Bow River Collieries Ry. 171
Bracebridge and Trading Lake Ry. 209
Brandon and Southwestern Ry. 503
Brandon, Saskatchewan and Hudson's Bay Ry. 241, 323, 471, 603
Brandon Transfer Ry. ...17, 171, 209, 347, 355
Brantford and Erie Ry. 209
Brantford and Woodstock Ry. 473
British Columbia, Alberta, Saskatchewan and Manitoba Ry. 171
British Columbia and Manitoba Ry. 347, 355, 881
British Columbia Legislation 317
British Columbia Ry. and Development Co... 743
British Columbia Southern Ry. 111, 442, 741
British Yukon Ry. (See White Pass and Yukon Route.)
Brockville, Westport and Northwestern Ry.—
Development 171, 442, 475
Finance, Meetings, Etc. 901
Statistics 241, 323, 471, 603
Brodie, H. W., Passenger Traffic for Transcontinental Railway 201
Bruce Mines and Algoma Ry.—
Development 101, 209, 355, 475
Statistics 241
Subsidies 335
Buctouche and Moncton Ry. (See Moncton and Buctouche Ry.)
Buffalo and Lake Huron Ry. 253, 641
Burks Falls and French River Ry....209, 355, 475, 747
Burrard, Westminster and Boundary Ry. and Navigation Co. 101, 347, 355, 475

C

Cabano Ry. 101, 442
Cablegrams, Cheaper 153
Cable, Proposed "All-Red" 547
Calgary and Battleford Ry. 475
Calgary and Edmonton Ry. ..97, 633, 825, 877
Calgary and Fernie Ry. 475
Calgary and Kneehill Ry. 247, 573
Calgary, Red Deer and Battleford Ry. 475
Campbellford, Lake Ontario and Western Ry. 209, 255, 335, 491, 739, 825
Canada and Gulf Terminal Ry. 101, 663, 743, 829
Canada Atlantic Ry.—
Finance, Meetings, Etc. 29, 45, 99, 187, 281, 361, 417, 493, 600, 641, 661, 747, 763, 843, 915
Statistics 241, 323, 471, 603
Taxation 321
Canada Central Ry. 247, 353, 355, 475
Canada Coals and Ry. Co. 209, 241, 323, 471, 603
Canada Southern Ry. 241, 321, 323, 505
Canada Western Ry. 573, 649, 743, 829
Canadian Brotherhood of Locomotive Firemen and Enginemen 657
Canadian Car and Foundry Co., Ltd. 891
Canadian Express Co. 71, 115, 230, 307, 362, 363, 465, 543, 627, 787, 843, 923
Canadian Freight Association 37, 363, 583
Canadian Liverpool and Western Ry. 171, 247, 442
Canadian Northern Express Co. 71, 151, 230, 307, 385, 465, 543, 627, 683, 787, 843, 923
Canadian Northern Ontario Ry.—
Appointments 360d, 915
Development 27, 113, 131, 183, 195, 267, 360c, 427, 442, 501, 595, 663, 763, 839, 895
Finance, Meetings, Etc. 747, 835
Statistics 241, 323, 471, 603
Subsidies 317, 335, 353, 445
Taxation 321
Canadian Northern Quebec Ry.—
Appointments 193, 269, 841
Development 27, 37, 113, 131, 183, 195, 267, 442, 501, 595, 663, 763, 839, 895
Finance, Meetings, Etc. 253, 583
Statistics 241, 323, 471, 603
Subsidies 317, 445, 585
Canadian Northern Ry.—
Appointments ..360d, 443, 513, 761, 841, 915
Coal Interests 741
Development 27, 113, 131, 183, 195, 267, 360c, 427, 442, 501, 595, 663, 763, 839, 895
Elevators and warehouses 371, 527
Finance, Meetings, Etc. 29, 45, 99, 187, 253, 281, 361, 417, 425, 493, 505, 571, 600, 661, 747, 763, 841, 879, 901, 915, 917
Grain Receipts at Port Arthur 191, 913
Lands Patented 363, 391, 505, 555, 633, 793, 877
Report 917
Rolling Stock 47, 115, 191, 257, 360a, 431, 515, 597, 677, 731, 831, 919
Statistics 241, 323, 471, 603
Union Station at Winnipeg *113
Winnipeg Shops *632
Canadian Pacific Ry.—
Accident at Montreal, Cause of 273
Ambulance Association Work 92
Annual Meeting 81
Appointments 37, 127, 193, 269, 360d, 443, 513, 593, 667, 761, 841, 915
Development 15, 109, 131, 181, 195, 255, 335, 347, 423, 491, 585, 639, 739, 825, 889
Elevators and Warehouses 371, 527
Finance Meetings, Etc. 45, 99, 179, 187, 253, 281, 361, 417, 493, 583, 600, 661, 763, 811, 841, 901, 915
Forestry Department 209
Grade Revision in the Rockies 655, *709
Grain Receipts at Fort William 191, 913
I.C.R. Running Rights Over 167
Industrial Department 113
Lands Patented 363, 391, 555, 633, 793, 877
Lethbridge Viaduct *795
Locomotives *360a, *557, 657, *877
Meals at Angus Shops 762
Mechanical Conference 493
Motor Cars on the 641
Observation Cars 677, *731
Orford Mountain Ry., Control of 741
Rates 11, 401
Report 735
Rolling Stock 47, 115, 191, 257, *360a, 431, 515, 597, *677, 731, 831, 919
Running Passenger Trains on Time 9
Safety League 555
Statistics 241, 323, 471, 603
Subsidies 317, 445
Taxation in Ontario 321
Telegraphs 73, 151, 231, 309, 385, 465, 545, 683, 843, 923
Telephone Dispatching ...209, 279, 663, 793
U.S. Lines 181
Y.M.C.A. at Kenora *327
Canadian Railway Club 269, 411, 891
Canadian Terminal Ry. 413, 499, 743
Canadian Ticket Agents' Association 5, 123, 675, 823
Canadian Western Ry. 171, 347, 355
Canso and Louisburg Ry. 475
Cape Breton Ry. ..209, 241, 323, 471, 585, 603
Caraquet Ry. 209, 241, 323, 471, 603
Carillon and Grenville Ry. 209, 241, 323, 471, 603
Car Reports 47, 131
Cattle Guards and Fencing 360c, 602
Central Counties Ry. 641
Central Marmora Ry. and Mining Co. 209
Central Ontario Ry.—
Development 101, 131, 195, 355, 881
Finance, Meetings, Etc. 29, 97, 505
Statistics 241, 323, 471, 603
Subsidies 317, 335
Taxation 321
Central Railway and Engineering Club 49, 81, 495, 741
Central Ry. of Canada 209, 247, 442, 475
Central Vermont Ry. 127, 671, 901
Charters, Granted, 1888 to 1908 665
Charters, Granting of 441
Chicago and Great Western Ry. ...179, 761, 841
Chicago and Kalamazoo Terminal Co. 335
Chicago and Northwestern Ry. 475
Chicago, Milwaukee and Puget Sound Ry. 355, 413, 881
Chicago, Milwaukee and St. Paul Ry. 475, 513, 881
Cincinnati, Hamilton and Dayton Rd. 761
Cobalt Range Ry. 101, 355, 442, 475
Colchester Coal and Ry. Co. 317
Collingwood Southern Ry. 101, 170, 347, 355, 475
Columbia and Western Ry. 97, 825
Commercial Cable Co. ...309, 385, 465, 627, 923
Commutation Fares from Brampton and Oakville 13, 77
Corrections for the Erring ..37, 111, 199, 411
Crawford Bay and St. Mary's Ry. 17
(See also British Columbia and Manitoba Ry.)
Crossing Bells, Electric, Inspection of 13
Crossing Fund, The Railway Grade 633
Crossings, Highway and Farm, Regulations.. 191
Crossings, Grade, Protection or Elimination of 267, 601
Crossings, Legislation 411
Crow's Nest and Northern Ry. 17, 247
Crow's Nest Coal Co. 253
Crow's Nest Southern Ry.—

Articles marked with an asterisk are accompanied by maps, portraits, or other illustrations

Development 35, 209, 887
Statistics 241, 323, 471, 603
Cuba Ry. 253, 321
Cumberland Ry. and Coal Co.—
Finance, Meetings, Etc. 179, 747
Statistics 241, 323, 471, 603

D

Delaware and Hudson Co. 17, 131, 195, 403, 743
Derrick Car for Handling Railway Rails ...*279
Detroit, Grand Haven and Milwaukee Ry. 45, 99, 187, 281, 361, 417, 493, 600, 661, 763, 843, 916
Development, Railway 17, 101, 171, 247, 355, 413, 573, 649, 743, 829, 881
Diamond Ry. and Coal Co. 829
Direct Cable Co. 923
Dominion Atlantic Ry.—
Development 649, 881
Finance, Meetings, Etc. 29, 97, 179, 253, 360b, 425, 505, 583, 641, 747, 835, 901
Statistics 241, 323, 471, 603
Dominion Central Ry. 475, 881
Dominion Express Co. 71, 151, 207, 230, 307, 385, 465, 543, 627, 787, 923
Dominion Government Telegraphs 151, 231, 233, 627, 787, 843, 923
Dominion Lime Co.'s Railway 499, 641
Dominion Telegraph Co. 627
Duluth, Rainy Lake and Winnipeg Ry.—
Appointments 193, 360d, 443
Development 427
Finance, Meetings, Etc. 29, 97, 179, 363
Duluth, South Shore and Atlantic Ry.—
Development 111, 131
Finance, Meetings, Etc. 45, 99, 187, 281, 361, 417, 493, 600, 661, 763, 835, 841, 915
Rolling Stock 257, 677
Duluth, Winnipeg and Pacific Ry. 267, 427, 501

E

Eastern British Columbia Ry.—
Development 101, 131, 195
Rolling Stock 47
Eastern Canadian Passenger Agents' Association 127, 177, 203
Eastern Townships Ry. 475, 829
Edmonton, Dunvegan and British Columbia Ry. 475, 829
Edmonton, Yukon and Pacific Ry. 241, 317
Elgin and Havelock Ry. 241, 323, 471, 475, 603
Elkhorn Northern Ry. 355
Engineers' Club of Toronto 177, 179, 563
Erie, London and Tillsonburg Ry. 475, 829
Esquimalt and Nanaimo Ry.—
Appointments 841
Development 15, 109, 181, 425, 493, 639, 741, 825, 889
Rolling Stock 831
Statistics 241, 323
Essex Terminal Ry. 477
Excelsior Coal Mining Co. 355
Express Companies, Among the 71, 151, 230, 307, 385, 465, 543, 627, 683, 787, 843, 923
Express Money Order Business, Etc. 231
Express Tariffs, Cancellation of 151

F

Farmers Ry. 101, 355, 413, 649, 881
Fencing and Cattle Guards, Railway ..360c, 602
Finance, Meetings, Etc. 29, 97, 179, 253, 360b, 425, 505, 583, 641, 747, 835, 901
Fire Extinguishers for Passenger Cars 411
Flathead Valley Ry. 247, 317
Flat Wheels, Effect of, on Rails *91
Fording Valley Ry. 477
Fort William, Grain Receipts and Shipments 191, 453, 913
Fort William Terminal Ry. and Bridge Co. 477, 573, 649
Frank and Grassy Mountain Ry.—(See Western Canadian Collieries.)
Freight Service, Efficient 865
Freight Statistics 471, 603
Frogs, Packing of Railway 125
Fuel Consumption, Locomotive 257

G

Georgian Bay and Seaboard Ry. 109, 131, 181, 195, 491, 585, 639, 739, 825
Goat River Water, Power and Light Co.... 247
Government Expenditures on Railways 317
Government Railways—
Appointments 360d, 513, 671, 841, 915
Statistics 471, 603
Government Railways Managing Board .391, 405
Graham Island Ry. 247, 573, 881
Grain Elevator Capacity 527, 925
Grain Elevator Notes 57, 139, 217, 287, 371, 451, 525, 607, 681, 787, 843, 925
Grain Elevators and Warehouses 371
Grain Elevators, Government Ownership of 217, 371
Grain Receipts at the Dual Ports 191, 913
Grain Shipments from the Dual Ports 453
Grain, Underbilling of 421
Grand Lake and Bell River Ry. 101, 413, 499, 649
Grand Trunk Pacific Branch Lines Co.—
Development 33, 123, 187, 279, 441, 442, 503, 581, 655, 837
Finance, Meetings, Etc. 505, 747
Grand Trunk Pacific Elevator at Fort William 55, *605
Elevator at Tiffin *57
Grand Trunk Pacific Elevator Co. 139, 371
Grand Trunk Pacific Ry.—
Appointments 37, 127, 193, 269, 360d, 443, 513, 671, 761
Bridges *581, *653, *733
Development 33, 37, 123, 131, 185, 195, 277, 337, 347, 439, 442, 503, *581, *653, *733, 837, 893
Elevators and Warehouses 371, 527
Finance, Meetings, Etc. 29, 99, 253, 363, 505, 835
Gradients 321
Inspection 747
Lands Patented 363, 391, 505, 555, 633, 877
President Hays on the 111
Rolling Stock 47, 115, 191, 257, 360a, 515, 597, 677, 831, 919
Statistics 241
Union Station, Winnipeg *113
Grand Trunk Pacific Telegraph Co. 73, 309, 787, 843
Grand Trunk Pacific Townsite and Development Co. 441
Grand Trunk Ry., Algoma Central and Hudson's Bay Ry. Application for Joint Tariff 35
Appointments 37, 127, 193, 269, 361, 443, 513, 671, 761, 841, 915
Commutation Fares from Brampton and Oakville 13, 77
Development 19, 199, 335, 411, 495, 599, 651, 721, 811, 891
Fast Freight Lines 513
Finance, Meetings, Etc. 29, 45, 99, 179, 187, 281, 347, 360b, 361, 363, 393, 417, 493, 600, 661, 763, 835, 843, 867, 903, 915
Inspection 747
Offices in London, Eng. *657
Penny Fares on the 195, 333
Rates to Michigan Points 719
Reports 393, 867
Rolling Stock ...47, *115, 191, 515, 731, 831
St. Clair Tunnel Operating Results 89
Statistics 241, 323, 471, 603
Stratford Shops 193
Taxation in Ontario 321
Telephone dispatching 185
Veterans' Association 493
Grand Trunk Western Ry. 45, 99, 187, 281, 361, 417, 493, 600, 661, 763, 843, 916
Great Northern Express Co. 72
Great Northern Ry.—
Appointments 515, 671
Development 35, 107, 131, 195, 257, 347, 417, 503, 577, 647, 713, 815, 887
Finance, Meetings, Etc. 583
Great North West Central Ry. 641
Great North West Telegraph Co. 151, 231, 307, 465, 843, 923
Great West Ry. 477
Guelph and Georgian Bay Ry. 477
Guelph and Goderich Ry. .15, 181, 335, 347, 639
Guelph Jct. Ry. 179, 903
Gulf Shore Ry. 209
Gutelius, F. P., Steel Rails in Canada *1

H

Ha Ha Bay Ry. 883
Halifax and Eastern Ry. 247
Halifax and Southwestern Ry.—
Appointments 193
Development 209, 241, 317, 323, 355, 573, 743
Ore Handling Plant 632
Rolling Stock 360a, 677
Statistics 471, 603
Halifax and Yarmouth Ry. 209
Hamilton and Guelph Jct. Ry. 423, 491
Hamilton Steel and Iron Co. 47
Hampton and St. Martin's Ry. (See St. Martin's Ry.)
Hammer Blow, The, from Incorrect Counterbalance *157
Hardy Bay and Quatsino Sound Ry. 17, 247, 573
Harvey Branch Ry. 209
Hereford Ry. 209, 241, 323, 471, 603
Hillcrest Ry. and Coal Co. 209, 241, 477
Howe Sound, Pemberton and Northern Ry... 413
Hudson Bay, A Railway to 19, 105, 173, 251, 333, 441, 573, 641, 821, 879
Hudson Bay Pacific Ry. 173
Hudson's Bay and North West Ry. ...477, 883
Hudson's Bay and Pacific Ry. 173, 347, 355, 477, 743
Hungerford, S. J., Instruction of Railway Shop Apprentices 629

I

Illinois Central Rd. 835
Indian River Ry. 209, 477, 649, 743
Industrial Disputes Investigation Act 391
Intercolonial Ry.—
Annual Statement 319
Appointments 127, 193, 269, 360d, 443, 671, 761, 841, 915
Branch Lines 897
C.P.R. Running Rights 167
Connecting Lines, Report on 193
Development 17, 173, 209, 247, 355, 413, 442, 477, 573, 649, 743, 833
Elevators and Warehouses 371
Finance 97, 179, 253, 583, 903
Lord Northcliffe and the 921
Rolling Stock 47, 115, 191, 257, 360a, 431, 515, 597, 831, 919
Shops and Machinery at Moncton 389, *715, 723
Statistics 241, 323, 471, 603
(See also Government Railways.)
International Association of Railway Financial Officers 745
International Coal and Mining Co. 209
International Ry. of New Brunswick—
Development 17, 37, 103, 131, 195, 209, 247, 649, 883
Rolling Stock 360a, 677
Statistics 241
International Railway Fuel Association 585
Interprovincial and James Bay Ry. 477
Interprovincial Ry. and Bridge Co. of New Brunswick 247
Inverness Ry. and Coal Co. 193, 209, 241, 323, 325, 431, 471, 603
Irondale, Bancroft and Ottawa Ry. 209, 241, 323, 471, 603, 651, 897

J

Jackson, J. V., Care and Washing Out of Locomotive Boilers 727
James Bay and Eastern Ry. 883
James Bay Ry. 321
Joliette and Lake Manuan Colonization Ry.— 103, 442, 477

K

Kamloops and Yellowhead Pass Ry. 477, 829
Kapitchouan Ry. 103
Kaslo and Lardo-Dunean Ry. 503
Kaslo and Slocan Ry. ...209, 241, 323, 471, 603
Kent Northern Ry. 209, 241, 323, 471, 583, 603
Kettle River Valley Ry.—
Development ..17, 37, 103, 247, 442, 477, 883
Statistics 241, 323, 471, 603
Subsidies 317
Kingston and Pembroke Ry.—
Development 639, 739
Finance, Meetings, Etc. 641
Statistics 241, 323, 471, 603
Taxation 321
Telegraphs 73, 151
Kingston, Smith's Falls and Ottawa Ry. 495, 891
Klondike Mines Ry. 241, 317, 323, 471, 477, 603, 747
Kootenay and Alberta Ry. 173, 247, 442, 573
Kootenay and Arrowhead Ry. 111, 181, 335, 442
Kootenay, Cariboo and Pacific Ry. 477
Kootenay Central Ry. 17, 181, 255, 335, 347, 425, 491, 585
Kootenay Ry. and Navigation Co. 209
Kootenay Valley Ry. 209
Kyle, C., Locomotive Dispatching and Terminal Facilities 789

L

Lachine, Jacques Cartier and Maisonneuve Ry. 413, 495, 499
Lacombe and Blind Man's Valley Ry. 247
Lac Seul, Rat Portage and Keewatin Ry. 335, 357
Lake Erie and Detroit River Ry. ..241, 321, 425
Lake Superior and Long Lake Ry. and Transportation Co. 247
Lake Superior and Northern Ry. and Transportation Co. 353, 357
Lake Superior Corporation 29, 97, 179, 425, 505, 583, 903
Lanigan, W. B., The Transportation Salesman 444
Lebonk and Thunder Bay Ry. 477
Legislation, Dominion 347, 442
New Brunswick 499
Ontario 353
Quebec 499
Lehigh Valley Rd. 773, 841, 915
Lenore-Mount Sicker Ry. 209
Levers for Uncoupling Cars 131
Lighting Regulations for Passenger Cars ... 31
Liverpool and Milton Ry. 209, 241, 323, 357, 471, 603
Lloyd, E. E., Shop Timekeeping and Labor Distribution 313
Locomotive Boilers, Care and Washing Out of 727
Locomotive Counterbalancing *805
Locomotive Dispatching and Terminal Facilities 789
Locomotive Smoke Regulations 9
Locomotive Turbine 893
Locomotive Works Project 265
London and Port Stanley Ry.—
Development 477
Finance 97, 747, 835, 903
Statistics 241, 343, 471, 603
London and St. Clair Ry. 477
London and South Eastern Ry. 505
Long Materials and Stones, Shipment of 121, 637
Lotbiniere and Megantic Ry. 209, 241, 323, 471, 603

M

McGillivray Coal and Coke Co. 247, 555
McGill University Department of Railways.. 913
MacKay Companies, The 231
Macleod, Cardston and Montana Ry. 477
Maganatawan River Ry. 209, 241, 471, 603
Malone and Hopkins Point Ry. 477
Manitoba and Keewatin Ry. 477
Manitoba and Northwestern Ry. 109, 363, 423, 442, 825, 877
Manitoba and Southeastern Ry. 391
Manitoba and Southwestern Colonization Ry. 391, 505
Manitoba and Great Northern Ry...195, 257, 815
Manitoulin and North Shore Ry.—
Development 247, 357, 413, 479, 505, 651, 883
Finance, Meetings, Etc. 425
Statistics 241, 323, 471, 603
Subsidies 353
Taxation 321
(See also Lake Superior Corporation.)
Marconi Wireless Telegraph Co. 73, 151, 307, 465, 627, 683, 787, 843, 923
Margaree Coal and Ry. Co. 445, 883
Maritime Coal, Ry. and Power Co.—
Development 17, 37, 173, 745, 883
Finance, Meetings, Etc. 360b, 835
Maritime Express Co. 72, 543
Marmora Ry. and Mining Co. 241
Massawippi Valley Ry. 209, 241, 323, 471,

603, 747
Matane and Gaspe Ry. 103, 413, 499
(See also Canada and Gulf Terminal Ry.)
Meadow Creek Ry. 249, 317
Medicine Hat and Northern Alberta Ry. ... 479
Michigan Central Rd.—
Appointments 443, 515, 671, 841, 915
Detroit River Tunnel 173, 253, 413, 475, 743, 881
Development 103, 415, 511, 745, 883
Report 360b
Rolling Stock 115, 431, 919
Telegraphs 309, 683
Midland Ry. 317
Midland Ry. of Manitoba—
Development 35, 107, 195, 209, 257, 347, 815
Statistics 241, 323, 471, 603, 647
Midway and Vernon Ry. 883
Mineral Range Rd. 45, 99, 187, 281, 361, 417, 493, 600, 661, 763, 841, 915
Minneapolis, St. Paul and Sault Ste. Marie Ry.—
Appointments 269, 515, 841, 915
Development 15, 111, 131, 493, 585, 641, 741, 825
Finance, Meetings, Etc. 45, 99, 187, 253, 281, 360b, 417, 493, 600, 641, 661, 763, 835, 841, 915
Report 79
Rolling Stock 191
Minudie Coal Co. 317
Moncton and Buctouche Ry. .241, 323, 471, 603
Montreal and Atlantic Ry....241, 323, 471, 603
Montreal and Province Line..241, 323, 471, 603
Montreal and Vermont Jct. Ry. 241, 323, 471, 603
Montreal Bridge and Terminal Co. 249, 415, 442, 479
Montreal Central Terminal Co. 883
Montreal, Quebec and Southern Ry. 479
Montreal Telegraph Co. 152, 627
Moose Jaw and Edmonton Ry. 479
Morrisey, Fernie and Michel Ry. 209, 241, 323, 471, 603

N

Napierville Jct. Ry.—
Appointments 761, 841
Statistics 241, 323, 471, 603
Subsidies 317
National Despatch—Great Eastern Line ... 443
National Express Co. 72, 543
National Transcontinental Ry.—
Appointments 443, 841
Development 33, 123, 131, 185, 195, 277, 337, 439, 443, 503, 581, 653, 731, 837, 893
Winnipeg shops *561
Nelson and Fort Sheppard Ry. 241, 323, 471, 603
Nelson River Ry. 829
New Brunswick and Prince Edward Island Ry. 241, 323, 471, 603
New Brunswick Coal and Ry. Co.—
Development 357, 415, 745, 883
Finance, Meetings, Etc. 360b, 499, 747
Rolling Stock 360a
Statistics 241, 323, 471, 603
New Brunswick Docks and Terminal Co. 249, 415, 499, 745
New Brunswick Ry. 641
New Brunswick Southern Ry.—
Development 255, 651
Finance, Meetings, Etc. 97, 360b
Statistics 241, 323, 471, 603
New Westminster Southern Ry 209, 241, 323, 471, 603, 887
New York Central and Hudson River Rd.—
Appointments 37, 193, 915
Finance, Meetings, Etc. 29, 179
New York, New Haven and Hartford Rd... 515
Niagara Frontier Summer Rate Committee 45, 123
Niagara Peninsular Ry. 173, 249, 353, 357
Nickel Range Ry. 883
Nicola, Kamloops and Similkameen Ry. 15, 317, 825
Nipigon Ry. 501
North American Telegraph Co. 152
North Eastern Ry. 103, 415, 499, 651
Northern Colonization Ry. 639
Northern Empire Ry. 479, 883
Northern New Brunswick and Seaboard Ry. 17, 249, 415, 499, 573, 651, 745, 829
Northern Colonization Ry. 15, 109, 131, 195, 739, 889
Northern Commercial Telegraph Co. 307
Northern Pacific Ry. 443, 515
North Lanark Ry. 103
North Shore Ry. 445
North West, Misrepresentation of the 437
North West Ranching and Packing Co. 173
Nosbonsing and Nipissing Ry. 209, 241, 321, 323, 471, 603
Nova Scotia Railways Report 399
Nova Scotia Southern Ry. 825
Nova Scotia Steel and Coal Co.'s Ry. 209, 241, 323, 471, 603, 835

O

Ontario, Hudson's Bay and Western Ry. .17, 442
Ontario, Sault Ste. Marie Ry. 253
Operating Rules, Uniform Code of 633, 719
Orford Mountain Ry. 241, 317, 323, 471, 479, 603, 741, 837
Ottawa and New York Ry.—
Development 479, 575
Statistics 241, 323, 471, 603
Taxation 321
Ottawa, Brockville and St. Lawrence Ry.... 829
Ottawa Northern and Western Ry. 15, 181, 317, 442, 739, 825
Ottawa Valley Ry. 885
Owen Sound and Meaford Ry..173, 249, 479, 829

P

Pacific and Atlantic Ry. 885
Pacific Cable Board 545, 843
Pacific Coast Coal Mines—
Development 17, 249
Rolling Stock 257, 597, 919
Pacific Northern and Omineca Ry. 123, 209, 279, 337, 503, 573
Passenger Traffic of a Transcontinental Ry, The 201
Passenger Trains, Running on Time 9
Patent Laws, Canadian 353
Pere Marquette Rd.—
Appointments 761, 773, 841, 915
Development 175
Finance, Meetings, Etc. 97, 253, 837, 903
Statistics 323, 471, 603
Telegraphs 843
Personal 41, 119, 189, 271, 349, 433, 507, 587, 659, 757, 833, 899
Phillipsburg Ry. and Quarry Co. 209, 241, 323, 471, 603
Pincher Creek and Southern Ry. 575
Pincher Creek, Cardston and Montana Ry. 357, 575
Pine Pass Ry. 829
Pontiac and Renfrew Ry. 241, 479
Port Arthur, Grain Receipts and Shipments 191, 453, 913
Port Hood Richmond Ry. 747, 837
Portland Canal Ry. 575, 745
Price, A., Efficient Freight Service 865
Prince Albert and Hudson Bay Ry. 103, 442, 829
Prince Albert and North Saskatchewan Ry... 479
Prince Edward Island Ry.—
Annual Statement 319
Appointments 360d, 671, 841
Development 17, 175, 209, 249, 357, 443, 575, 885
Finance 179, 360b, 583, 903
Statistics 241, 323, 471, 603
(See also Government Railways.)
Prince Edward Island Tunnel 175, 249, 479, 885
Prince Rupert and Port Simpson Ry. ..249, 575
Princeton Branch, Washington County Ry. 243, 323, 471, 603
Pullman Co. 127, 317
Purchasing Agents' Guide 73, 153, 233, 309, 385, 465, 545, 625, 705, 785, 861, 941

Q

Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co. 391, 633
Quebec and Lake Huron Ry. 481
Quebec and Lake St. John Ry.—
Appointments 269, 841
Development 27, 183, 209, 427, 499, 663, 763
Finance, Meetings, Etc., 29, 179, 253, 425, 505, 583, 641, 747, 837, 903
Statistics 243, 323, 471, 603
Subsidies 317
Quebec and New Brunswick Ry. ..175, 442, 481
Quebec Bridge and Ry. Co. 29, 175, 243, 337, 503
Quebec Central Ry.—
Appointments 361
Development 17, 175, 209, 415, 829, 885
Finance, Meetings, Etc., 97, 179, 253, 360b, 425, 505, 583, 641, 747, 837, 903
Statistics 243, 323, 471, 603
Subsidies 317
Quebec Eastern Ry. 103, 575, 651, 745
Quebec Midland Ry. 481
Quebec, Montreal and Southern Ry.—
Appointments 761, 841
Development 17, 103, 131, 195, 249, 415, 481, 575
Statistics 243, 471, 603
Subsidies 445
(See also Delaware and Hudson Co.)
Quebec Oriental Ry. 103, 442, 583
Quebec Ry., Light and Power Co. (See Electric Railways.)
Quebec, Saguenay and St. Lawrence Ry.... 481
Quebec Transportation Club 471, 625, 893
Queen Charlotte Islands Ry. 829
Queens County Ry. 831
Quinze and Blanche River Ry. ...175, 442, 481

R

Rail Ingots, Pipes in 599
Rails, Fastenings and Tie Plates *679
Railways, Department of, Report 903
Railway Employes' Complaint 167
Railway Employes, Protection for 107
Railway Interests in Parliament 121, 887
Railway Lands Patented 95, 179, 275, 363, 391, 505, 555, 633, 793, 877
Railways Outside Dominion Jurisdiction 209, 239
Red Deer Ry. 175, 575
Red Deer Valley Ry. 481
Red Mountain Ry. 243, 323, 471, 603
Red River Valley and Hudson Bay Ry. 575
Regina and Hudson's Bay Ry. 481
Regina Southern Ry. 885
Reid Newfoundland Co.—
Appointments 443
Development 831, 885
Rhodes, Curry Co., Ltd. 605, 667
Rimouski International Ry. 19, 175
Rocky Mountain Ry. and Coal Co. 481
Rolling Stock Notes 47, 113, 191, 257, *360a, 431, 515, 597, *677, 731, 831, 919
Rolling Stock Statistics 279
Royal Collieries, Ltd. 105, 575
Rutland and Noyan Ry. 243, 325, 471, 603
Ryder, W. W., Train Dispatching by Telephone 83

S

St. Boniface Union Stockyards 177
St. Clair Tunnel—
Operating Results 89
Statistics 243, 325, 471, 605
St. John Bridge and Railway Extension Co. 99
St. John Valley Ry. 249, 357, 415, 499, 745, 885
St. Lawrence and Adirondack Ry. 243, 325, 471, 605
St. Lawrence and Ungava Ry. 831
St. Louis and Richibucto Ry. 243
St. Martins Ry. 241, 323, 471, 603
St. Marys and Western Ontario Ry.—
Development 15, 109, 131, 195, 255, 347, 423, 491, 889
Finance, Meetings, Etc., 29, 37, 258, 505, 903
St. Maurice and Eastern Ry. 249, 415, 442
St. Maurice Valley Ry. ...15, 37, 415, 481, 745
Salisbury and Albert Ry. 249, 347, 357, 747
Salisbury and Harvey Rd. 175, 243, 325, 471, 603, 641
(See also Salisbury and Albert Ry.)
Sanitary Precautions for Railways 191, 425
Saskatchewan and Alberta Railways 125
Saskatchewan Central Ry. 105
Saskatchewan Department of Railways 89
Saskatchewan Northern Ry. 427
Saskatchewan Valley and Hudson's Bay Ry. 175, 481
Sault Ste. Marie and St. Joseph Island Ry... 249
Schomberg and Aurora Ry. 243, 325, 471, 501, 605
Schwitzer, J. E.—
Reduction of Kicking Horse Pass Grade on C.P.R. *709
Lethbridge Viaduct on C.P.R. *795
Shop Timekeeping and Labor Distribution.. 313
Signalling, Automatic, on Railways 321
Silent Partners in Railway Building 199
South East Kootenay Ry. 105, 249, 317
Southern Alberta Ry. 575
Southern Central Pacific Ry. 19, 175, 347, 357, 481
South Ontario Pacific Ry. 739
South West Alberta Ry. 175
Spokane International Ry. 747
Stanstead, Shefford and Chambly Ry. 243, 325, 471, 605
Stations, Distance Between 91
Stations, Flag, and With Agents 7
Statistics, Railway, 1907-08 239, 241, 323, 471, 603
Steel Rails in Canada *1
Strathcona and Brazeau Ry. 175
Strathcona Central Ry. 575
Subsidies for Dominion Railways 131, 585
Subsidies, Ontario Railway 335
Subsidy Commission Suit, A 391
Subsidy Contracts 37, 445, 879
Superior and Western Ontario Ry. 105, 335, 359, 443, 831
Superior and Western Ry. 745
Switch Stands, Location of 483, 571
Sydney and Louisburg Ry.—
Development 105, 131, 195, 209
Statistics 243, 325, 471, 605

T

Taxation of Railways, Ontario 321
Tehuantepec Route, The 517
Telegraph and Cable Matters 73, 151, 231, 307, 385, 465, 545, 627, 683, 787, 843, 923
Telegraph Rates for Press Messages 547
Telegraphy, Wireless, on Moving Trains ... 385
Telephones in Railway Stations 483
Temagami, Cobalt and Temiskaming Ry. ... 481
Temiscouata Ry.—
Appointments 841
Finance, Meetings, Etc., 29, 99, 179, 360b, 583, 641
Rolling Stock 360a, 831
Statistics 243, 325, 471, 605
Temiskaming and Northern Ontario Ry.—
Annual Statement 319
Appointments 37, 127, 193, 269, 671
Development 19, 105, 131, 175, 195, 209, 249, 353, 359, 415, 481, 575, 651, 745, 831, 885
Finance 99, 179, 425, 505, 583, 747, 837, 903
Rolling Stock 115, 191, 257, 353, 360b, 431, 677, 731, 831, 919
Statistics 243, 325, 471, 605
Telegraphs 73, 231, 923
Thessalon and Northern Ry. 105, 415, 442, 745, 831
Thousand Islands Ry. 243, 321, 325, 443, 471, 605
Tie Preservation 431
Tillsonburg, Lake Erie and Pacific Ry. 15, 109, 131, 181, 195, 253, 335, 442, 585
Tobique and Campbellton Ry. 251, 417, 499, 639, 739
Tobique, Gypsum and Colonization Ry. 491
Toronto Eastern Ry. 831
Toronto, Hamilton and Buffalo Ry. 243, 321, 325, 471, 505, 605, 841
Toronto, High Level Bridge in 661
Toronto Terminal Ry. 914
Toronto Viaduct 99, 417
Track Laid in 1908 .....131, 195
Trade and Supply Notes 45, 95, 185, 267, 435, 577, 655, 823, 916
Train Dispatching by Telephone 83, 185
Trainmaster, How to be a First Class 671
Trans-Canadian Ry. 481
Trans-Niagara Bridge Co. 837
Transportation Salesman, The 444
Twin Trees Mines Ry. (See Northern New Brunswick and Seaboard Ry.)

U

United Gold Fields of British Columbia ... 577
(See also Western Canadian Colleries.)

Articles marked with an asterisk are accompanied by maps, portraits or other illustrations

United States Express Co. 307

V

Vancouver and Coast-Kootenay Ry. 885
Vancouver and Lulu Island Ry. 37, 639
Vancouver and Nicola Valley Ry. 885
Vancouver and Northern Ry. 175, 577
Vancouver Copper Co. 209, 243
Vancouver, Fraser Valley and Southern Ry. 19, 175, 347, 359, 481
Vancouver Island and Eastern Ry. 481, 885
Vancouver, Victoria and Eastern Ry. and Navigation Co.—
Development 107, 195, 257, 347, 503, 577, 647, 713, 815, 887
Statistics 243, 325, 471, 605
Vancouver, Westminster and Yukon Ry.—
Development 105, 175, 347, 359, 417, 483, 887
Statistics 471, 605
Vaughan, H. H.—
Effect of Flat Wheels on Rails *91
Hammer Blow From Incorrect Counterbalance *157
Locomotive Counterbalancing *805
Victoria and Barkley Sound Ry. ..19, 177, 251, 317, 443, 577
Victoria and Sidney Ry. 209, 243, 325, 471, 583, 605
Victoria Rolling Stock Co. of Ontario 321
Victorian State Railways, Australia 81, 279, 555
Victoria Terminal Ry. and Ferry Co. 209, 243, 325, 471, 605

W

Wabash Rd.—
Appointments 761, 762
Statistics 243, 325, 471, 605
Walkerton and Lucknow Ry. 15, 109, 131, 195, 335, 347, 491, 739
Wellington Colleries Railway 209, 243, 325, 471, 605
Western Alberta Ry. 483
Western Canada Railway Club ...177, 269, 347
Western Canadian Collieries 641, 887
Western Coal and Coke Co. 577
Western Union Telegraph Co. 151, 231, 307, 385, 627, 923
West Ontario Pacific Ry. 739
Wheel Base of Railway Rolling Stock *205
Wheels, Steel Tire, for Tenders 265
White Horse and Alsek Ry. 483
White Pass and Yukon Route 29, 195, 241, 253, 323, 360b, 425, 471, 473, 583, 603, 641, 747, 837, 903
Wildman, C. B., How to be a First Class Trainmaster 671
Windsor Tunnel and Lake Erie Ry. 19
Winnipeg and Northern Ry. 251, 347, 887
Winnipeg and Northwestern Ry. 19, 177, 359, 483
Winnipeg City Power Plant Line 19, 105, 131, 195
Winnipeg, Salina and Gulf Ry. 887
Wisconsin Central Ry. 130, 179, *187, 515, 583, 763, 837
(See also Minneapolis, St. Paul and Sault Ste. Marie Ry.)

Y

Yellowhead Pass Coal and Ry. Co. 105
York and Carleton Ry.—
Development 177, 209
Statistics 243, 325, 471, 605
Subsidies 317

ELECTRIC RAILWAY DEPARTMENT

A

Aroostook Valley Rd. 608, 639

B

Belleville Radial Ry. 353, 365
Berlin and Bridgeport Electric St. Ry.—
Development 769
Finance, Meetings, Etc. 771
Statistics 285
Taxation 365
Berlin and Waterloo St. Ry.—
Development 769
Finance, Meetings Etc. 524
Statistics 285
Berlin, Waterloo, Wellesley and Lake Huron Ry. 491
Belleville Radial Ry. 281
Brantford and Hamilton Ry.—
Development 51, 217, 521
Report 209
Statistics 285
Brantford St. Ry.—
Development 51, 135, 281, 447, 683, 847
Notes 370, 687
Statistics 285
British Columbia Electric Ry.—
Development 51, 135, 281, 365, 447, 521, 608, 683, 769, 847, 929
Finance, Meetings, Etc., 53, 137, 215, 283, 369, 450, 524, 609, 685, 771, 849, 933
Fraser Valley Branch *845
Locomotives *765
Notes 54, 370, 451, 611, 687, 773, 933
Report 133
Rolling Stock 287, 369, *765, 773, 931
Statistics 285
Buffalo, Lockport and Rochester Ry. 687
Buffalo, Niagara and Toronto Ry. 522
Bullocksville and Alix Electric Ry. 365

C

Calgary St. Ry.—
Development 51, 135, 214, 281, 447, 522, 608, 683
Finance 685, 849
Notes 773
Rolling Stock 286, 369, 687
Campbell River Power Co. 447
Canadian Street Railway Association ..217, 517
Cape Breton Electric Co.—
Development 847, 929
Finance, Meetings, Etc. 215, 609, 933
Notes 139, 933
Statistics 285
Chatham, Wallaceburg and Lake Erie Ry.—
Development 365, 522, 847, 929
Finance, Meetings, Etc. 137, 365
Notes 525, 773, 933
Rolling Stock 451
Statistics 285
Chicoutimi Pulp Co. 847
Cobourg, Peterborough and Kawartha Lakes Electric Ry. 135
(See also Cobourg Radial Ry.)
Cobourg, Port Hope and Havelock Electric Ry. 135, 214, 281, 353, 365, 522
Cobourg Radial Ry. 353, 365, 447
Cornwall St. Ry.—
Statistics 285
Taxation 365

D

Desjardins Interurban Ry. 51, 365
Detroit United Ry. 137
Development 51, 135, 214, 281, 365, 447, 521, 608, 683, 769, 847, 929
Dominion Power and Transmission Co.—
Appointments 217
Finance, Meetings, Etc. 53
Notes 55
Report 209
Dominion Ry. and Plaster Co. 214
Dunnville, Wellandport and Beamsville Electric Ry. ..51, 135, 353, 367, 447, 608, 683

E

Eastern Ontario Electric Ry. 53, 353, 367
East Ontario Counties Electric Belt Line Ry. 135
Edmonton Radial Ry.—
Development 769
Finance 215, 369, 522, 609, 771, 921
Notes 55
Rolling Stock 54, 139, *611, 933
Egerton Tramway Co.—
Development 522
Finance, Meetings, Etc. 524
Statistics 285
Electric Shock, Resuscitation After 517

F

Finance, Meetings, Etc., 53, 137, 215, 283, 369, 450, 524, 609, 685, 771, 849, 933
Fort Erie and Buffalo Bridge Co. 214
Fundy Tidal Power Co. 367

G

Galt, Preston and Hespeler St. Ry.—
Development 491
Statistics 285
Taxation 365
Goat River Water Power and Light Co. 609
Grand Valley Ry.—
Development 281, 847, 929
Rolling Stock 139, 370, 451
Statistics 285
Tariffs 91
Guelph Radial Ry.—
Development 769, 847
Finance, Meetings, Etc. 933
Statistics 285

H

Halifax Electric Tramway—
Finance, Meetings, Etc., 53, 215, 283, 363, 369, 450, 609, 685, 771, 849, 933
Notes 54, 369, 773
Report 363
Rolling Stock 55, 731, 773
Statistics 285
Hamilton and Dundas St. Ry.—
Development 53
Notes 55
Report 209
Statistics 285
Taxation 365
Hamilton, Galt and Berlin Ry. 522
Hamilton, Grimsby and Beamsville Electric Ry.—
Development 209
Report 209
Statistics 285
Taxation 365
Hamilton Radial Ry.—
Development 684, 769
Notes 773
Statistics 285
Taxation 365
Hamilton St. Ry.—
Development ..53, 135, 215, 353, 447, 684, 929
Finance, Meetings, Etc. 921
Notes 369, 611, 687
Report 209
Statistics 285
Taxation 365
Hamilton, Waterloo and Guelph Electric Ry. 215, 523, 609, 847, 929
Heaps Lumber Co.'s Railway 367
Hull Electric Co.—
Development 135, 499, 929
Finance, Meetings, Etc. 137, 685, 933
Rolling Stock 370, 687
Statistics 285, 771
Huron and Ontario Ry. 53, 135, 209, 215, 347, 367, 523

I

International Power Co. 769
International Ry.—
Appointments 139
Finance, Meetings, Etc. 524
Niagara Falls Electric Car Fares 445
Notes 217, 451
Taxation 365
International Ry. and Development Co. 613
International Transit Co.—
Statistics 285
Taxation 365
Interurban Railways, Drinking Water on ... 609

K

Kearney High Speed Ry. 449
Kingston, Portsmouth and Cataraqui Electric Ry.—
Development 847, 929
Finance, Meetings, Etc. 524, 609, 933
Notes 139, 525
Statistics 285
Taxation 365

L

Lacombe and Blindman Valley Electric Ry.. 609
Lacombe, Bullocksville and Alix Electric Ry. 609
Laval Electric Co. 684
Lethbridge St. Ry. 929
Levis County Ry.—
Development 281
Statistics 285
London and Lake Erie Ry. and Transportation Co. 931
London and North Western Ry. 173, 442, 447, 684, 848
London St. Ry.—
Finance, Meetings, Etc., 53, 137, 283, 369, 451, 524, 609, 685, 933
Notes 54, 139, 370, 525, 933
Report 209
Statistics 285
Taxation 365

M

McRae, W. R., Overhauling Electric Railway Rolling Stock 469
Merger, Ontario Electric Railway 611
Manitoba Radial Ry. 281, 442, 523
Militia vs. Street Cars 519
Moncton Electric Tramway 447, 499, 769
(See also Moncton St. Ry., Heat and Power Co.)
Moncton St. Ry., Heat and Power Co. 135, 367
(See also Moncton Electric Tramway.)
Montreal and Southern Counties Electric Ry.—
Development 136, 215, 281, 367, 449, 523, 684, 769, 848, 931
Rolling Stock 286, 687, 773, 933
Montreal Central Terminal Co. 611, 685
Montreal Park and Island Ry.—
Development 217
Finance, Meetings, Etc. 771
Notes 451, 773
Report 927
Service and Fares 447
Statistics 285
Montreal St. Ry.—
Development 53, 217, 367
Finance, Meetings, Etc., 54, 137, 215, 283, 369, 450, 524, 610, 685, 771, 849 933
Mutual Benefit Association 519, 687
Notes 54, 139, 370, 451, 525, 687, 773
Report *927
Service and Fares 447
Statistics 285
Montreal Terminal Ry.—
Development 53, 215, 281, 347, 367
Finance, Meetings, Etc. 771
Report 927
Statistics 285
Morrisburg Electric Ry...136, 281, 353, 367, 848
Mount McKay and Kakabeka Falls Electric Ry.—
Development 53, 136, 217, 449, 848
Rolling Stock 933

N

Nelson Electric Tramway—
Development 53, 283
Statistics 285
(See also Nelson St. Ry.)
Nelson St. Ry.—
Development 931
Rolling Stock 933
Niagara Falls Electric Car Fares 445
Niagara Falls Park and River Ry.—
Notes 217, 611
Statistics 285
Niagara Falls, Wesley Park and Clifton Ry.—
Statistics 285
Taxation 365
Niagara, Lockport and Ontario Power Co.... 367
Niagara, Queenston and St. Catharines Ry... 523
Niagara, St. Catharines and Toronto Ry.—
Development 449, 771, 848, 931
Notes 525
Report 521
Statistics 285
Taxation 321
Niagara-Welland Power Co. 215, 443
Nipissing Central Ry.—
Development 367, 523, 609, 685, 848
Rolling Stock 849, 933
North Midland Ry. 215

Notes 54, 139, 217, 286, 369, 451, 525, 611, 687, 773, 849, 933

O

Ontario Railway Act 353, 365
Ontario Railway and Municipal Board—
Drinking Water on Interurban Railways. 609
Height of Street Car Steps 519, 611
Niagara Falls Electric Car Fares 445
Notes 55, 132, 217, 286, 451, 611, 731
Sandwich, Windsor and Amherstburg Ry. Service 611
Toronto Ry. Judgment 49
Toronto and York Radial Ry. Judgment.. 213
Ontario West Shore Ry. 136, 353, 367, 449, 523, 848, 931
Oshawa Ry.—
Statistics 285
Ottawa and St. Lawrence Electric Ry. 281, 353, 367, 449, 523, 771, 849, 931
Ottawa Electric Ry.—
Appointments 55
Board of Railway Commissioners' Regulations 55
Development 217, 283, 523, 609, 771
Notes 54, 139, 370, 525, 933
Report 213
Rolling Stock 369, 451, 687

P

Peoples' Ry. 53, 136, 215, 353, 367, 449, 609, 685, 849, 931
Peterboro Radial Ry.—
Development 137, 283, 353
Statistics 285
Taxation 365
Port Arthur and Fort William Electric Ry.—
Development 53, 137, 215, 283, 353, 608, 684, 849, 931
Finance 685, 849
Notes 54, 687, 931
Rolling Stock 933
Port Dalhousie, St. Catharines and Thorold Electric Ry.—
Statistics 285
Preston and Berlin Electric Ry.—
Development 491
Statistics 285

Q

Quebec and Saguenay Ry....449, 499, 523, 685
Quebec County Ry. 103, 415, 499, 685
Quebec Ry., Light and Power Co.—
Development ...283, 523, 609, 771, 849, 931
Finance, Meetings, Etc., 54, 283, 369, 451, 525, 771, 933
Notes 451, 633, 687, 773, 849, 933
Report *767
Rolling Stock 933

R

Rainy River Radial Ry. 685
Regina Interurban Tramway 137
Regina St. Ry. 849
Rolling Stock, Overhauling Electric Railway 469
Royce, G. C., Care of Interurban Electric Railway Tracks 613

S

St. John Ry.—
Finance, Meetings, Etc. 54, 369, 610
Report 521
Rolling Stock 217
St. Stephen Street Ry. 285
St. Thomas Street Ry.—
Development 449, 685, 849, 931
Finance, Meetings, Etc. ...137, 215, 451, 933
Notes 55
Sandwich, Windsor and Amherstburg Electric Ry.—
Finance, Meetings, Etc. 137
Notes 451
Report 363
Service in Sandwich 611
Sarnia St. Ry.—
Development 137, 217, 449
Statistics 285
Sherbrooke St. Ry.—
Finance, Meetings, Etc 54
Simcoe Electric Ry. and Power Co. 283, 353, 367
Southwestern Traction Co.—
Development 53, 215
Finance, Meetings, Etc., 54, 215, 283, 353, 610, 685, 771, 849
Notes 139, 525
Statistics for 1907-08 ....285, 363
Steps, Height of Street Car 519, 611
Stratford and St. Joseph Radial Ry. 283, 353, 367, 449
Sunday Electric Car Service 365
Sydney and Glace Bay Ry.—
Finance, Meetings, Etc. 215
Sydney and East Bay Tramway ...137, 367, 849

T

Taxation in Ontario 365
Tillsonburg and Southern Counties Radial Electric Ry. 215, 353, 369
Toronto—Proposed Tube Railways 929
Toronto and York Radial Ry.—
Development 137, 217, 369, 449, 685, 849
Notes 54, 217, 286, 773
Ontario Railway and Municipal Board Judgment 213
Report 211
Rolling Stock 370
Toronto, Niagara and Western Ry. 137, 215, 283, 347, 369, 523
Toronto Ry.—
Development 53, 137, 215, 217, 283, 353, 369, 449, 771, 849
Finance, Meetings, Etc., 54, 137, 369, 451, 525, 610, 685, 771, 849, 921
Notes 54, 139, 217, 611, 687
Ontario Railway and Municipal Board Judgment 49
Report 211
Toronto Suburban Ry.—
Development 215, 353, 369, 450, 609
Finance, Meetings, Etc. 215, 369
Report 211
Track, Care of Interurban Railway 613
Track Laid in 1908 217

V

Vancouver Island Power Co. 523
Von Echa Co., Winding up of the 769

W

Windsor and Tecumseh Electric Ry.—
Finance, Meetings, Etc. 137
Report 363
Windsor, Essex and Lake Shore Rapid Ry.—
Appointments 55
Development 137, 442, 609
Finance, Meetings, Etc. 54, 139
Rolling Stock 773
Winnipeg Electric Ry.—
Development 53, 217, 283, 450, 771, 849, 931
Finance, Meetings, Etc., 139, 217, 283, 525, 610, 687, 771, 849, 933
Militia vs. Street Cars 519
Notes 286, 369, 451, 525, 687, 773, 849, 933
Report 211
Rolling Stock 286, 451, 849
Winnipeg, Selkirk and Lake Winnipeg Ry... 849
Woodstock, Thames Valley and Ingersoll Electric Ry.—
Statistics 285
Taxation 365

Y

Yarmouth and Digby Electric Ry. 369, 849
Yarmouth and Eastern Ry. 369, 849
Yarmouth St. Ry. 285

MARINE DEPARTMENT

A

Algoma Central Steamship Line—
Appointments 360d
Vessels and Officers 299
Allan, H. & A., Ltd. 939
All Red Route, The 140
Anderson, Lt.-Col. W. P., Improvements in the Navigation of the St. Lawrence ... 693
Atlantic and Pacific Ocean 59, 141, 219, 290, 373, 453, 529, 617, 699, 779, 855, 939

B

Book Reviews—
Lake Shipyard Methods and Steel Ship Construction 223
Ocean Carrier, The 227
Bouchard Bros., Vessels and Officers 299
Bras d'Or Steamboat Co., Vessels and Officers 299
British Columbia and Pacific Coast 63, 145, 221, 295, 377, 459, 535, 623, 703, 785, 861, 943
British Columbia Salvage Co., Vessels and Officers 377
Brockville Transportation Co., Vessels and Officers 377

C

Calvin Co., Vessels and Officers 299
Canada Port, Docks, Storage and Warehouse Co. 269
Canada Shipping Act 442
Canadian Fishing Co., Vessels and Officers. 299
Canadian Lake and Ocean Navigation Co., Vessels and Officers 299, 371
Canadian Lake Line—
Appointments 121
Vessels and Officers 371
Canadian Lake Transportation Co., Vessels and Officers 299, 371
Canadian Northwest Steamship Co., Vessels and Officers 299
Canadian Pacific Car and Passenger Transfer Co., Vessels and Officers 299
Canadian Pacific Ry.—
Detroit River Car Ferries, Vessels and Officers 299
s.s. Princess Charlotte *63
Upper Lake Service, Vessels and Officers 377
Canal Expenditures and Traffic 305
Canal Statistics, Dominion 539
Charlottetown Steam Navigation Co., Vessels and Officers 299
Coasting Regulations for Foreign Vessels 67, 151
Coast, Lake and River Officers for 1909 299, 377
Coast Steamship Co., Vessels and Officers .. 299
Commissions, The Giving and Accepting of.. 543

D

Detroit, Windsor and Belle Isle Car Ferry Co., Vessels and Officers 299
Dominion Atlantic Ry., Vessels and Officers. 299
Dominion Marine Depot at Parry Sound...*935
Dominion Lighthouse Service Steamboat ... 775
Dominion Marine Association—
Aids to Navigation Required 463
Annual Meeting 223
Compulsory Pilotage Dues 305, 461
Grain Clearing House 140, 705
Grain Shortages in Vessels 539
Lake Carriers' Grievances 379
St. Lawrence Power Development 288
Dominion Transportation Co., Vessels and Officers 299
Drydock, Proposed, at Montreal 379

E

Earl Grey, Icebreaking Steamship for Northumberland Strait 303, 601, *781
Eastern Manitoulin Royal Mail Steamship Line, Vessels and Officers 299
Empress Transportation Co., Vessels and Officers 299

F

Farrar Transportation Co., Vessels and Officers 299
Foley, Welch & Stewart, Vessels and Officers 299
Fort William, Grain Shipments 59, 785, 937

G

Grain Clearing House 140, 705
Grain Shortages in Vessels 539
Grand Trunk Ry. Detroit River Car Ferries, Vessels and Officers 299
Great Lakes and St. Lawrence Navigation and Improvement Association 853
Great Lakes and St. Lawrence River Rate Committee 45, 123

H

Halifax and Canso Steamship Co., Vessels and Officers 299
Halifax and Inverness Steamship Co., Vessels and Officers 299
Hamilton Steamboat Co., Vessels and Officers 299
Harbor and River Improvements 229
Harbors and Piers Act 442, 542
Hudson Bay Co.'s Steamboat Service 288
Huntsville, Lake of Bays and Lake Simcoe Navigation Co., Vessels and Officers ... 377
Hydrographic Survey Steamship 779

I

Imperial Oil Co., Vessels and Officers 377
Inland Navigation Co.—
Appointments 515
Vessels and Officers 371, 377
Insurance Legislation, Marine 939
International Transit Co., Vessels and Officers 377
International Water Lines Passenger Association 123

K

Kennebecasis Steamship Co., Vessels and Officers 299
Kilkeel Co., Vessels and Officers 299

L

Lake Carriers' Grievances 379
Lake Erie Navigation Co., Vessels and Officers 299
Lake Freight Line Changes 371
Lake Grain Shipments 59, 785, 937
Lake Navigation History 527
Lake Ontario and Bay of Quinte Navigation Co., Vessels and Officers 299
Lake Shippers' Clearance Association 775

M

Manitoba, Saskatchewan and Alberta 143, 221, 295, 459, 535, 623, 703, 785, 861, 943
Marine Engineers, Regulations for 149
Marine Insurance Gambling 541
Maritime Provinces and Newfoundland 61, 141, 219, 291, 373, 454, 529, 619, 699, 781, 857, 939
Mathews Steamship Co., Vessels and Officers 299, 371
Merchants' Mutual Line 371
Merchants' Steamship Co., Vessels and Officers 299, 371
Michigan Central Rd. Detroit River Car Ferries, Vessels and Officers 299
Midland Towing and Wrecking Co., Vessels and Officers 299
Midland Transportation Co., Vessels and Officers 299
Montreal and Great Lakes Steamship Co., Vessels and Officers 299, 373
Montreal and Lake Erie Steamship Co., Vessels and Officers 299
Montreal Harbor Report 689
Montreal Transportation Co., Vessels and Officers 299, 371
Montreal, Ottawa and Georgian Bay Canal Co. 297, 463
Mutual Steamship Co.'s Bonds 379

N

Navigation, Aids to, Required 463
Niagara Navigation Co.—
Report 149
Vessels and Officers 299
Niagara, St. Catharines and Toronto Navigation Co.—
Appointments 593
Vessels and Officers 299
Northern Navigation Co.—
Appointments 193
Report 149
s.s. Hamonic 67, 539, 615

Articles marked with an asterisk are accompanied by maps, portraits or other illustrations

s.s. Waubic *533
Vessels and Officers 299
Notices to Mariners 65, 145, 219, 301, 377, 459, 527, 615, 689, 777, 851, 937

O

Ocean Steamships Subsidies Act 442, 542
Ontario and Quebec Navigation Co., Vessels and Officers 299
Ontario and the Great Lakes 61, 143, 220, 293, 373, 457, 531, 621, 701, 783, 859, 941
Ontario Car Ferry Co., Vessels and Officers 299
Ottawa Forwarding Co., Vessels and Officers 299
Ottawa River Navigation Co., Vessels and Officers 299

P

Pilotage Dues, Compulsory 461
Port Arthur, Grain Shipments From 59, 785, 937
Port Huron and Sarnia Ferry Co., Vessels and Officers 377

Q

Quebec and Levis Ferry Co., Vessels and Officers 299
Quebec Province 61, 143, 220, 293, 373, 455, 531, 621, 701, 781, 857, 941
Quinte Navigation Co., Vessels and Officers 299

R

Reciprocating Engines and Turbines 543
Renwick Co., Vessels and Officers 299
Richelieu and Ontario Navigation Co.—
Appointments 193
Report 229
s.s. Rochester 779
Vessels and Officers 379

S

St. Andrews Lock and Dam 625
St. John River Steamship Co., Vessels and Officers 299
St. Lawrence and Chicago Steam Navigation Co.—
Report 145
Vessels and Officers 299
St. Lawrence, Improvements in the Navigation of the 693
St. Lawrence Route Upheld 613
Sault Ste. Marie Canal Accident 537
Sault Ste. Marie Canals Traffic 67, 453, 543, 615, 695, 775, 859, 943
Shipping Federation of Canada 59, 289
Simcoe, Dominion Government Steamboat ...*935
Sincennes-McNaughton Line's Tug Sin-Mac..*621
Statistics, Canadian Shipping 625
Statistics, Trade and Navigation 303

T

Temiskaming Navigation Co., Vessels and Officers 299
Turbine Steamship Co., Vessels and Officers.. 299
Turret Bell, Salving of the s.s. 851
Turret Crown, Ltd., Vessels and Officers.... 299

U

United States and Dominion Transportation Co., Vessels and Officers 299
United States Vessel Tonnage Tax 777, 937
Upper Ontario Steamboat Co., Vessels and Officers 621
Upper Ottawa Improvement Co., Vessels and Officers 301

V

Vancouver Narrows, Navigation of the 147
Vessels Registered 65, 147, 305, 375, 461, 541, 617, 691, 777, 853
Vessels Removed From the Register 65, 145, 307, 379, 453, 541, 689, 779, 851
Victoria Steamship Co., Vessels and Officers.. 301

W

Welland Canal, Enlargement of 301
Western Steamship Co., Vessels and Officers 301
Winnipeg Navigation Co., Vessels and Officers 301
Wreck Commissioners' Judgments—
Amur-Vadso 227
Anticosti 305
Campana 615
Corinthian-Malin Head 71
Cuba-Brighton 229
Hestia 939
Inishowen Head 697
Kilkeel-Scotia 307
Odland 537
Otonabee-Rainbow 851
Pellatt-Hanlan 615
Sagamo-Kenosha 287
Stigstad-Siraine 851
Urania 851
Wasaga-Paul 689

PERSONAL

A

Acheson, T. S. 119, 127, 757
Adams, H. H. 833, 841
Alexander, E. 879
Alexander, G. W. 631
Allan, A. A. 587
Allan G. H. 127
Allan, H. A. 587
Allan, Sir H. M. 41, 189, 433, 507, 587, 899
Allan, W. H. 349
Allan, W. R. 511
Allinson, W. H. 127
Altimas, J. D. 269
Anderson, F. T. ...513, 591
Anderson, H. C. 543
Anderson, Jas. 403, 525
Anderson, Jno. 593
Anderson, J. H. 761
Anderson, V. 593
Andrews, C. D. 513
Angus, R. B. 41, 349, 507, 759
Annable, W. G. 37, 43, *77, 177
Ansley, W. M. 37, 121, 443
Anthony, F. D. 761
Anthony, G. H. 833, 841
Appleton, W. U. 193, 273
Apps, J. O. 37, 43, 793
Apps, W. 433
Archibald, J. 127
Archibald, P. S. 177
Ardley, W. H. 127
Armstrong, B. M. 349
Armstrong, C. N. 177
Armstrong, H. 41
Armstrong, J. 595
Armstrong, J. A. 245
Armstrong, L. G. ..515, 915
Armstrong, L. H. 595
Atkinson, J. W. 515
Atwater, A. B. 793

B

Backus, F. F. 403
Bailey, L. E. W. 593
Bainbridge, R. A. 595
Baird, A. H. 177, 587
Baker, Archer 349, 403
Baker, S. A. 97
Baker, W. R. 271, 337, 433
Balch, F. J. 245, 595
Bamber, F. A. 841
Bamford, W. B. 631
Barber, A. W. 601, 661
Barber, J. H. 879
Barclay, W. D. ...269, 631
Barnes, G. 443
Bartlett, A. G. 761
Bartram, V. T. 37, 41
Bates, C. L. 915
Bates, T. 761
Bazzard, G. .....
Bears, A. H. 13
Beasley, H. B. 59
Beaumont, R. 761
Beekman, G. E. 269
Belanger, F. X. 13, 841, 899
Belcher, W. E. 515
Bell, F. J. 507
Bell, G. T. *1, 189, 353, 361, 587, 631
Bell, R. H. 13
Bell, W. 443
Belliveau, J. 587
Benjamin, C. E. 43
Bennett, B. H. 97
Bennetts, A. E. 443
Biggar, W. H., K.C. ... 631
Bishop, C. R. 593
Bishop, O. C. 513
Bishop, W. E. 555
Black, J. H. 505
Blackhall, J. 543
Blaiklock, M. S. ...505, 507
Blair, D. E. 505
Blair, J. 193
Blake, R. L. 833
Blatherwick, S. 269
Blyth, W. S. 761
Boak, J. A. 443
Bond, F. L. C. 97
Booth, J. R. 757
Boswell, R. 271
Bosworth, G. M. ..271, 761, 899
Boughton, W. 761
Bowker, C. G. 761, 835
Bowles, J. R. 13
Bowles, W. C. 41, 513, 587
Boyle, J. H. 403
Brady, F. P. 353, 360d, 403, *469, 513, 593
Bremner, E. R. 631
Bremner, T. K. 349
Brennan, J. R. 761
Britt, T. 41, 97
Brodeur, Hon. L. P. 433, 507, 587, 757
Brodie, H. W. 833
Brooks, N. E. 879
Brougham, W. F. 793
Brown, A. 245
Brown, D. E. 177
Brown, G. 758
Brown, G. McL. 13, 37, 43
Brown, J. H. 915
Brown, J. R. 363
Brown, M. H. 631
Brown, W. 515
Brownlee, W. G. 631
Bruce, J. R. 631
Bryce, W. 443, 587
Buchanan, W. J. 761
Bulling, W. B. ...587, 631
Burchell, G. B. 793
Burford, R. A. 719
Burgess, G. H. ...761, 841
Burgess, T. C. 593, 713
Burnap, R. L. 593
Burnett, R. W. 593
Burns, C. F. 433, 631
Burns, G. E. 713
Burns, T. J. 43
Burpee, T. C. 879
Burr, W. H. 13, 73
Bury, G. J. 41, 121, 177, 271, 507
Bushby, R. 127, 193
Bushnell, S. C. 761
Busteed, F. F. 713
Butler, M. J. 360d, 507, 759, 793
Butler, W. W. 879
Butterworth, F. A. 915

C

Calderwood, H. ...587, 757
Callaghan, E. 403
Callaghan, J. H. 189
Callahan, J. 199
Calvert, W. S. 841
Cambie, H. J. 595
Cameron, Allan 37, 43, 177, 203
Cameron, J. G. 761
Cameron, J. M. 667
Cameron, J. R. ..360d, 793
Camp, W. J. 189, 899
Campbell, D. A. 659
Campbell, M. M. 587
Campbell, R. 189
Cantlie, G. S. 37, 337
Canvin, J. W. 193
Carmichael, H. S. 177
Carr, C. E. A. 933
Carruthers, G. M. 761
Carswell, R. A. 671
Cartwright, A. D. 631
Cartwright, C. E. *549 591, 713
Chaffee, H. F. 271
Chamberlin, E. J. 127, 129, *157, 443, 587, 671
Champion, E. W. 193
Chapin, W. D. 915
Chapman, J. F. 555
Chapman, R. F. 513
Chapman, W. P. 177
Chappell, T. A. 593
Charlton, H. R. 41, 97, 271, 361, 435, 511, 587, 659
Chetham, L. D. 43, 595, 793
Christopher, J. *865
Chudleigh, E. L. 915
Churchill, F. W 97
Clark, C. 593
Clarke, C. R. 269
Clarke, J. 761
Clement, C. F. 762
Clement, O. 761
Clement, S. B. 269, 349
Clendenning, F. H. 595, 759, 761, 793
Cockshutt, C. 43
Coleman, C. P. 41
Coleman, D. C. ..37, 43, 505
Coleman, E. P. 217
Collins, G. 505
Comeau, F. G. J. 177
Connell, C. H. N. ..835, 841
Conway, F. 793
Cookson, W. S. 361, 435, 507
Cooper, C. W. 433, 443, 793
Cooper, D. d'E. 505
Cooper, F. W. 97
Cooper, W. A. 899
Cooper, W. G. 593
Corbett, Jno. 505
Corking, W. P. 841
Cornell, E. M. 915
Costello, W. E. 593
Cotterell, C. A. 13, 513
Coulter, W. 37
Courtney, G. L. 713
Cowan, W. A. 13
Cox, A. E. 177
Coyle, E. J. 505
Crangle, S. 758
Crawford, A. 443
Crawford, R. 97
Creelman, R. 841, 899
Creighton, W. L. 793
Cronk, W. B. 360d, 593, 667
Cruse, S. E. ...37, 43, 713
Crysler, P. A. 593
Cullivan, R. G. 193
Cumberland, F. B. 555
Cunliffe, G. A. 761
Cunneyworth, W. D. ... 713
Curry, H. E. 507
Cuthbert, W. 793

D

Dalrymple, J. E. 13
Dane, F. 41, 127
Davidson, A. D. 751
Davidson, W. 593
Dawson, W. J. 841
De Rouville, C. L. 513
Demers, L. A. 759
Desbarats, G. J. 899
Desmond, P. 193
Dewey, S. E. 505
Dillinger, A. F. 761
Dimsdale, H. G. 758
Disney, A. C. 758
Dixon, A. 513
Dobson, C. A. 759
Dolan, J. F. 505
Donald, T. 513
Donaldson, M. 337
Dotts, O. V. ..443, 511, 513
Doucet, A. E. 403
Downie, W. 793
Drakeford, D. H. 667
Drew, R. W. 127, 513
Drewery, D. P. 127
Dring, H. G. 667
Driscoll, J. P. 360d
Druce, L. V. 593, 713
Drummond, G. E. 758
Drummond, T. J. 189
Dubrule, J., Jr. 763
Dudley, F. W. 591
Duff, M. McD. 269
Duguid, J. 189, 193
Dummert, H. W. 761
Dunn, G. C. 337, 513
Dunsmuir, J. 511
Dutton, A. S. 915
Dwight, H. P. ..41, 271, 879

E

Eager, A. H. 127
Earls, J. 713
Eaton, G. H. 403
Edmonds, A. E. 245
Edwards, A. E. 317
Eedson, J. M. 915
Egan, J. M. 271, 659
Egg, W. F. 631
Eisele, J. G. 593
Elliott, H. G. 189, 269, 361
Elliott, W. S. 841
Elridge, H. G. 758
Estano, W. H. 119, 127, 595, 631, 659
Evans, E. A. 97, 511
Evans, J. D. 337
Evans, W. K. 593

F

Fisher, C. D. 443
Fisher, E. E. 833
Fisher, L. 269
Fitzhugh, E. H. 97, 349, 507
Fitzsimons, W. P. 349, 361, 713
Fleming, R. J. 139
Fleming, Sir Sandford 13, 627, 659, 757
Flett, T. R. ...37, 271, 915
Flinn, E. F. 593
Foley, S. S. 443
Folger, B. W. 119, 245, 271
Ford, G. 543
Forget, R. 879
Foss, C. O. 177
Foster, C. B. 631
Fowler, W. E. 245, 565, 591
Fox, L. K. 671
Foy, F. C. 505
Fraser, T. M. 593, 667
Freeman, F. B. 841
Frew, T. C. 433
Fry, W. S. 177
Fulford, J. H. 433

G

Galt, E. 45
Galt, E. T. 337
Galt, J. 45
Gamble, G. A. 915
Gamble, R. A. 513
Gantt, I. W. 513, 593
Garden, J. C. 127
Gardiner, W. H. ...761, 841, 879, 899
Gardner, C. W. 515
Gascoigne, F. A. 245, 269, 349
Gay, J. P. 245
Gays, H. W. 177
Geldart, C. 193
Gell, W. 189, 271
Genest, L. O. 97
Gesner, B. C. 245
Gibbon, J. M. 245, 659, 833
Gibson, P. 841
Gilbert, G. 593
Gildea, J. R. 761
Gildersleeve, H. H. 879
Gillespie, A. C. ...761, 841
Gilliland, J. R. 443
Giroux, J. 761
Godfrey, G. A. 269
Goodchild, A. A. 403
Goodearle, J. A. 505
Goodfellow, J. 595
Gordon, J. H. 119, 127, 505, 899, 915
Gordon, S. 833
Gordon, W. H. 593
Gordon, W. M. 543
Gormaly, C. A. 593
Gorrie, A. J. 879
Gower, H. M. 899
Grabill, L. L. 127
Graham, Hon. G. P. 507, 659
Graham, W. M. 833
Granger, E. N. 593
Grant, Gordon 591, 593
Grant, Lawford 507
Grant, W. H. 879, 899
Grantham, A. M. ...189, 507
Graves, H. E. 593
Green, C. H. 761
Greer, B. W. 713
Griffin, Scott 433, 507
Grills, A. 37, 127
Grout, H. C. 360d, 433
Grundy, F. 177
Grundy, G. G. 841
Gutelius, F. P. 879

H

Haldane, W. R. 433, 505, 507, 761
Hall, A. 443
Hall, Grant 793
Hall, G. R. 193, 443
Hallett, W. J. 761
Halstead, Jno. 119, 127, 177
Ham, G. H. 555
Hamilton, L. A. 45, 433, 631, 758
Hammond, F. C. 833
Haney, M. J. 349, 758
Hanna, D. B. 41, 587, 659, 759, 879
Hanna, J. H. 505
Hannaford, R. M. 177
Harding, H. W. 403
Harold, L. 899, 915
Harris, A. H. 713
Harris, H. V. 13
Harris, R. K. 505
Harshaw, A. C. 915
Harshaw, V. A. 360d
Hartnett, W. C. 443
Hawkes, A. 659
Hawley, F. M. 403
Hawthorne, D. 363
Hay, F. L. 37, 119
Hayes, C. A. 177
Haynes, S. A. 37
Hays, C. M. 41, 337, 587, 841, 901
Hebb, G. 127

Hedge, G. H. 337
Henderson, L. 143
Henderson, T. E. 671
Hendrie, Hon. J. S. 45, 271
Hendry, J. 758
Henry, T. 189, 271
Hepburn, R. B. 337
Hibbard, C. B. 41
Hichborn, G. F. 13, 441
Hill, J. J. 119, 757
Hilliard, E. J. 593
Hinton, W.-P. 353, 360d, *361, 555
Hoar, M. 833
Hobson, Jos. 177, 199
Hood, R. J. 593
Horn, J. M. 245, 360d, 443
Horsey, A. W. 37, 127
Hoskins, F. W. 443
Hosmer, C. R. 41, 189, 349, 433, 793
Hough, A. E. 127
Houston, P. 759
Howard, S. P. 879
Howe, Carl 13
Howland, L. B. 631
Huff, A. D. 505
Huggan, W. T. 337
Hungerford, S. J. *313
Hunter, W. C. 13
Hunter, W. J. 13
Hutcheson, J. E. ...631, 899
Hutchison, F. L. 513

I

Ingram, A. A. 515, 595, 659
Ingram, A. B. 659
Ismay, J. B. 587

J

Jackson, W. 97
James, E. A. 443
Jamieson, R. R. 41
Jaques, C. A. 505
Jefferey, S. 761
Jenkins, B. S. 245
Johnson, A. D. 841
Johnson, C. G. 97
Johnson, E. N. 915
Johnson, L. R. 403
Johnson, O. 269
Johnston, C. W. ...513, 593
Johnston, R. 443
Johnston, W. W. 269
Johnstone, J. W. N. 713
Jones, D. L. 127, 667
Jones, F. W. 349
Jones, L. K. 403
Joynt, J. M. .443, 595, 761

K

Kane, J. F. 43, 631
Kavanagh, J. P. 505
Kelley, H. G. 13
Kelliher, B. B. 443, 513, 879
Kelson, W. H. 631
Kent, J. 13
Kent, S. W. 667, 758
Kerr, R. 41, 271, 507, 555, 833, 899
Keswick, H. A. ...841, 915
Kimball, G. W. 761
King, C. B. 631
King, R. 360d
King, T. 587, 593
King, W. J. 515
Kingsmill, C. E. ...587, 757
Kingsmill, W. B. ...515, 595
Kinnear, W. S. 337
Kirkpatrick, W. M. 713
Kistler, V. ...511, 515, 631
Kitchen, R. L. 269
Kittson, H. N. 659
Kolb, E. W. 505, 511, 513, 761
Kyle, C. 593
Kyle, J. 245

L

Lalonde, E. C. 761
Lambkin, J. B. 245
Lang, G. W. 55, 370
Langford, W. W. ...443, 515
Lanigan, W. B. 45, 271, 507, 587, 713
Larmour, R. E. 511, 513, 631
Lash, Z. A., K.C. 119, 189, 360d, 507
Latham, R. L. 835, 841
Lavoie, L. E. 833, 841
Lawrence, D. T. 505
Lawrence, J. S. 245
Le Batt, L. G. 671
Lee, F. 177
Le Grand, J. G. 513
Leonard, J. W. 119, 189, 271, 713, 833
Leonard, R. W. 189
Leslie, Jno. 37, 43
Lett, R. C. W. 513
Lewis, W. C. 915
Lichtenhein, A. 13
Lindsay, D. B. 833
Lindsey, G. G. S. 659
Logan, R. S. 97
Long, R. W. 177, 507
Longworth, J. H. 127
Lord, F. H. 593
Lord, T. E. 515
Lowe, W. F. 127, 443
Lumsden, H. D. 591, 631, 659, 758
Lusher, N. L. 433, 507
Lydiatt, R. J. 507
Lytle, A. C. 403

M

McCallum, H. M. 43
McCarthy, G. A. 193
McCaul, M. J. 761
McConkey, H. 360d
McCuaig, D. J. 269
McDonald, A. 593
McDonald, A. B. 271
McDonald, D. A. L. 525, *709, 713
McDonald, ... 269
McDonald, J. D. 555
McFadden, P. H. 761
McFeggan, D. J. 543
McGee, A. J. 13
McGillivray, J. 793
McGougan, G. B. 443
McGrath, J. T. 879
McGreevy, J. M. 127
McGuigan, F. H. ..271, 833
McHattie, T. 127, 271, 433, 555
McKay, J. M. 177
McKay, O. 177, 189
McKay, Hon. R. 757
McKean, A. T. 127, 879
McKee, J. A. 43
McKee, W. J. .....
McKenzie, A. W. 593
McLardy, J. A. ...761, 899
McLean, H. H., K.C. ... 507
McLean, S. J. 433, 433
McLennan, J. D. ..435, 443
McLeod, M. H. 199
McLurg, J. E. ...349, 360d
McMichael, I. 189
McMillan, A. 757
McNab, W. 189, 271
McNabb, T. 97
McNeill, E. W. 193
McNeillie, J. K. 97, 227
McNeillie, R. G. 915
McNicoll, D. 245, 507, 587, 659, 757, 833
McPhaden, S. 515, 595
McPherson, C. E. 45, 403, 833
McRae, J. 269
McTavish, L. M. 841
Macdonald, A. B. 193
Macdonald, C. A. 193
Macdonald, J. B. 631
Macdonald, L. 879
MacDougall, H. 659
MacGregor, J. G. ..761, 841
Macgregor, J. A. 915
MacInnes, W. R. ...403, 587
Mackenzie, H. D. 193, 271, 715
Mackenzie, J. M. 271
Mackenzie, R. J. 899
Mackenzie W. 41, 189, 349, 433, 507, 833
MacPherson, D. 97
MacTier, A. D. 507
Mabee, J. P. 659, 757
Mack, J. M. 593, 841
Mackay, Hon. R. 41
Maguire, H. J. 43, 403
Maguire, T. J. 505
Mahar, T. 915
Maharg, C. S. ..37, 97, 915
Mahon, F. J. 349, 631
Main, R. 127
Mallett, W. J. 269
Manders, W. G. 443
Mann, D. D. 119, 177, 189, 433, 507, 659
Mann, G. 671
Mann, W. E. 513
Marchand, J. E. 595
Marlow, W. T. 713
Marpole, R. 595, 713
Marshall, D. 271
Marshall, W. 661, 667
Martin, H. C. 515
Martin, T. F. 793
Martyn, F. G. 713
Matheson, J. S. 593
Matthews, W. D. ..757, 899
Mathews, H. F. 443
Maynard, A. S. 269
Maynes, A. 127, 193
Meighen, R. 433
Mellnish, E. J. 433
Merriam, L. B. 511
Merriam, S. L. 841
Merrick, G. H. ...507, 513
Millar, W. E. 269
Miller, F. A. 119
Milligan, S. N. 361
Millington, E. H. 515
Mills, Jas. 349, 433, 587, 757
Mills, J. H. 127
Mitchell, A. 841
Mitchell, F. L. 360d
Mitchell, S. R. 189
Mitchell, L. W. 193
Montgomery, C. 555
Montgomery, J. 127
Mooney, P. 245
Moore, J. 513
Morris, S. R. 271
Morrison, F. H. 671
Morse, F. W. 41, 129, 507, 587
Morton, G. P. 761
Morton, J. 513
Morton, J. D. 193
Mount Stephen, Lord 119, 271, 758
Mulkern, L. 403
Mullins, A. Z. 555, 587, 593
Mullins, W. E. 555
Mundle, J. F. 631
Murphy, C. *629, 661, 793, 899
Murphy, D. J., Jr. 177
Murphy, D. T. 443
Murphy, M. A. 193, 360d, 443, 915
Murray, B. S. 631
Murray, J. A. 841
Murray, J. D. 349
Murray, R. J. 671

N

Nanton, A. M. 45, 189
Neil, E. A. 41
Neilson, M. 337
Nelles, R. L. 915
Nelson, J. R. 127, 758
Newcombe, D. W. 360d
Newman, W. 595
Newman, W. H. 37
Niblock, J. 879, 901
Nicholls, F. 119, 433, 659, 793
Nicholson, J. W. 915
Nicklin, F. 761
Nicks, D. 761
Nixon, A. J. 271, 659, 671, 681, 759, 761
Nixon, F. B. 833, 899
Northgraves, W. 671

O

Oborne, J. 631, 899
Ogilvie, J. 761
Ogilvy, A. L. 337
Oldham, W. J. 671, 833
Olive, W. H. 671, 675
Oliver, S. S. 631
Olson, F. 593
Osler, E. B. 41, 271, 507, 759, 899

P

Paist, H. N. 515
Pangborn, E. H. 671
Parent, F. O. 515, 761
Parent, S. N. 631
Parker, W. T. 269
Parr, A. J. 193
Paton, H. 41, 713
Patriarche, A. 915
Patriarche, H. K. 761
Patriarche, H. R. 347
Patterson, R. 177, *389
Paul, J. 631
Pearson, G. T. 671
Pellatt, Sir H. M. ..41, 659
Pendleton, B. 37, 193
Pennington, E. 269, 273
Pepall, G. 13
Pepper, E. H. 593
Perrier, J. A. 269
Perry, R. E. 671, 759
Perry, R. P. 631
Peters, F. W. 45, 177, 349, 507
Peterson, J. C. 841
Phillips, W. 13
Phippen, F. H., K. C. 353, 360d, 507, 555, 833
Piers, A. 757
Plant, W. H. 543
Ploss, H. W. 593
Plumer, A. E. 841
Plummer, C. H. F. 833
Porteous, W. M. ...555, 833
Pottinger, D. 360d, 593, 713
Poulin, S. R. 271
Powell, J. 189
Power, N. J. 127
Pratt, G. 443
Pratt, W., Jr. 360d
Preston, R. 193, 505, 513, 591
Price, A. 507, 879
Price, F. 403
Price, R. G. 317
Primeau, E. A. 193
Pringle, J. W. 37
Probert, F. H. 899, 915
Pugsley, Hon. W. 433
Pugsley, W. J. 671
Pullen, J. 13
Purvis, A. 403, 507, 849
Pyke, J. W. 659

Q

Quick, J. E. ..119, 189, 505

R

Ralston, J. W. 269
Rand, N. L. ..713, 761, 833
Randall, J. de W. 659
Ransford, J. 443, 659
Reed, G. H. 443
Reed, Hayter 337
Reed, J. C. 443, 915
Reford, R. 41
Reid, A. 841
Reid, H. G. 713
Reid, R. E. 515
Reid, W. D. 41, 177, 433, 587, 833
Renix, W. J. 667, 761
Richards, R. R. 915
Richardson, C. S. 127, 271, 631
Richardson, H. A. 587
Richardson, J. 543
Richardson, J. F. 555
Richardson, R. S. 245
Rippey, W. N. 671
Ritchie, W. A. 245
Robb, G. W. 269, 271, 513, 591
Robb, W. D. 507, 631
Roberts, A. J. 899
Roberts, D. I. 403
Roberts, T. L. 513
Robinson, A. H. 97
Robinson, G. 360d
Robinson, G. D. 37, 121, 879
Robinson, J. C. 761
Rockhill, F. 443
Rogers, R. H. 513
Rollo, W. S. 713
Rose, H. 671
Rosevear, A. E. 97
Rosevear, W. H. 631
Ross, Jas. 41, 507
Ross, J. J. 671
Ross, W. Le B. 555
Rouleau, L. J. 435, 443
Roussin, E. G. 841, 899
Rowe, C. 37
Rowlandson, F. 127
Ruel, G. G. 505
Rugg, J. S. 841
Russell, W. R. 659
Rutherford, J. M. 269
Ryan, J. E. 513
Ryan, P. E. 505
Ryan, T. 671
Ryley, G. U. 671

S

Sadlier, F. W. 127, 443, 667
Saindon, V. 761
Salter, F. C. .555, 571, 899
Savage, J. K. .37, 121, 713
Saylor, C. A. 659, 671
Schaefer, H. H. 97
Schreiber, C. 833, 879
Scoles, C. R. 555
Scott, D'Arcy 177, 271, 433, 507
Scott, J. 269
Scott, J. A. 671
Scott, J. D. 761
Scott, J. H. 513
Sceley, H. 593
Sewell, E. H. 177
Shannon, S. L. 433
Sharp, S. J. 13, 43
Sharpe, H. P. 793
Shaughnessy, Sir Thos. G. 41, 189, 433, 507, 587, 659, 713, 759, 899
Shaw, G. H. 793
Shearer, H. 833, 841
Sheppard, A. A. 761
Sheppard, J. B. 360d, 443, 793
Sheppard, W. J. 45
Sherwood, H. B. 337
Shields, A. *237, 360d
Shrimpton, F. E. 37
Slattery, W. B. 593
Simpson, S. A. 761
Sinclair, A. 119, 349
Singleton, W. J. ...761, 841
Smart, G. E. 593
Smiley, E. S. 841
Smith, A. B. 37
Smith, A. H. 758
Smith, A. L. 593
Smith, C. J. 177
Smith, D. 513
Smith, E. W. 245, 899
Smith, F. P. 879
Smith, G. E. 915
Smith, R. J. 189, 671
Smithers, A. W. ...841, 899
Smyth, D. 513
Smyth, G. E. 507
Snider, P. W. 273
Solman, L. 45
Sommerville, G. 177
Soper, W. Y. 177
Sorley, J. H. 587
Spaidal, F. M. *789, 793, 835
Spain, O. G. V. 230
Sparks, J. 793
Spencer, C. W. 713
Spencer, G. 97
Sperling, R. H. 773
Spicer, W. H. 593
Spragge, J. K. 127, 193
Stark, C. A. 667
Steele, J. R. 13
Stephen, G. ..435, 443, 505
Stephens, C. S. 761
Stephens, G. W. 189, 587, 659
Stephenson, Jas. 403
Stephenson, W. M. 915
Stevens, H. McD. 349
Stevens, J. F. 515, 759
Stewart, A. E. 127, 193
Stewart, A. F. 193
Stewart, C. A. 841
Stewart, Jas. 841
Stitson, G. 127
Stitt, W. 41, 189, 349, 555, 758, 899
Stout, W. 199
Stovel, C. R. 360d
Strathcona, Lord 41, 119, 189, 271, 349, 507, 587, 659, 833, 899
Struthers, R. F. 505
Stubbs, W. D. 762
Sturdee, F. 833
Suckling, H. E. 97, 757
Sullivan, J. G. 13
Sutherland, D. 119, 127, 273
Sutherland, H. 41, 97, 271, 899
Sutherland, J. 433
Sutherland, J. N. 177
Swalwell, J. G. ...593, 659
Swinford, H. 443, 507

T

Tait, H. M. 269
Tait, T. 505
Tarbox, E. F. 269, 353
Tate, D'Arcy 443, 899
Taylor, E. W. 631
Taylor, J. G. 915
Taylor, T. G. 443
Taylor, W. F. 555
Tebo, F. A. 515, 761
Tedlock, G. H. 269, 443
Temple, C. H. 511, 513
Templeton, C. T. 593
Terry, F. H. 593
Thompson, D. H. ..671, 841
Thompson, L. R. 833
Thorpe, E. R. 593
Thurston, G. A. ...361, 515
Tiffin, E. 337, 360d, 433, 593
Tilston, W. S. 245
Timmerman, H. P. 793
Tingley, A. J. 269
Tisdale, A. A. 759, 761
Todd, E. N. ...37, 189, 713
Toombs, R. 515
Travis, A. M. 833
Trump, E. G. 37, 47
Truscott, H. G. 515
Tye, W. F. 177

U

Uren, W. J. 37, 915
Ussher, C. E. E. ...507, 879

V

VanBuren, C. W. 587, 593, 659
Van Horne, Sir Wm. C. 97, 189, 433, 507, 659, 759
Varlow, H. J. 433
Vaughan, H. H. 189, 879, 899
Vautelet, H. E. 433
Vaux, G. W. 177, *360d, 361, 435
Vollans, H. 269

W

Wagner, C. E. 593
Wagstaff, S. G. 13
Wainwright, W. ...245, 659
Walker, F. 841
Walker, F. W. 443
Wallace, A. 593
Walsh, J. H. 337
Walsh, M. G. 841
Walton, E. 915
Warner, L. A. 593
Way, W. B. 555
Weatherston, N. 899
Webster, G. H. 13
Wegener, F. H. 762
Weisbrod, P. F. 443
Weldon, A. T. 899
Wells, G. C. 41
Wheatley, M. S. 595
Weaton, L. H. 71
White, T. H. 13, 189, 360d
White, W. R. 443
Whitelaw, P. B. 443
Whittenberger, H. E. .. 793
Whyte, W. 41, 189, 433, 507, 595, 631, 667, 899
Wicksteed, H. K. 337
Wigren, E. A. 899, 915
Wilcox, A. 443
Wilgress, H. T. 37, 505
Williams, E. A. 349
Williams, E. H. 513
Williams, G. B. 513
Williams, H. 593
Williams, T. 360d
Williamson, W. W. 362, 543
Wills, H. W. 513
Wilson, Sir C. Rivers 659, 841
Wilson, J. H. 667
Wood, D. O. 177
Wood, W. 879
Wooley, T. 360d
Woolatt, W. 245
Wright, S. C. 595
Wyllie, G. B. 713

Y

Yeager, W. W. 269
Yeo, Jas. 337
Yorick, J. A. 337
Young, F. A. 360d
Young, H. A. 631
Young, S. 671
Young, T. 761
Younkle, H. G. 595

Z

Zinck, K. J. C. 513

TOWER AND CLIMAX COUPLERS ADDRESS THE NATIONAL MALLEABLE CASTINGS CO., CLEVELAND, OHIO
Ralph T. Hateh, Sales Agent, 710 Canadian Express Building, Montreal, Que.

McCASKILL, DOUGALL & CO., Railway Varnishes, Japans and Enamels, MONTREAL. MEDALS AWARDED.

The Railway and Marine WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 213.
New Series, No. 131.

TORONTO, CANADA, JANUARY, 1909

For Subscription Rates, See Page 39.

WIRES AND CABLES FOR TELEPHONE, TELEGRAPH, ELECTRIC RAILWAY AND POWER PURPOSES

THE WIRE AND CABLE CO., MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA

A PURELY CANADIAN COMPANY

JOHN EMO, General Manager — H. W. PEARSON, Secretary-Treasurer — D. MURPHY, President

AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

LUFKIN MEASURING TAPES

MADE IN CANADA, AND THE BEST IN THE WORLD.

SEND FOR CATALOG.

THE LUFKIN RULE CO. OF CANADA, LTD. WINDSOR, ONT.

Additional safety and economy in TRACK MAINTENANCE has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after ten years' service, having a record of over 25,000 miles in use—the extent of which is evidence of their excellence.

The Rail Joint Co. of Canada

See Page 12

RENDLE'S GLAZING IMPROVED SKYLIGHT CONSTRUCTION

"Paradigm," "Duxbac" Brands. "Diablo" Asbestos Windows.

A. EDGCUMBE RENDLE, 260 ST. JAMES STREET, MONTREAL. Works—LONDON, ONTARIO

MUSSENS LIMITED

RAILWAY, MINING AND CONTRACTORS' SUPPLIES

SEE ADVT. PAGE 8

ENAMELLED IRON SIGNS

For Steam and Electric Railways, Steamship, Express, Telegraph, Telephone and General Advertising Purposes. For Prices, etc., address

ACTON BURROWS LIMITED - 157 BAY ST. TORONTO

HOTEL CADILLAC

Michigan Avenue and Washington Boulevard
DETROIT, MICHIGAN

RATES - - { $3.50 to $8, AMERICAN PLAN
{ $2 to $6. EUROPEAN PLAN

SINGLE MEALS $1.

SWART BROTHERS, Proprietors

THE WAUGH DRAFT GEAR

FRICTION SPRING CUSHION
200,000 lbs.—600,000 lbs. Capacity
MADE IN CANADA

Send for Catalog and Particulars

Waugh Draft Gear Co. - - Chicago, Ill.

STEARNES STEEL RANGE COMPANY

FIFTH AVENUE AND LAKE STREET
Chicago, Ill.

THE OTTAWA CAR CO. Limited

BUILDERS OF
Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.

Office and Works: SLATER ST., OTTAWA.

Westinghouse
Self-Locking Angle Cock

A large number of railroads have already adopted this important improvement as standard for their rolling stock. Transportation officials especially are interested, since it insures an open brake pipe throughout the train.

The handle must be raised and moved by hand; it cannot be changed accidentally. The angle cock is also locked automatically in "closed" position. We believe every railroad company will find it an economic advantage to specify this improved device on every order. No extra charge with full sets of brakes and the cost as a repair part is insignificant. About 700,000 already in service. It is only necessary to substitute the self-locking handle to change the old-style angle cock to the self-locking type.

See circular notice No. 1029

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO

439 Pender Street
VANCOUVER

For particulars address nearest office
HAMILTON

922-923 Union Bank Bldg.
WINNIPEG

232 St. James Street
MONTREAL

158 Granville Street
HALIFAX

THE CLEVE-MOR ENGINEERING AND CONSTRUCTION COMPANY

ENGINEERS

CONSULTING DESIGNING
CONSTRUCTING OPERATING

411 TO 417 CITIZENS BUILDING
CLEVELAND, OHIO, U.S.A.

REPORTS on all kinds of engineering propositions. Advice on the design, construction and operation of properties; valuations; superintendence.

Design and construction of steam and electric railroads, electric lighting and power systems, steam and gas power plants, hydro-electric plants, water works, sanitary sewerage and drainage systems, buildings, foundations and concrete work generally.

The reorganization and operation of broken-down properties undertaken, also the organization and financing of new propositions that are meritorious.

We make a specialty of doing preliminary work in preparing, in all detail, electric and steam railway propositions for proper presentation for financial requirements.

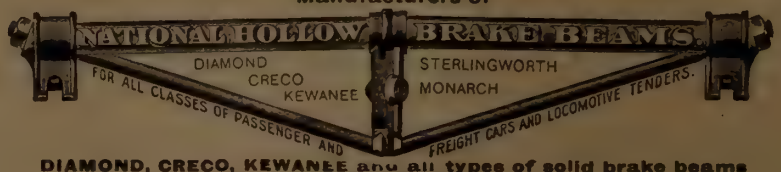
E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES:
46th, ROBEY AND LINCOLN STS.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.

Manufacturers of



DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:
22 St. John Street
MONTREAL, - QUEBEC

I. A. YOUNG,
AGENT

See Purchasing Agents' Guide on page 73

See Alphabetical Index to Advertisements on page 39.

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 213.
New Series, No. 131.

TORONTO, CANADA, JANUARY, 1909.

For Subscription Rates, See page 39.

Entered as second-class matter, March 5, 1908, at the Post Office at Buffalo, N.Y., under the act of Congress of March 3, 1879.

STEEL RAILS IN CANADA.

By. F. P. Gutelius, General Superintendent Lake Superior Division, C.P.R.

Steel rails are manufactured in this country at Sydney, N.S., by the Dominion Iron & Steel Co., and at Sault Ste. Marie, Ont., by the Algoma Steel Co. The rails manufactured at Sydney are all basic open-hearth. The size of their ingots is 18 by 21 ins. In reducing the ingot to a finished rail the steel makes 30 passes through the rolls. At Sault Ste. Marie 75% of the product is acid Bessemer, and 25% basic open-hearth. In this mill 28 passes are given in reducing the steel from 16 by 17 ins. ingot to finished rail. The capacity of these two steel companies is about equal to the requirements for new steel in this country.

The method of manufacturing steel rails in Canada can best be described by reference to the C.P.R. specifications for the manufacture of Bessemer and open-hearth steel rails, which were prepared after an agreement with the mills had been made for 1908 rails, copies of which are hereto appended. The standard weight of C.P.R. rail for 1908 is 85 lbs. The section is known as the C.P.R. 1908 85-lb. rail section, as per diagram shewn herein. (See pg. 3.) This new section can best be described by comparing it with the American Society of Civil Engineers 80-lb. section, which has 5-in. base, and is 5 ins. high. C.P.R. 1908 85-lb. rail has 1/8-in. added to the thickness of the base. The radius of the web has been decreased from 12 to 8 ins., thus giving a wider web where it joins the head and the base. The sides of the head are slightly inclined, and the radius of the top of the head is 8 ins., instead of 12. The new section, therefore, has a 5-in. base, and is 5 1/8 ins. high. It differs from the new section recommended by the American Railway Association in that the base has not been narrowed. I do not feel that in the redistribution of material in the new rail section, which all rail section designers consider is necessary, that the narrowing of the base is justifiable, as it makes the rail more unstable, introducing an element of danger which cannot be counterbalanced by the advantage that would be gained by the more uniform cooling of the half-inch narrower flange. The C.P.R. has had 85,000 tons of rails of this section rolled, which are now in the track. Following are tabulated particulars:

VERTICAL INERTIA 29.492. HORIZONTAL INERTIA 7.139.

	AREA PER-CENTAGES	COOLING PERC'TGES	VERTICAL SECTION	HORIZ'TAL MODULUS
HEAD	36.77	1.965	10.425	
WEB	22.21	3.081		
BASE	41.02	2.875	12.84	2.855
TOTAL	100.00	2.586		

The advantages of this section, from the mill standpoint, are that the finished rail, when approaching the hot saws, is of more even temperature in all parts of the section, and, as a result, the temperature of the head is very much less than in the old section, giving a finer grain of steel, therefore greater wearing quality. Second, the more equal distribution of material between the head and base exemplifies the cold straightening process to such an extent that the mill people advise that the work of straightening is less than 40% of what was required in the old section. The straightening of rails under the cold press is a punishment which seriously impairs the strength of the rail, and frequently appears to open defects or starts fractures which would never be known in ordinary wear during the life of the rail.

G. T. BELL

General Passenger and Ticket Agent G.T.R. and President American Association of General Passenger and Ticket Agents.

In designing a rail for use in Canada the conditions of winter roadbed must be provided for. The roadbed, when frozen, is absolutely rigid, and, in the process of freezing, ties under which there is a quantity of moisture heave on account of the action of the frost to such an extent as to require wooden shims on the adjoining ties to maintain an even bearing for the rail, and give proper surface to the track. At the time the shimming becomes necessary the rails must bend sufficiently to receive their proper support from the low ties, and, if the rail be too rigid, or too hard, it is liable to break. For this reason, we deemed it wise to limit the height of the rail to 5 or 5 1/8 ins., and place the additional strength on those portions of the rail which are most liable to crack or break. This conclusion was arrived at after an experience of seven years with about 50 miles of A. S. C. E. section of 100-lb. rail, in which, with an equal amount of heaving and equally rigid track, more square breaks occurred with the 100-lb. rails than did with an equal mileage of 80-lb. rails of the same section, handling the same traffic, under like climatic conditions.

The composition specified by the C.P.R., in which the average carbon for Bessemer rails is .58%, and for open-hearth rails is not less than .60%, gives a harder rail than that manufactured under commercial specifications, or demanded by most of the American railways, in which the carbon content is from 5 to 10 points lower. In the introduction of this additional carbon the C.P.R. has arranged to reduce the phosphorus in Bessemer to .085%, and in open-hearth to .06%, whereas the average American specification allows .10% phosphorus in Bessemer, and for open-hearth the standards are practically the same. This combination gives the C.P.R. rail greater hardness, and the same or greater toughness than is secured under the American specifications. The advantages are a better wearing rail and one which does not readily flatten at the joints under traffic. The reason for the difference in the carbon and phosphorus for open-hearth and Bessemer rails under the C.P.R. specifications is the inability of the acid Bessemer rail manufacturers in the United States to produce, at commercial prices, a low phosphorus rail, so that where phosphorus is .10% the carbon should be kept below .50%, whereas with phosphorus .085%, the carbon should not exceed .63%, and should average about .58%. It must be remembered, however, that the composition of steel in rails is not the only feature to be considered. In fact, my experience has shown that some of the best rails in service are of the poorest composition. In other words, the heat treatment which steel receives during its manufacture into rails is of greater importance than the exact chemical composition.

To insure as nearly as possible that railway companies receive rails of proper composition test analyses are being made continually, and pieces of finished rail are tested by means of a falling hammer, known as a drop-testing machine. If steel in rails were absolutely uniform and homogeneous, these tests would be sufficient to prove the quality of all rails manufactured, but unfortunately this steel is not absolutely uniform and homogeneous, which we note in our micro-photographs, in acid etchings, and in fractures, in the indi-

Galena-Signal Oil Company,

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY.

GALENA RAILWAY SAFETY OIL

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

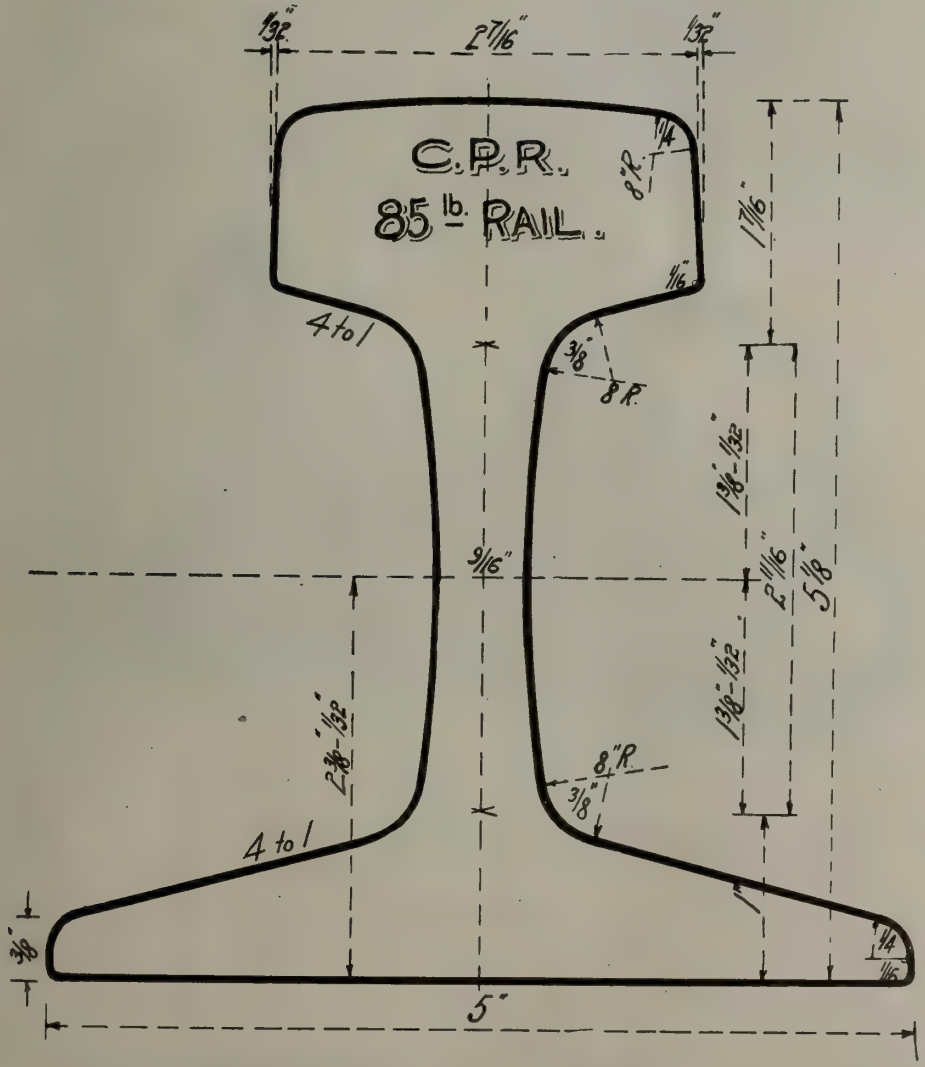
Please write to home office for further particulars.

CHARLES MILLER,

PRESIDENT.

vidual cross sections of any point of the rail. In practice we find this also to be true, for the reason that many rails, which break off square in the track and latterly have the pieces drop tested, bend double the specification requirements before breaking, so that our drop testings when rails are being purchased is very much more of a grab sample than is usually conceded by rail manufacturers or railway men. To overcome this feature as much as possible, railway companies employ expert inspectors, men who are familiar with the manufacture of steel in general, and the manufacture of rails in particular, who watch every detail of rail manufacture, discarding heats of steel, improperly-poured ingots, and imperfectly-rolled rails. In fact, it is not uncommon to have 25% of the output of the mill discarded in the cutting of the top of the ingot, the rail butts, and rejected-finished rails.

A great deal has been written and said recently in connection with broken rails, and the public and the railway world have become aroused on account of the danger in connection therewith. The term "broken rail" is a general one, which applies to rails having small cracks in the base, in the web, flange, or head, and are removed from the track on account of that defect, and of the total number of defective rails removed from the track, the number of those which break off square, like the stem of a clay pipe, is comparatively small. The most common defect in rails is the splitting of the head, which is caused usually by pipes therein. The second defect on the list is known as flange breaks. These consist usually of the breaking out of a crescent-shaped piece at the base, started by a lap in the base, located usually near the centre, and running parallel with the axis of the rail. These laps are caused by defective rolling, and whilst there is a difference of opinion as to their origin, I am of the opinion that they are caused by the intermediate rolls producing more skin, or surface, than can be used in the finished rail, thus causing the skin, or surface, to double or lap, which opens and cracks under traffic, especially if cold-straightened at these points. The third defect, is breaks through the bolt holes. This is the result of a weak web, occasioned by improper rolling, possibly the stretching of the material beyond its elastic limit latterly in the rolls. There are other defects for which rails are removed from the main tracks, such as, indications of pipes in the head, flattened ends, and square breaks. I feel justified in saying that none of these defects ever occur in commercially sound, high carbon rails. It will doubtless be interesting to know what the railways are doing to insure safety of rails in the track, and, with that idea, appended hereto is a copy of the C.P.R. rules in connection with the laying and care of rails. It is my opinion that the remedy for defective rails is entirely in the hands of the manufacturer, and my belief is that the Canadian mills are alive to this fact, and that they are adopting the most modern methods. As to this is added the eternal vigilance of expert steel men to each detail of rail manufacture in the matters of composition, heat treatment, rolling, and straightenings, the number of defects is not sufficient to cause alarm, either with the railways or the public.



CANADIAN PACIFIC RAILWAY 1908 85-LB. STEEL RAIL.

EXTRACTS FROM C.P.R. MAINTENANCE OF WAY RULES.

The standard length of new rail is 33 ft. Short new rails have ends painted green, seconds or defective new rails have ends painted white; seconds must not be laid in fast running main track.

Rail is the most expensive portion of the track, defects in which are usually permanent and apparent. They must be handled carefully before being put in the track, and must be uniformly supported after being placed there.

The rails may be distributed either from the ends or sides of car. If distributed from sides, both ends of rail must be dropped simultaneously. Skids will invariably be used whenever necessary to unload them into piles. In all cases the greatest care must be used to avoid injury to rails by dropping them on hard substances or uneven surfaces.

When necessary to make holes in rails for bolts they must be drilled with the proper tools fornished for that purpose.

Short rails are advisable only as a temporary expedient on tangents and on inside rail of curves. They must not be used on the outside of curves, and no piece shorter than 10 ft. should be used in main track.

When new steel is being laid all kinds must be taken out with the rail bender, and the track must be perfectly gauged. The spacing and renewal of ties and surfacing and lining of the track should follow as closely as possible.

The rails must be laid consecutively to line and gauge, throwing out the rails from the old track ahead as the new rails are laid. Split points will be used for closing track for passage of trains. Accurate expansion cannot be secured if long stretches of rail are fastened upon one side of the track and subsequently thrown into line.

Track centres will be furnished by the engineer every 200 ft. on tangents, and every 50 ft. or less on curves. The track must be laid to conform exactly to the line so established.

Roadmasters and section foremen must watch the flange wear of the outer rail on sharp curves, on account of the weakening of the rail and the extra width of gauge which this wearing will cause and change worn rails to the inside of the curve, or remove them from the main track entirely if they have been previously changed under the following conditions: 1. When the joint bars are being cut or struck by the wheel flanges. 2. When the rail is weakened by the side of the head being worn as much as one-eighth of its original width. 3. When the side of the rail head is worn to the slope of the wheel flange and fillet, over which wheels are liable to climb.

The position of the brand on the rail is immaterial, whether right or left, inside or outside, but its position must be uniform in the same line of rails. When new rails are being laid, different brands must not be mixed.

Rails having pieces of head or base broken out, or those having cracks, splits, pipes, and flaws, must be removed from the main track as soon as discovered, as such rails are liable to break. The discovery and removal of such rails is a most important feature of track inspection and maintenance. Track walkers, section foremen, and roadmasters must be constantly vigilant in this respect.

All rails for curves of over two degrees must be separately curved, by a rail bender, before being placed in the track. The sledging or dropping of rails on ties to curve them is forbidden.

Proper allowance must be made for expansion. The expansion space will be determined by ascertaining the average temperature of the rail by means of a C.P.R. track thermometer at the time it is being laid.

FAIRBANKS-MORSE

COMPLETE WATER STATION EQUIPMENT

RAILWAY WATER STATION

CONSISTING OF

Water Tank and Fittings

with a

F-M Combined Engine and Pump

FOR

Railway Water Stations

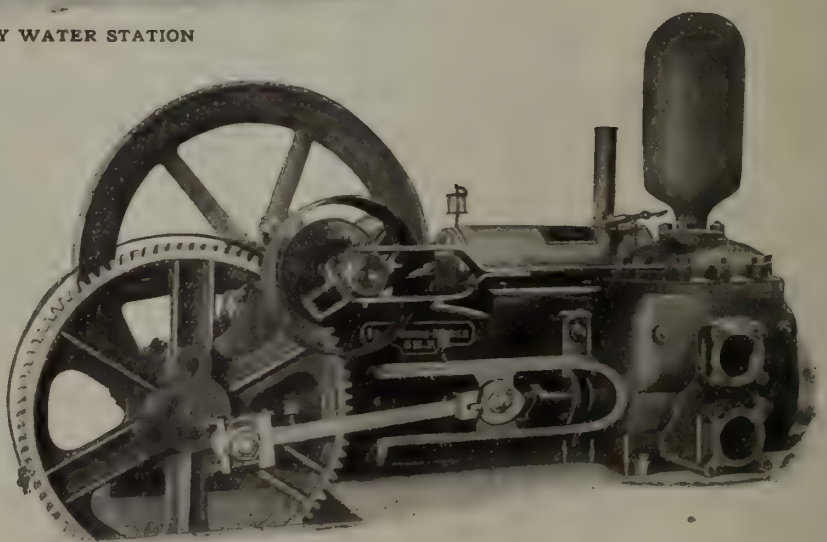
Town and Village Water Works

SIMPLE EFFICIENT RELIABLE

Will Save Cost in Short Time

ATTENDANCE
MAINTENANCE
FUEL COST
RISKS ARE ALL
REDUCED TO A **MINIMUM**

Send for Catalogue and Particulars



FAIRBANKS-MORSE COMBINED ENGINE AND PUMP

The Canadian Fairbanks Company Limited

444 St. James St., Montreal

TORONTO ST. JOHN, N.B. WINNIPEG CALGARY VANCOUVER

When the average thermometer reading on 30 ft. or 33 ft. rails is:

90	degrees Fahr., give	0"	expansion space
70 to 90	"	1/16"	"
50 to 70	"	1/8"	"
30 to 50	"	3/16"	"
10 to 30	"	1/4"	"
00 to 10	"	5/16"	"

Rails must not be bumped together when being laid.

Proper expansion must be secured by using iron shims, according to the above specifications, except where track is laid on a steep grade, when sawn wooden shims of proper thickness will be provided. Wooden expansion shims must be left in place until track is full spiked, bolted, and anchored, then be removed.

C.P.R. CO. SPECIFICATIONS FOR 85-LB. OPEN-HEARTH STEEL RAILS, 1908.

1.—The section shall be the C.P.R. standard 85-lb. 1908 rail, in accordance with plans attached, with an allowance in height of 1/64 of an inch under, and 1/32 of an inch over. The fit of the fishing or "male" template shall be maintained perfect.

2.—The weight of the rail shall be kept as near 85 lbs. per yard as is practicable after complying with section 1.

3.—The standard length of rail shall be 33 ft. at a temperature of 60° Fahrenheit. Ten per cent. of the entire order will be accepted in lengths of 27 and 30 ft. All such short rails shall be painted green on both ends. A variation in length of ¼ in. longer or shorter will be allowed.

4.—The rails must be free from all mechanical defects and flaws. They shall be sawn square at the ends, and the burrs made by the saws shall be carefully chipped and filed off, particularly under the head and on top of the flange.

5.—The rails shall be smooth on the heads, straight in all directions, both surface and line, and without any twists, waves or kinks, particular attention being given to having the ends without kinks or drop. The hot-straightening shall be carefully done, so that gagging under the cold-press will be reduced to a minimum. The supports of the rail in the straightening press shall be not less than 42 ins. apart. Cold-straightening shall be done so as not to injure the rails. "Lumpy" rails will not be accepted.

6.—Bolt holes 1 in. in diameter shall be drilled through the web at 2 11/32 ins. from the bottom of the flange. The centres of the first hole shall be 2½ ins. from the end of the rail, and the centre of the second hole shall be 6½ ins. from the centre of the first hole. These holes must be drilled accurately in every respect; all burrs to be removed. (See plan R-12-28, dated Jan. 22, 1908.)

7.—The weight per yard of rail, name of maker, month and year of manufacture, shall be rolled on the web of each rail in plain letters and figures, not less than ⅞-in. high and in sufficient relief for future identification. The heat numbers shall be stencilled three times on the web of each rail in distinct letters at least 9/16 ins. high, placed on the opposite side from the brand marks. A letter shall be stamped on the heat number side of the web of each rail, clear of the angle bars, to indicate the portion of the ingot from which it was rolled.

8.—The rail in composition must be hard, sound and tough, showing fine, dense, grained metal, on fracture. The carbon shall average not less than .60%, within limits of .56 to .66%. The phosphorus shall not exceed .06%. The sulphur shall not exceed .055%. The silicon shall not exceed .18%, nor less than .075%. The manganese shall not exceed 1.00%, nor less than .80%. The sum of sulphur plus copper plus other injurious elements not more than .075%.

9.—The number of passes and speed of train shall be so regulated, that, on leaving the rolls at the final pass, the temperature of the rail will not exceed that which requires a shrinkage allowance at the hot saw of 6¼ ins. for 33 ft. rails, and no artificial means of cooling shall be used between the final pass and the hot saw.

10.—While the heat is being cast two test-ingots shall be made; the first from steel going into the first regular ingot, the other from metal taken from the last one. From each of these test-ingots a chemical analysis shall be made. These and all final analyses made by the works, relating to this contract, shall be furnished the C.P.R. Co. for its records.

11.—From each 50-ton heat three rail-butts shall be tested. Each butt must not exceed 6 ft. in length, and must be taken from the top end of the first, middle and last ingots cast of each heat. These butts shall be placed heads upwards on solid steel or iron supports, the distance apart of which, in the clear, shall be 4 ft., and upon it shall be dropped a weight of 2,000 lbs. (whose striking face shall have a radius of not more than 5 ins.) falling freely from a clear height of 20 ft. Should two of the tests stand and show a deflection of less than 3¼ ins. under such test, this heat shall be accepted. If two fail it shall be rejected. The anvil blocks shall weigh at least 20,000 lbs., and the supports shall be a part of, or firmly secured to the anvil. Butts shall be tested to destruction as requested by the inspector.

12.—After the ingots are cast, they shall be either constantly kept in an upright position until ready to be rolled, or else so maintained until the interior steel has had time to solidify.

13.—No "bled" ingots or ingots from "chilled" heats shall be used in the manufacture of rails under this contract.

14.—No ingots from badly-teemed heats shall be used.

15.—After cutting off or allowing for the "sand" or top-end of each ingot, at least 12 ins. more of seemingly solid steel shall be cut off that end of the bloom—a greater length than 12 ins. being preferred; and if, after cutting such length, the steel does not look solid, the cutting shall continue until it does.

16.—Care shall be taken to avoid overheating the steel, and, under no circumstances shall a "cinder" heat be allowed—that is, a heat high enough to cause the cinder to run off the steel as it is being drawn from the furnace. This does not apply to cinder which may be sticking to the underside of the steel when drawn from a horizontal furnace, or to the bottom of an ingot when drawn from a soaking-pit.

17.—Inspectors representing the purchaser shall have free entry to the works of the maker at all times while this contract is being filled, and shall have all reasonable facilities afforded to satisfy them that the rails are being made in accordance with these specifications. The makers shall furnish them with the carbon-determinations of each heat, and a sufficient number of complete analyses to represent the average steel of each day and night's turn. The drillings to be taken from the test-ingots. See sec. 10. On request, borings for check analyses shall be furnished the inspector by the manufacturer.

18.—The inspectors shall have authority to reject rails made from insufficiently-sheared blooms, or from heats, the test pieces or drop-tests of which have failed, or from badly-poured heats, or from "chilled" heats or from "bled" ingots. The rails made from insufficiently cut blooms, if otherwise perfect, to be afterwards received as short rails, if sufficient lengths have been sawn off to make an amount of steel equal to the original demand of 12 ins. By a badly-poured heat is meant one which from any cause has been teemed without the control of the operator. A "chilled" heat is one which by reason of the chilling of the steel has to be either pricked or poured over the top of the ladle. A "bled" ingot is one from the centre of which the liquid steel has been permitted to escape.

19.—Imperfectly-drilled, straightened (except "lumpy" rails), or chipped and filed rails shall be rejected, but will be accepted after being properly finished.

20.—Rails failing to comply with sec. 1 will be rejected.

21.—All rails must be loaded in the presence of the inspector. Rails must be handled during manufacture, loading, and while in transit, in such a manner as not to bruise the flanges, or cause other injury.

F. P. GUTELIUS, Assistant Chief Engineer.
Montreal, Jan. 23, 1908.

C.P.R. SPECIFICATIONS FOR 85-LB. BESSEMER STEEL RAILS, 1908.

These specifications are the same as those for open-hearth steel rails, with the exception of the following sections:

8.—The rail must be hard, sound and tough, showing fine, dense, grained metal in fracture. The carbon shall be within limits of .53% and .63%, and shall average between .57% and .59%. The phosphorus shall not exceed .085%. The sulphur shall not exceed .075%. The silicon shall not exceed .18%. The manganese shall be within limits of .80% and 1.00%. Copper and other injurious elements must not be more than traces.

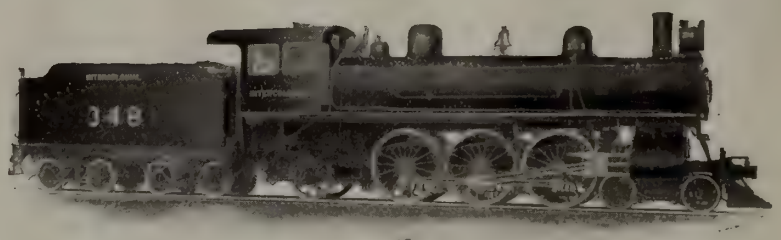
11. A rail-butt from every third heat shall be tested. The butt must not exceed 6 ft. in length, and must be taken from the top-end of the first ingot. All butts shall be placed heads upwards on solid steel or iron supports 4 ft. clear apart, and upon it shall be dropped a weight of 2,000 lbs. (whose striking face shall have a radius of not more than 5 ins.) falling freely from a clear height of 18 ft. Should the test fail or show a deflection of more than 3¼ ins. under such test, a second test shall be made. If it also fails, all rails made from that heat shall be rejected, but if the second test stands, then a third one shall be made, and if this be successful, the rails of that heat shall be accepted. Should the test from any heat fail, as above specified, similar tests shall be made from the preceding and succeeding heats, and if they fail as above specified, all rails from these heats shall be rejected. The anvil blocks shall weigh at least 20,000 lbs., and the supports shall be a part of, or firmly secured to the anvil. Butts shall be tested to destruction as requested by the inspector.

The foregoing paper was read before the Canadian Railway Club recently, A brief description of the C.P.R.'s 1908 85-lb. rail was published in our issue of March, 1908, from which the illustration on pg. 3 is reproduced.

Canadian Ticket Agents' Association.—At a meeting of the Executive Committee held at Toronto, Nov. 27, it was decided that in consequence of representations having been made that the motion passing the annual subscription passed at the annual meeting in October was misunderstood, it would be advisable to leave the matter in abeyance until the next annual meeting, when it could be rediscussed, and that in the meantime, for 1909 at any rate, the subscription will remain as heretofore, viz., $2 a year, which includes subscription to THE RAILWAY AND MARINE WORLD. The general opinion appeared to be that as long as $2 a year would meet current expenses it should so remain, but the amount of entrance fee should be increased.

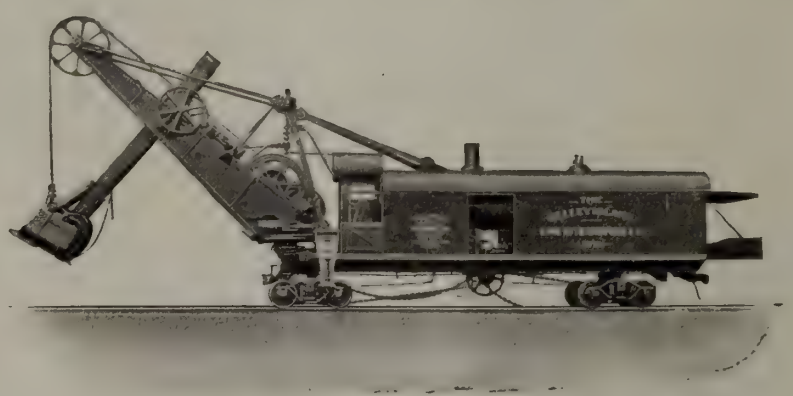
The I.C.R. Moncton, N.B., branch of the International Association of Machinists has elected the following officers for the current year: President, J. Delahunt; Vice-President, N. Davis; Secretaries, J. Blackwood and G. Kennedy; Treasurer, N. R. Baird. During the recent annual meeting, the President was presented with an address and purse of gold.

LOCOMOTIVES



Pacific Type Passenger Locomotive built for the Intercolonial Railway. Total weight of engine, 194,500 pounds. Weight on driving wheels, 132,000 pounds; diameter of driving wheels, 72 inches. Boiler pressure, 200 pounds. Maximum tractive power, 29,200 pounds.

STEAM SHOVELS



A high-class and powerful machine, absolutely reliable under all conditions of service.

MONTREAL LOCOMOTIVE WORKS, LTD.

BANK OF OTTAWA BUILDING, MONTREAL, CANADA.

Flag Stations and Stations with Agents.

J. P. Mabee, Chief Railway Commissioner, has given the following judgment on the application of the Winnipeg Jobbers and Shippers Association vs. C.P.R. Co., and Canadian Northern Ry. Co., and G.T. Pacific Ry. Co.: This matter seems to have been first brought to the attention of the Board at a meeting in Winnipeg in Sept, 1906, by the Board of Trade of that city, and in Feb., 1907, a formal complaint was lodged by the applicants. Several matters are involved in the complainants' petition, and amongst others they asked that the railway companies be ordered to (1) Where the traffic warrants it, erect a freight shed and appoint a permanent agent in charge of the business at that station. (2) Not reduce any regular station with an agent in charge to a flag station without an agent. (3) Not to close any regular or flag station without the Board's approval. All the railway companies have taken exception to the Board's jurisdiction to deal with these matters.

Sec. 284 (s.s. a) provides that the railway company according to its powers shall "furnish at the place of starting, and at the junction of the railway with other railways, and at all stopping places established for such purpose, adequate and suitable accommodation for the receiving and loading of all traffic offered for carriage upon the railway."

S.s. 3 empowers the Board to order such accommodation to be furnished having regard to all proper interests.

Sec. 258 provides—"Every station of the company shall be erected, operated, and maintained with good and sufficient accommodation and facilities for traffic.

"2. Before the company proceeds to erect any station upon its railway, the location of such station shall be approved of by the Board.

"3. In the case of any railway, whether subject to the legislative authority of the Parliament of Canada or not, subsidized in money or in land, after July 18, 1900, under the authority of an act of the Parliament of Canada, the payment and acceptance of such subsidy shall be taken to be subject to the covenant or condition, whether expressed or not, in any agreement relating to such subsidy, that the company, for the time being owning or operating such railway, shall, when thereto directed by order of the Board, maintain and operate stations, with such accommodation or facilities in connection therewith as are defined by the Board, at such points on the railway as are designated in such order, 3 E. VII., c. 58, s. 204."

It is argued first that because the above s.s. 3 deals specially with railways subsidized after July 18, 1900, the fair construction of the whole act is that the powers conferred upon the Board by this sub-section do not exist as to railways not so subsidized. I do not think this contention well grounded. This section, I think, was intended to extend the Board's jurisdiction, as to the matters covered by it, to railways not subject to the legislative authority of the Parliament of Canada, that is to railways incorporated under provincial statutes, and which had not been declared to be works for the general advantage of Canada; without this subsection the power of the Board would not extend to such railways, whether subsidized either before or after July 18, 1900.

The second objection is that s.s. (a) of 284 only requires the railway companies to furnish accommodation at stopping places established for the purpose of "receiving and loading traffic," the contention being that "flag stations" were used for delivering or unloading, and not for "receiving and loading." I do not know that the expression "flag station" appears in the statute, but, of course, it has a well-known meaning.

S.s. (b) of 284 imposes upon the railway companies the duty of furnishing "adequate" and suitable accommodation for "the carrying, unloading, and delivering of all such traffic." Sec. 30, s.s. (g), provides that the Board may make orders "with respect to rolling stock, apparatus, cattle guards, appliances, signals, methods, devices, structures, and works, to be used upon the railway, so as to provide means for the due protection of property, the employes of the company, and the public. It seems to me perfectly clear that under these sections the railway companies are obliged to provide suitable accommodation for unloading and delivering all traffic, and if they omit so to provide then the Board has power so to order, and in doing so may require the companies to erect and maintain platforms or freight sheds, or any other "structures or works" that might be deemed reasonably proper for the protection of property or the public. The statute seems to confer ample power upon the Board to deal with the subject matter of this application.

With respect to the first ground of the complaint, the companies all express their willingness to establish permanent agents "where the traffic warrants it." The difficulty is in saying when the traffic warrants such a step. Hitherto this and the other matters involved have been left entirely to the good judgment of those in charge of the management and operation of the railways, and they quite naturally object to interference; but if I am correct in my interpretation of the statute, it is clear that Parliament has placed these matters under the Board's control, and it has imposed upon it the duty of saying when the time has arrived for the appointment of permanent agents, if that is thought by the Board to be part of furnishing suitable and adequate accommodation for the delivery of traffic. It is also stated by the Chief Traffic Officer that in practice the companies receive freight in carload lots at these stopping points, as well as butter, cheese, and eggs, in which event they would be required under s.s. (a) to furnish suitable accommodation for such receiving.

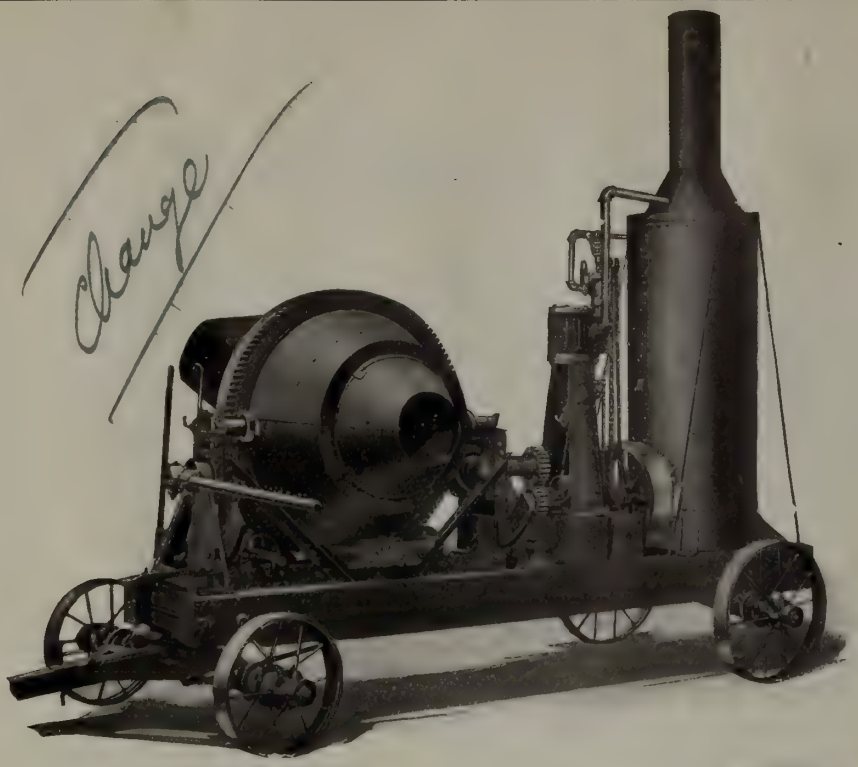
The applicants submit a list of 30 flag stations upon the C.P.R. and 46 upon the Canadian Northern; doubtless now there are many more upon the Grand Trunk Pacific; this matter has been standing so long since originally brought before the Board that the conditions have greatly changed and it is impossible to deal with these stations or stopping places by name, and the matter must be disposed of upon general lines. I have read the evidence and fully considered all the arguments that appear upon the file. I feel myself handicapped by reason of not having been upon the Board during the progress of the proceedings, but am compelled to make the best disposition of the complaint that I am able and deem fair to all concerned. The operating assistant to the Chief Traffic Officer, in Oct., 1907, dealt with the details of establishing accommodation at stopping places, and later on the Chief Traffic Officer, on Nov. 15, 1907, reported to the Board as then constituted, in some respects agreeing and in others differing from the opinion of the operating assistant. Both of these reports I have carefully considered, and while I hesitate to set my judgment up against those of far greater experience in these matters, I am unable to say that I agree with either in all respects.

It must be kept steadily in view that it is almost always in the interest of the railway companies to convenience the public as far as possible. Flag stations are established at points for the convenience of those living at inconvenient distances from the regular stations, and if this Board required unreasonable expenditures to be made by the railway companies at once upon the establishing of a flag station, I fear that a large section of the public might be seriously inconvenienced by the omission to establish such stopping places; it may be that some relief might be had by application to the Board, but I am of opinion that great difficulty would be experienced (assuming there is jurisdiction, but as to which I do not decide) in determining when or where a new stopping place should be established, without the experience afforded by the receipts and travel to and from an experimental stopping point. For those reasons, I am of opinion that the companies should not be required to establish a heated and lighted station building with a caretaker in charge at these flag stopping points as recommended by the Chief Traffic Officer. On the other hand, I think their practices in the past open to serious comment in omitting to provide any sort of platform for people to alight or stand upon, no sort of shed or shelter of any description to place freight in when discharged at these points, and in leaving goods upon the ground exposed to the elements. It seems to me that some middle course should be adopted that will provide some reasonable accommodation and protection to the public, and at the same time not operate as too great a burden upon the railway companies.

I think it not unreasonable that the companies should, at all stopping places known as flag stations, erect a suitable shelter or waiting-room which could be used for both freight and passengers; it should be provided with a door and windows. I would not require a caretaker to be kept, nor would it be reasonable to require this building always to be kept heated or lighted. There should be some sort of platforms and proper approaches. If the railway companies are willing to accept the foregoing views, the Board will hear them as to the size of buildings and platforms to be provided. If they desire to appeal from the holding that the Board has jurisdiction, we will delay until such appeal is disposed of before settling these details.

Dealing next with the question of appointing permanent agents at flag stations, as I have said I think the Board has jurisdiction so to order if it deems a permanent agent part of the station equipment necessary to furnish to the public adequate and suitable accommodation for unloading and delivering traffic, or for receiving and loading of traffic, and in this view I am confirmed by the late Chief Commissioner in a memo. of Oct. 11, 1907, in which he says that the Act requires "the railway company to provide reasonable and proper facilities for receiving, carrying, and delivering traffic, and that while the point has never been decided, it may well be argued that the Board has power to require a company to place and keep an agent at a particular station where, in view of the amount of business to be done and other circumstances this would seem to be a reasonable and proper facility to be afforded. The question is what amount of traffic warrants the appointment of a permanent agent. I think the Minnesota law not an unreasonable one in this respect. There a total freight and passenger earning of $15,000 requires the appointment of a permanent agent; and I agree with the recommendations of the operating assistant upon this point and think the companies should be required to appoint and maintain permanent agents at stations where the total freight and passenger earnings amount to $15,000 for the year; and at points where the business consists principally of shipping grain, where such shipments amount to at least 50,000 bush., agents should be appointed and maintained at such points during the grain shipping season; and at points of shipment where a telegraph operator is located for the handling of trains, such operator should, while he remains at such point, be provided with the necessary equipment to enable him to take care of all traffic at such point. It does not appear to be necessary at this moment to consider the request that the companies be prohibited from reducing a regular station to a stopping point without any agent, or from closing any regular or flag station without the approval of the Board. It is not to be assumed that such steps would be taken without good reason, and I think such cases should be left to be dealt with individually when they arise, assuming there is jurisdiction, as to which I express no opinion.

Strong objections are made and I think with good reason, to the form of release required for traffic for delivery at flag stations;



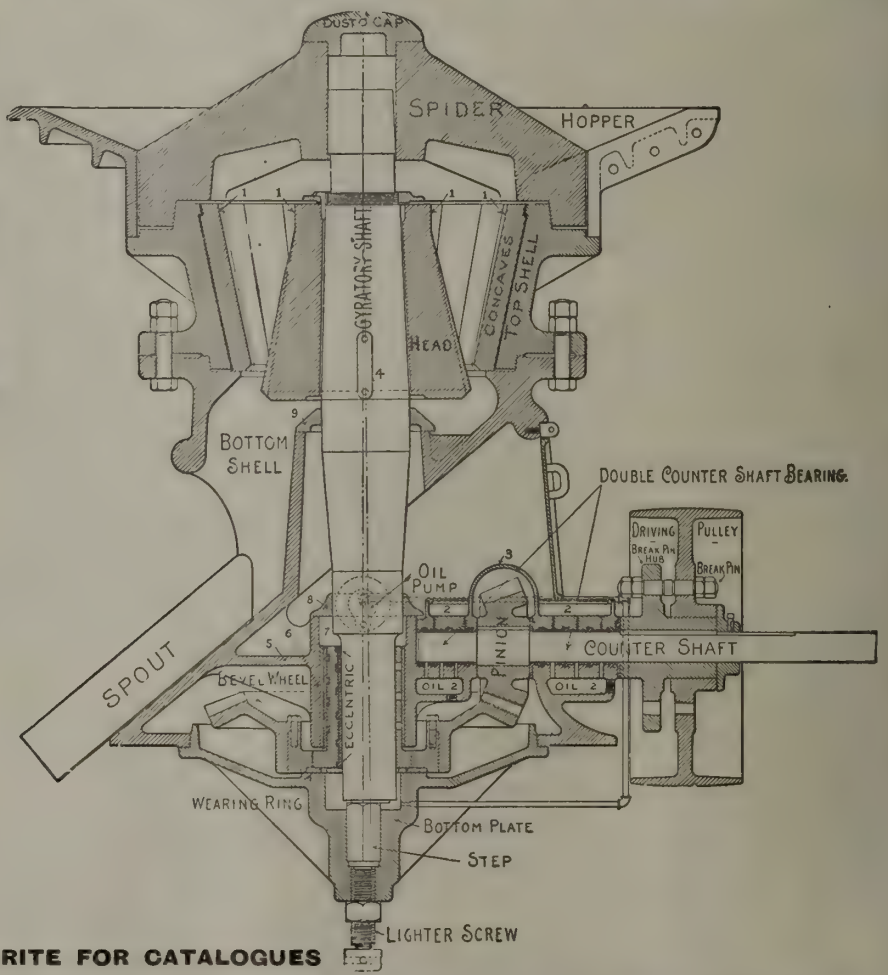
THE SMITH CONCRETE MIXER

IS THE LEADING MIXER FOR RAILROAD WORK

Over 3,000 in use and never known to fail.

ALL SIZES AND STYLES

AUSTIN GYRATORY CRUSHERS



Large Capacity
Easy Running
Durable

Capacities
50 to 2,250 tons
per day

WRITE FOR CATALOGUES

MUSSENS LIMITED

MONTREAL TORONTO COBALT WINNIPEG VANCOUVER

but I refrain from dealing with this matter, as it is now under consideration by the joint committee assembled, pursuant to the request of the Board made in the circular of April last, and will be dealt with by the Board when considering the standard form of shipping bill.

Locomotive Smoke Regulations.

The Board of Railway Commissioners has passed the following order, 5678: In pursuance of the powers conferred upon it by secs. 30 and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf It is ordered that

1. Every locomotive steam engine operated in the Province of Ontario by any railway company subject to the legislative authority of the Parliament of Canada, shall be equipped so as to prevent the unnecessary and unreasonable emission therefrom to the atmosphere of dense or opaque smoke, and every such locomotive steam engine shall, subject to clauses 2, 3, 4, and 5, while passing through, or being operated within any city, town, or village, be so operated as not to permit the unnecessary and unreasonable emission to the atmosphere of dense or opaque smoke.

2. Where it is necessary to clean out the fire-box or build a new fire, the necessary and reasonable emission of dense or opaque smoke within any city, town, or village may be permitted for a period not to exceed six minutes in any one hour.

3. The necessary and reasonable emission of dense or opaque smoke from a locomotive steam engine standing at stations or in station yards, in cities, towns, or villages, may be permitted for a period of one minute in any ten minutes of any one hour.

4. This order shall apply to and be in force only in such cities, towns, and villages in Ontario that have passed, or may hereafter pass, by-laws for the control, regulation, or prohibition of dense or opaque smoke from stationary steam engines, or a by-law or by-laws to the like effect.

5. In the ascent of the Scarboro grade easterly out of Toronto, or the grade east and west out of Hamilton, the necessary and reasonable emission of dense or opaque smoke may be permitted for a period not to exceed ten minutes in any one hour.

6. Every company or person offending against the foregoing regulations, or any of them, shall be subject to a penalty of $25 for every such offence.

7. This order shall take effect on Jan. 1, 1909.

In connection with the foregoing the following memorandum has been issued: "The regulations that the Board has framed dealing with the unnecessary emission of dense smoke from locomotive engines are made applicable only to the Province of Ontario, for two reasons. The first is that no municipalities outside of that province have asked for them; the second and more important one is that, outside of Ontario, there are many railways not subject to the jurisdiction of the Board. For instance, in Halifax, N.S., the Intercolonial Ry., the Halifax and Southwestern Ry., and the C.P.R. Companies use the same stations. The two former are not subject to the jurisdiction of the Board, and it would be manifestly unfair to subject the C.P.R. Co. and its employes to penalties for permitting the unnecessary escape of dense smoke while side by side with locomotives under the control of employes of these two other railways who would be exempt from the operation of this order. It will not be considered that the Board has finally determined that regulations of this character are to be withheld from the other provinces, but these will be considered as the occasion may arise. Many villages and towns, and possibly some cities in Ontario, have no municipal by-laws on this subject, and it was thought reasonable that this order should not apply to places where the local council had not taken steps, within its own jurisdiction, to prevent the fouling of the air by stationary engines. This subject has been found to be a difficult and perplexing one. There is no doubt there has been in the past much unnecessary annoyance and inconvenience caused to the public by the unreasonable discharge of noxious smoke from locomotive engines, and the Board feels that in making this order it has gone as far in the attempt to suppress this nuisance as is fair, without imposing too great expense or hardship on railway companies. If, however, it is found to be not sufficiently effective, the Board will have no hesitation in rescinding its provisions."

Running Passenger Trains on Time.

J. Oborne, General Superintendent Ontario Division C.P.R., has issued the following circular:

Running trains on time is the best possible kind of advertising. Traffic officers are so thoroughly impressed with this fact, that they have expressed a willingness to reduce the advertising account 50% if passenger trains are run on time. Fifty per cent. of the cost of our advertising represents a large amount of money, and it must be saved. Most railway men have never been engaged in any other business, and are inclined to overlook the railway situation from a public viewpoint. All railway men use street cars, and know how unsatisfactory it is to have to wait at street corners for delayed cars, and how hard to maintain their tempers while on a street car that is delayed en route. Now, if these petty street car delays are trying, railway men should endeavor to realize how inconvenient and annoying delayed trains must be to the travelling public.

No engineer who takes a pride in his locomotive would leave a divisional point without seeing that his machine is not only neat and clean, but in a thoroughly fit condition, well stocked with suitable coal and other supplies, to take the train through without delay. Every detail of the locomotive should be understood by the man in charge, so that it may be handled to good advantage. Waste of water, as well as coal, should be guarded against, so that detention by water stops may be reduced to a minimum, and that passengers may not be subjected to black smoke and cinders.

The ideal conductor is he who appears on duty well groomed, and in ample time to see that every detail of his train is in good order, that his men are on hand with their supplies, and that nothing occurs to prevent the train leaving on time. Station work should be done with all possible despatch. Trainmen should know what passengers are to get off at the next stop, and should request them to have their belongings all ready to disembark immediately the train stops, and should render whatever assistance is necessary to old people, invalids and people with children. At stations where it is necessary to secure orders, conductors should run to and from the station. A good deal of unavoidable lost time can be made up by quick, but safe work, at stations.

Any agent who does not consider it a reflection upon his administration to have a passenger or fast freight train delayed at his station, has not sufficient ambition to carry him to success. Outward baggage and express should be on the platform opposite the cars ready to load immediately the train is stopped. Loading and unloading should be done with energy and vim. Passengers should be encouraged to reach the station in sufficient time to purchase their tickets and have their baggage checked before the arrival of the train.

Slow orders affect the movement of trains considerably, and while it is desirable that slow orders should in all cases be placed on trains, where they are necessary in the interest of safety, bridge and building masters and roadmasters can aid the movement of traffic considerably if they will see that all work involving the maintenance of slow orders is completed with the utmost despatch, and that this important feature of the service may be properly supervised; hereafter a record will be kept of the hour and date slow orders are put on, cause for each, and date and hour slow orders are lifted. If any work involving a slow order is detained waiting material, the Superintendent, and if necessary the General Superintendent, should be advised, with a view to expediting delivery. Bridge and building masters should see that the water service is maintained in a thoroughly efficient manner, so as to avoid delay to trains because of poor water service.

Train despatchers can render valuable assistance by having train orders ready, and by the exercising of good judgment in handling time limit orders and favoring trains influencing connecting trains.

I have endeavored to make it clear that in the interests of the road and the travelling public, our passenger trains must be run on time, and feel that with the hearty co-operation of all concerned, satisfactory results will be obtained, but, if we are disappointed, repeated responsibility for delayed trains will be considered sufficient cause for the removal of the employe implicated.

Index to The Railway and Marine World.

A complete index to the matter contained in the RAILWAY AND MARINE WORLD for 1908, Jan. to Dec. both inclusive, is in course of preparation, and will be printed and ready for distribution early this month. The index for 1907, issued in Jan. last, met with much favor, and we have no doubt the one for the past year will be equally appreciated. A large portion of the matter we publish from month to month is of great permanent value for reference, and of course this value is much enhanced by a complete classified index. We were much gratified when we issued our index for 1907 to find that a large number of subscribers file and bind the paper.

It is not the intention to make a general distribution of the past year's index, but a copy will be sent to each subscriber who desires one, and who will notify us to that effect. A letter or post card, simply stating that the index is desired, and giving the subscriber's name and address, will be sufficient. Early application is requested, and subscribers who wish a copy are asked to write us at once. "Do it now." The number of copies to be printed will be governed by the number of applications received.

C. H. Fergie, recently Superintendent of Mines for the Dominion Coal Co., spent some time in Sydney, N.S., and vicinity recently examining a number of coal properties, which it is reported that the C.P.R. proposes to purchase, with a view to securing a supply of coal for its own requirements.

A discussion on "Reinforced Concrete Beams" was the feature at a recent meeting of the Toronto Branch of the Canadian Society of Civil Engineers. The discussion followed a paper read by E. Brown, and the general opinion of the members seemed to favor the adoption of larger factors of safety to offset the possible inferior work of fabrication due to the tendency to hurry all construction.

"MARION" STEAM SHOVELS

have demonstrated time and again that they are the best for all classes of service.

ALL CAPACITIES ALL STYLES

"INDUSTRIAL" COALING AND WRECKING CRANES

Electric Locomotive Cranes Special Design Cranes

In Capacities from

FIVE TO ONE HUNDRED TONS

FOR USE ABOUT

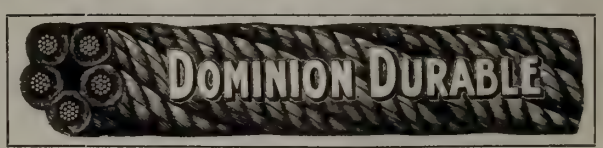
Manufacturing Plants Railroad Yards Coal Yards Power Plants
Coaling Stations Quarries, etc.

WE SOLICIT YOUR MOST CAREFUL INVESTIGATION

F·H·Hopkins & Co SUCCESSORS LATE JAMES COOPER **Montreal**

WIRE ROPE

FOR HOISTING, HAULAGE TOWING, GUYS, MOORING TRANSMISSION OF POWER GRAIN SHOVELS, ETC.



FOR DERRICKS, CRANES WRECKING, ELEVATORS BRIDGES, DREDGES ETC.

The above cuts illustrate our "Ordinary," "Kilindo" and "Durable" makes of wire rope. We manufacture wire ropes for all requirements and also manufacture special ropes to suit any requirements.

All sizes and lengths of "Ordinary"— Kilindo"—"Langs Lay"—"Durable" Wire Ropes in stock—ready for immediate shipment.

The Dominion WIRE ROPE Co., Limited, Montreal

Rates for Crow's Nest Pass Coal Co.

In the case of the Crow's Nest Pass Coal Co. vs. C.P.R. Co., Chief Railway Commissioner Mabee gave the following judgment Nov. 23: The applicant asks for an order that the Railway Company do file a tariff from all points in Canada to all points on the property of the applicant company, viz., Michel, Fernie, Coal Creek, Morrissey Jct., and Carbonado, and hereafter to all other points at which collieries may be established by the applicant company for all "plant," as defined by an agreement of Feb. 19, 1906, which the applicant company may ship over the respondent's lines, required by the applicant for the construction and operation of its works, such tariff to be not more than six-tenths of the present tariff rates on such materials for carload or less than carload, and to refund to the applicant company all excesses which the respondent has charged the applicant on such plant since May 1, 1907, and generally to file tariffs in compliance with the provisions of paragraph 14 of an agreement of July 30, 1897. On the last mentioned date a lengthy and somewhat complicated agreement was entered into, to which the B.C. Southern Ry. Co., the respondent, and the Kootenay Coal Co. were parties, the applicant company being formerly the Kootenay Coal Co., and admittedly entitled to the benefits of the agreement. Par. 14, under which relief is sought, is as follows: "The construction materials required by the Coal Co. to be used in the construction of permanent works, and for timber used in its said mines, and carried by the C.P.R. Co. to the Coal Co.'s said mines from points on the line of the C.P.R. Co.'s said railway, the Coal Co. will be charged by the C.P.R. Co. for the carriage of all such materials no more than the rate of 1c. per ton of 2,000 lbs. per mile, such construction material to include rails, fastenings, ties, bridge timber, and lumber required by the Coal Co., provided that such material may be carried a distance of not less than 100 miles on the C.P.R. Co.'s railway, and that for all plant shipped by the Coal Co. over the C.P.R. lines, and required by the company for the construction and operation of the said works, the Coal Co. shall be charged by the C.P.R. Co. at the rate of not more than six-tenths of the ordinary tariff rates on such materials for carload or for less than carload."

When this agreement was entered into the Coal Co.'s works had not been established, and the respondent had no line of railway in the locality where it was the intention of the Coal Co. to locate what has since become an industry of very large proportions, and in which upwards of $5,000,000 have been invested. Nothing turns upon the portion of the above paragraph concerning the carriage of materials at 1c. per ton per mile, and it was stated that respondent's regular tariff rate upon such materials was less than the amount agreed upon, and the applicant was charged upon such material at the tariff rate.

On Feb. 19, 1906, an agreement was entered into by the parties to this contest under which the following articles were considered as "plant" under the above clause 14: Asbestos, babbit metal, brattice cloth, bridge or tipple material and machinery, including conveyers, link belt or other transmission machinery, screens, picking tables, dumps, car hauls and parts thereof; castings, iron, steel, or brass; chain, iron or steel; electrical machinery and parts, including generators, dynamos, motors, lamps, globes, sockets, wire, insulators, and transformers; engines, stationary, including boilers, condensers, compressors, box car loaders, air receivers, hoists and parts thereof; fire engines and apparatus; harness and saddlery; horses; hose, water and steam; iron bolts, nuts, rivets, and washers; iron, bar and other iron and steel; locomotives, steam, air or electric (used in and about the mines); machinery and parts thereof, including blocks, pulleys, shafting, coal and rock drills; mine cars and parts, including trucks, irons and wheels; machine shop material; machine shop machinery and parts thereof; machinery packing; mules; nails and spikes used in mine structures; pipe, lead, vitrified, soil, wood, including fittings, injectors, lubricators and valves; pumps and parts thereof; rails, fastenings, and switch material used in and about the mines, not over 45 lbs. weight per yard; rope, all kinds; safety lamps and parts; scales and parts; tools, including files, saws, coke forks, wheelbarrows, axes, shovels, spades, picks, handles, lanterns, globes, grindstones, wrenches, anvils, bellows, dirt scrapers, machinists and machine shop tools; wire, plain; vehicles and parts, including wagons and sleighs.

The agreement of July 30, 1897, was entered into in good faith, and has been carried out by the parties, except as to the matter which gives rise to this application. Many covenants were entered into by the parties to that agreement, and one result of it was that the respondent company obtained the conveyance of a very large area of coal lands, estimated by a witness at the hearing as being worth many millions of dollars—but in the view I take of this application it is neither needful nor desirable that close or accurate attention be paid to the consideration received by the Respondent Co. for entering into the covenants embraced in this agreement, one of which was the one in contest. The respondent agreed to construct a line of railway; this was done. The applicant agreed that this large area of coal lands should become vested in the railway company, and this covenant was fulfilled. All other covenants contained in the agreement were carried out, except that the railway company says that the provisions of the Railway Act prevent its carrying over its lines plant shipped by the applicant company for the construction and operation of its works at six-tenths of its ordinary tariff rates, and that such an agreement was and is illegal. It was stated that when the agreement was originally entered into there was no demand in that locality for the class of articles the railway company was agreeing to carry at reduced rates; that there were no industries in existence, and, therefore, no persons against whom the six-tenths clause of the agreement would be a discrimination, and that, therefore, the agreement was valid when entered into. Be this as it may, it, I think, is not necessary to decide whether the agreement was opposed to the Railway Act of 1888, and the only point for decision here is whether the application can succeed in view of the provisions of the Railway Act now in force; and I am of the opinion that the fairer position to leave the parties in is to deal with the situation upon the footing of the present legislation, leaving the applicant to take such other proceedings as it may be advised with respect to the consideration alleged to have been given for the covenant of the railway company for this reduced freight rate, if such course is open to it.

Admitting the jurisdiction of this Board to make an order of the kind asked for, as to which I have grave doubt, although jurisdiction was not disputed by the railway company, I do not think the application can succeed. It is admitted that at present large development has taken place in the portion of British Columbia to which this agreement applies, and there are many persons, firms, and corporations requiring carriage by the railway company of the class of articles and material as defined by the agreement of Feb. 19, 1906, into that district, and into the towns mentioned in the prayer of the petition, there are other coal companies within varying distances, some within 100 miles of the applicant's coal area and plants, requiring similar articles and material, and the success of this application would mean that the applicant would pay but six-tenths of the regular tolls charged to others upon all the various materials mentioned in the agreement of Feb. 19, 1906, and this for all time to come, so that in future years, if the railway company reduced its rates upon these articles, or any of them, or were so required by the Board, the tolls to be paid by the applicants would continue to be but six-tenths of such reduced rates, and so discrimination in its favor would continue for all time. I think such a condition is opposed to the spirit as well as the express provisions of the Railway Act.

Mr. Marsh argued with much force that all this was quite permissible, as the applicant had paid an adequate consideration for the favored treatment, and he cited some English and American cases that go to support that contention. I have gone through most of these, and while some can be distinguished, both as to the facts and the terms of the various statutes upon which they were decided, it is sufficient to say that the same are not binding upon the Board, and no such principle has as yet been introduced into the railway jurisprudence of Canada, and it has been dissented from in other cases both in England and the United States. It is impossible to find as a fact that the consideration passing from the coal company to the railway company was "adequate." It is contended this consideration requires the railway company to carry at these reduced tolls for all time. Who can say what the actual sum was that was paid? The area of coal lands so conveyed are undeveloped, and their value is based upon opinion evidence only. Who can say how much material is to be carried by the railway company for the coal company, and what is the length of time that such carriage is to continue? Who can say to what extent the tolls upon these articles may be reduced in future years by reason of competition or otherwise? All these are matters upon which reasonably accurate information must be had before it could be said that the coal company had paid to the railway company a consideration that could fairly be said to make up the other four-tenths of the tolls, thereby eliminating the discriminatory feature of the agreement. In this case no finding could be made that the consideration was "adequate"; but if the contrary was the case, I would not follow the cases cited for the proposition that under our law any such agreement can be made.

The Railway Act requires that under substantially similar conditions the tolls charged shall be equal to all persons, and at the same rate, whether by weight, mileage, or otherwise, and any reduction or advance either directly or indirectly is expressly prohibited. No undue or unreasonable preference or advantage can be permitted to any person or company. The object of the legislation is to place everyone upon terms of absolute equality, and if agreements were permitted to be entered into for reduction in tolls or for other preferential treatment, the door would be opened wide for the defeat of the Act, and the Board would be called upon to struggle with all sorts of conditions, opinions, and complications in the determination of such cases. It will not be understood that I am expressing the opinion that such was

ADDITIONAL SAFETY AND ECONOMY IN

TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use** —the extent of which is evidence of their excellence.

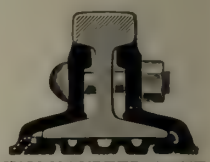
HIGHEST AWARDS
Paris, 1900;
Buffalo, 1901; St. Louis, 1904

CONTINUOUS JOINT

Over 50,000 miles in use

WEBER JOINT

Rolled from Best Quality Steel


WOLHAUPTER JOINT

CATALOGUES AT AGENCIES

Baltimore, Md. Boston, Mass. Chicago, Ill. Denver, Colo. Pittsburg, Pa.
San Francisco, Calif. Seattle, Wash. St. Paul, Minn. St. Louis, Mo. Troy, N.Y.

London, Eng. New York City.

THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES : BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base-Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, and Insulating Rail Joints, protected by Patents in U.S., Canada and Mexico.

Pintsch Light Steam Heat

Car lighting by the Pintsch System with improved mantle lamps and by Vapor lighting system for branch lines. Gas broilers, and ranges. Buoys.

The Safety Car Heating and Lighting Co
2 RECTOR ST., NEW YORK.

Car heating by controllable direct steam and water circulating systems steam tight couplers, traps, train pipe valves and other appliances.

CHICAGO - BOSTON - ST. LOUIS - ATLANTA - PHILADELPHIA - MONTREAL - BERKELEY, CAL.

the object of the present agreement; the conditions existing when the same was entered into were such that the contrary opinion might be arrived at. I think the application must be refused. See Brant Milling Co. vs. G.T.R. Co., 4 C.R.C. 259.

January Birthdays.

Many happy returns of the day to—

G. Bazzard, ex-Freight and Passenger Agent Delaware, Lackawanna and Western Rd., Toronto, now of Hamilton, Ont., born at Westhide Court, Herefordshire, Eng., Jan. 3, 1838.

A. H. Bears, Master of Bridges and Buildings C.P.R., Saskatoon, Sask., born at Charlottetown, P.E.I., Jan. 6, 1857.

F. X. Belanger, General Freight Agent Temiscouata Ry., Riviere du Loup, Que., born at Chlorydormes, Que., Jan. 20, 1876.

R. H. Bell, Commercial Agent Canadian Northern Ry., Pittsburg, Pa., born at Toronto, Jan. 13, 1865.

J. R. Bowles, City Freight Agent, G.T.R., Montreal, born at Sarnia, Ont., Jan. 14, 1874.

G. McL. Brown, General Traffic Agent C.P.R., London, Eng., born at Hamilton, Ont., Jan. 29, 1866.

W. H. Burr, Traffic Manager Dominion and Western Express Companies, Toronto, born at Bloomington, Ill., Jan. 19, 1864.

C. A. Cotterell, Chief Train Dispatcher district 5, Central Division, C.P.R., Saskatoon, Sask, born at Enden, Eng., Jan. 18, 1877.

W. A. Cowan, Resident Engineer C.P.R., London, Ont., born at Galt, Ont., Jan. 22, 1877.

J. E. Dalrymple, Assistant Freight Traffic Manager G.T. Pacific Ry., Winnipeg, born at Montreal, Jan. 1, 1869.

Sir Sandford Fleming, K.C.M.G., Director C.P.R., born at Kirkcaldy, Scotland, Jan. 7, 1827.

H. V. Harris, ex-General Manager Midland Ry. of Nova Scotia, Truro, N.S., now of Louisville, Ky., born at Devonport, Devonshire, Eng., Jan. 16, 1857.

G. F. Hitchborn, formerly Agent Great Eastern Fast Freight Line, New York City, born at Boston, Mass., Jan. 31, 1875.

Carl Howe, New York Central Fast Freight Lines, Buffalo, N.Y., born at Berrien Springs, Mich., Jan. 11, 1870.

W. C. Hunter, ex-Manager New Brunswick Coal and Ry. Co., Sussex, N.B., born at St. John, N.B., Jan. 4, 1865.

W. J. Hunter, Division Freight Agent G.T. Pacific Ry., and Commercial Agent G.T.R., Winnipeg, born in Toronto, Jan. 10, 1864.

H. G. Kelley, Chief Engineer G.T.R., Montreal, born at Philadelphia, Pa., Jan. 12, 1858.

Jas. Kent, Manager C.P.R. Telegraphs, Montreal, born Jan. 15, 1854.

A. Lichtenhein, Galena Signal Oil Co., New York, born there Jan. 15, 1855.

A. J. McGee, Secretary-Treasurer Temiskaming and Northern Ontario Ry. Commission, Toronto, born at Lachine, Que., Jan. 24, 1876.

G. Pepall, Canadian Agent National Despatch, Great Eastern Line, Toronto, born at High Wycombe, Buckinghamshire, Eng., Jan. 15, 1849.

W. Phillips, General Eastern Agent Canadian Northern Ry., and General Freight and Passenger Agent, Canadian Northern Ontario Ry., Toronto, born at Toronto, Jan. 31, 1870.

J. Pullen, Assistant Freight Traffic Manager G.T.R., Montreal, born at Shepton Mallet, Somersetshire, Eng., Jan. 23, 1863.

S. L. Shannon, Comptroller and Treasurer Intercolonial Ry., Moncton, N.B., born at Halifax, N.S., Jan. 18, 1862.

S. J. Sharp, Western Passenger Agent C.P.R. Atlantic Steamship Lines, Toronto, born at London, Ont., Jan. 21, 1860.

J. R. Steele, Freight Claims Auditor C.P.R., Montreal, born at St. John's, Newfoundland, Jan. 14, 1856.

J. G. Sullivan, Assistant Chief Engineer C.P.R., Montreal, born at Bushnell's Basin, N.Y., Jan. 11, 1863.

S. G. Wagstaff, Commercial Agent G.T.R., Toledo, Ohio, born at Hamilton, Ont., Jan. 6, 1866.

F. J. Watson, Division Freight Agent G.T.R., Montreal, born at Toronto, Jan. 12, 1866.

G. H. Webster, C.E., Vancouver, B.C., born at Creemore, Ont., Jan. 31, 1858.

T. H. White, Chief Engineer of Construction, Mackenzie, Mann & Co.'s lines east of Port Arthur, Ont., Toronto, born at St. Thomas, Ont., Jan. 27, 1848.

Commutation Fares from Brampton and Oakville.

On the application of F. W. Wegenast of Brampton, Ont., under sec. 315 of the Railway Act, for an order directing the G.T.R. Co. to issue to him a 55-trip ticket, for use between Brampton and Toronto, similar to those in use between Oakville and Toronto, at the same rate as those between Oakville and Toronto are sold, namely, $7.15. Chief Railway Commissioner Mabee delivered the following judgment, Nov. 23:

The applicant alleges that he is a resident of the town of Brampton, is a law student attending lectures at Osgoode Hall, Toronto, and travels daily, except Saturdays and Sundays, between Brampton and Toronto, the return fare between which places is $1.10, Brampton being 21.1 miles distant. That between Toronto and Oakville, 21.14 miles from the former city, the railway company issues commutation tickets consisting of 55 coupons, good for one trip each way at 13c. per trip, and also a ticket consisting of 10 coupons for $3.25, or 32.5c. per trip. The applicant claims that the railway company should be required to issue trip tickets good between Toronto and Brampton upon a similar basis. The application was supported by counsel for the town and Board of Trade of Brampton, and by counsel for the city of Toronto. The case was based entirely upon the contention that the action of the railway company was an unjust discrimination against Brampton in favor of Oakville.

Sec. 341 of the Railway Act provides that nothing in the Act shall be construed to prevent the company from issuing "mileage, excursion, or commutation passenger tickets," so that the company is within its rights in issuing these reduced fare tickets between Toronto and Oakville. Sec. 77 of the Act provides that whenever the company charges persons in one district lower tolls than it charges to other persons in another district "for the same or similar services," the burden of showing that such difference in treatment does not amount to an undue preference, or an unjust discrimination, shall lie on the company.

Much evidence was given showing the train facilities between Toronto and the towns in question, and the history of the granting of these tickets between Toronto and Oakville. It appears that many years ago, reduced rates existed between Toronto and Brampton, but they were abandoned by the railway company upon the complaint of Brampton merchants, who contended that it took trade from them to Toronto merchants. The former, it is said, went so far as to threaten the company that they would divert their traffic from the G.T.R. if these reduced fares were continued. At the same time, similar reduced fares existed between Oakville and Toronto, and no complaints were made by Oakville merchants against the practice. It would, therefore, seem that the withdrawal of these privileges from Brampton was not brought about by the railway company upon its own initiative, but was solely upon account of the situation above indicated. It was said, also, that during the experimental stages of the cheap fares between Toronto and Oakville, some persons, in consequence thereof, had purchased houses there, and at the time the rates were withdrawn from Brampton they were allowed to continue between Toronto and Oakville, otherwise these persons might have to sacrifice their property. In view of these facts, it is clear that the present situation is not brought about by the choice of the railway company; that it is not solely responsible for either the discontinuance of the Brampton rate, or the continuance of the Oakville rate, and if there is unjust discrimination against Brampton and in favor of Oakville, the people of the former place can hardly lay the blame upon the company.

Between Toronto and Oakville about 12 persons in the winter, and 20 in the summer, avail themselves of these reduced fare tickets. There never was any suburban service, and these passengers ride on the regular trains. Witnesses from Brampton stated that, in their opinion, reduced fares between Toronto and Brampton would have the effect of increasing real estate values there, and persons now residing in Toronto would go there to live. I have no doubt these reduced fares would prove a great convenience to the persons now residing in Brampton, but the point for decision is whether Brampton is "unjustly discriminated" against in favor of Oakville. The Act recognizes the right of a railway to discriminate between points; it is only unjust discrimination, or undue preference that the company is required to prove itself free from. There is evidence that no one has chosen to buy property in Oakville who would have purchased in Brampton had reduced fares to that town been in effect. There is evidence that no one has removed from Brampton to Oakville consequent upon reduced fares to that town, and there is evidence that, so far as known, no one has removed from Toronto or elsewhere to Oakville, who would have chosen Brampton had reduced fares existed to that town. It may be that Oakville has to a small extent profited by these reduced fares; it may be that Brampton would profit to an equal or greater degree if they were in force between Toronto and that town; but the question is whether Oakville has profited at the expense of Brampton, and I am of opinion that such has been shown not to be the case.

Counsel for the town of Brampton asked that these tickets between Toronto and Oakville be prohibited unless the like privileges were granted to Brampton; but I am of opinion that inasmuch as it has been shown that Brampton has not been injured, it would not be fair to the people of Oakville to make such an order. The application must be refused.

Inspection of Electric Crossing Bells.—Our last issue contained, on pg. 867, order 5568 of the Board of Railway Commissioners, providing for the inspection of electric bells installed by railway companies at crossings for the purposes of protection, requiring that every such bell be inspected each morning by the sectionman in whose section it is. On the G.T.R. Co.'s application the Board has passed an amending order, 5754, providing that the daily inspection may be made by the sectionman "or other employe of the railway company specifically charged with such duty by the company."

H. Sutherland, Executive Agent, Mackenzie, Mann & Co., Winnipeg, is reported to have said in Port Arthur, Ont., recently, that the blast furnaces there would probably be reopened after the new year.

LIGHT

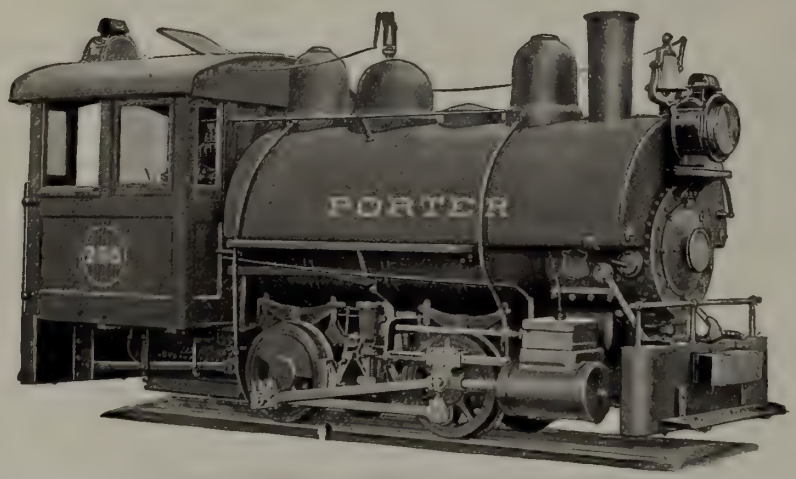
LOCOMOTIVES

STEAM AND COMPRESSED AIR

COMPRESSED AIR LOCOMOTIVE

H. K. PORTER COMPANY

643 Wood Street, - Pittsburg, Penna.



LATEST DESIGN CONTRACTORS' LOCOMOTIVE

ALL GAUGES. EVERY VARIETY OF DESIGN. FOR ALL PURPOSES.

CONTRACTORS' LOCOMOTIVES ON HAND AND UNDER WAY FOR QUICK COMPLETION. WIDE AND NARROW GAUGE.

LOGGING, MINE AND INDUSTRIAL LOCOMOTIVES.

"TENTH EDITION CATALOGUE JUST PRINTED, MAILED FREE TO MINE, RAILWAY OR INDUSTRIAL OFFICIALS; OR TO OTHERS ON RECEIPT OF FIFTY CENTS."

MONTREAL STEEL WORKS, LIMITED

POINT ST. CHARLES, - - MONTREAL

MANUFACTURERS OF

STEEL CASTINGS (Acid Open Hearth System)

SWITCHES and TRACK WORK for Steam and Electric Roads

SPRINGS of all kinds

MANGANESE STEEL CASTINGS for wearing Parts, insuring Great Hardness and Durability

INTERLOCKING PLANTS

TRUCKS FOR ELECTRIC CARS

Agents for Canada for

THOS. FIRTH & SONS, LIMITED, SHEFFIELD, ENGLAND

"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc. A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO., BARROW-IN-FURNESS, ENGLAND

Quotations for Tee Rails, Fish Plates, etc., promptly furnished. Catalogues sent on application.

C. P. R. Betterments, Construction, Etc.

St. Maurice Valley Ry.—A contract has been entered into between the company and the Department of Railways and Canals, under the act granting aid to certain railways, for the construction of a railway from Three Rivers to Grand Mere, Que., 28 miles. This line has already been constructed, and is being operated by the C.P.R.

Northern Colonization Ry.—Good progress is reported to have been made with the extension of the line from Nomining to the Lievre River, Que. Track has, it is stated, been laid to about 27 miles from Nomining, leaving a further distance of eight miles to be laid before the extension is completed.

Subway at St. Louis, Que.—It was reported at a meeting of the St. Louis city council recently, that the C.P.R. was ready to proceed with the construction of the subway at St. Lawrence St. next summer. The Mayor explained that from the negotiations which had taken place it would appear that the company was quite willing the work should be done during the coming summer, because the traffic at that point, already very heavy, was increasing so rapidly that there is danger of serious interference with the street traffic in the near future. The cost, estimated at about $70,000, will be paid by the town, the C.P.R. and the street railway. It was decided to instruct the town engineer to prepare plans for the subway.

The Ottawa, Northern and Western Ry. Co. will apply next session of the Dominion Parliament for an act extending the time within which the company may construct the extensions and branches of its railway which it was authorized to construct by sec. 11 of chap. 87 of the statutes of 1894.

Pembroke Freight Shed.—It is reported in Pembroke, Ont., that the company has taken an option on certain properties on Lake and Victoria streets. The object in view is said to be the company's desire to have freight sheds nearer the centre of the town than the present one.

The Guelph and Goderich Ry. Co. will apply next session of the Dominion Parliament for an act extending the time within which it may construct the branch line authorized to be constructed by sec. 7, chap. 81, of the statutes of 1904.

The Tillsonburg, Lake Erie and Pacific Ry. Co. will apply next session of the Dominion Parliament for an act extending the time within which it may construct the extension of its railway, authorized by sec. 2, chap. 105, of the statutes of 1902.

St. Mary's and Western Ontario Ry.—Under the act granting aid to certain railways the Department of Railways has entered into a contract with the company for the construction of a line from Woodstock to Exeter, Ont., 45 miles. A portion of this line extending from St. Mary's to Embro has been completed, and is being operated under lease by the C.P.R.

The Walkerton and Lucknow Ry. Co. will apply next session of the Dominion Parliament for an act extending the time within which it may construct the railway which it was authorized to construct by sec. 8, chap. 138, of the statutes of 1904.

Fort William Taxation and Improvements.—After negotiations extending over some considerable period, an agreement has been reached between the company and the city council of Fort William, Ont., respecting the exemption from taxes of the company's property. It is said that the company will pay between $25,000 and $30,000 a year as taxes, and will be exempted from the balance. The company agrees in the near future to undertake the construction of two bridges across the rivers to the islands, a cleaning elevator, a new station, increased accommodation at the car repair shops, and to concentrate all its business at the head of the lakes at Fort William. It will also give 300 ft. of frontage to the city for the purpose of constructing a dock, and will also construct a subway. The formal agreement embodying these terms is being drawn up for signature.

In connection with the negotiations for the settlement of the amount of taxes to be paid by the company in Fort William, it is stated that the company has lately acquired a large area of land on Island No. 1, bringing its holdings fronting the lake up to about 240 acres. On this property the company is preparing to expend a large amount of money in the improvement of its terminals, so that the increasing business at the port may be handled promptly and efficiently. Press reports state that among the structures which it is contemplated to erect will be a coal-handling plant having a storage capacity of 1,000,000 tons, and a capacity for handling 2,000,000 tons a year. It is understood, however, that nothing definite about plans has been settled, but we are advised that no doubt a coal-handling plant will be built on the island in time, and that generally it is found necessary to enlarge the company's terminal facilities there. The price paid for the four lots on the Island front is said to have been $80,000.

A press report of Dec. 16 states that a good deal of real estate on the east side has changed hands recently, the purchasers being, it is understood, the C.P.R. It is practically certain, says the report, that a union station will be erected.

First Street Bridge, Brandon.—The question of the construction of the bridge at First St., Brandon, Man., is being reconsidered by the city council. The C.P.R. does not approve of the plans previously submitted, and desires that an entirely new plan be prepared and submitted for consideration.

Saskatoon Westerly.—Wilkie is the present terminus of the C.P.R. line running westerly from Saskatoon, Sask., for about 100 miles. The grading has been completed from Wilkie to Hardisty, Alta., where a junction will be effected with the Calgary and Edmonton Ry. branch running easterly from Wetaskiwin. Tracklaying westerly from Wilkie will be resumed in the spring. Ballasting has been completed to Wilkie, which it is expected will be made a divisional point when the line is completed through to Hardisty.

Wetaskiwin, Alta.—A site has been selected at Wetaskiwin, Alta., upon which it is proposed to erect a 12-stall roundhouse. The yard is being graded and a good deal of other work done in preparation for the completion, during the next construction season, of the line between Wilkie and Hardisty, which will make Wetaskiwin the terminal of the line from Saskatoon.

Edmonton - Strathcona Bridge.—The Alberta Government, in reply to a request from a delegation representing the cities of Edmonton and Strathcona, has promised to proceed at once with the preliminary work for the new central bridge, which is to be located near the power houses of the two cities. A promise was made that the surveys for the bridge would be gone on with at once. It is stated that the Government does not feel justified in expending $100,000 towards a high level bridge, and a similar amount towards the proposed low level bridge. If there is no possibility of coming to an arrangement with the C.P.R. regarding the traffic section of the projected high level bridge, or if the cities are willing to drop the traffic section of the high level bridge, the Government will be prepared to construct the central bridge as asked for by the cities.

Okanagan Lake.—Notice has been given that the company is applying to the British Columbia Government for permission to lease 13.44 acres of land in sec. 24, tp. 13, Yale district, fronting on Okanagan Lake and adjoining the Shuswap and Okanagan Ry.

Nicola, Kamloops and Similkameen Ry.—A trip of inspection over the route surveyed for the projected extension of this line from Coutlee, near Nicola Lake, to Penticton, B.C., has been made by R. Marpole, General Executive Assistant, Vancouver, and H. J. Cambie, Consulting Engineer, Vancouver, in company with H. E. Carry, the engineer who had charge of the location party.

Esquimalt and Nanaimo Ry.—Reports as to the improvements and betterments carried out on this line during the past construction season show that several of the longest trestle structures on the northern section have been replaced by permanent bridges, or have been completely filled in by gravel. Perhaps the most important of these undertakings is that at Mill Stream, about half a mile beyond Nanaimo. The old wooden work has been removed and in its place is 70,000 yards of gravel filling, and a 20 ft. arch. At Ladysmith, another trestle has been replaced by a 10 ft. arch and 21,000 yards of gravel filling. The foundations of new bridges have been put in at Chemainus, Nanaimo and Cowichan rivers, and the steel superstructures will be placed as soon as they are received from eastern points, where heavier bridges are in course of erection.

In connection with the work on the Alberni extension, it is said that work will be commenced at an early date upon the Mountain section. Survey parties have been sent out to work in the vicinity of Cameron Lake upon location work.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—Work is reported to have been commenced on clearing the sites for the passenger station, car yards, roundhouse and other improvements at Duluth, Minn. The actual construction of the buildings will not be started, it is stated, until spring opens up.

A press report states that the company has placed an order for 6,500 tons of steel rails. (Dec., 1908, pg. 861.)

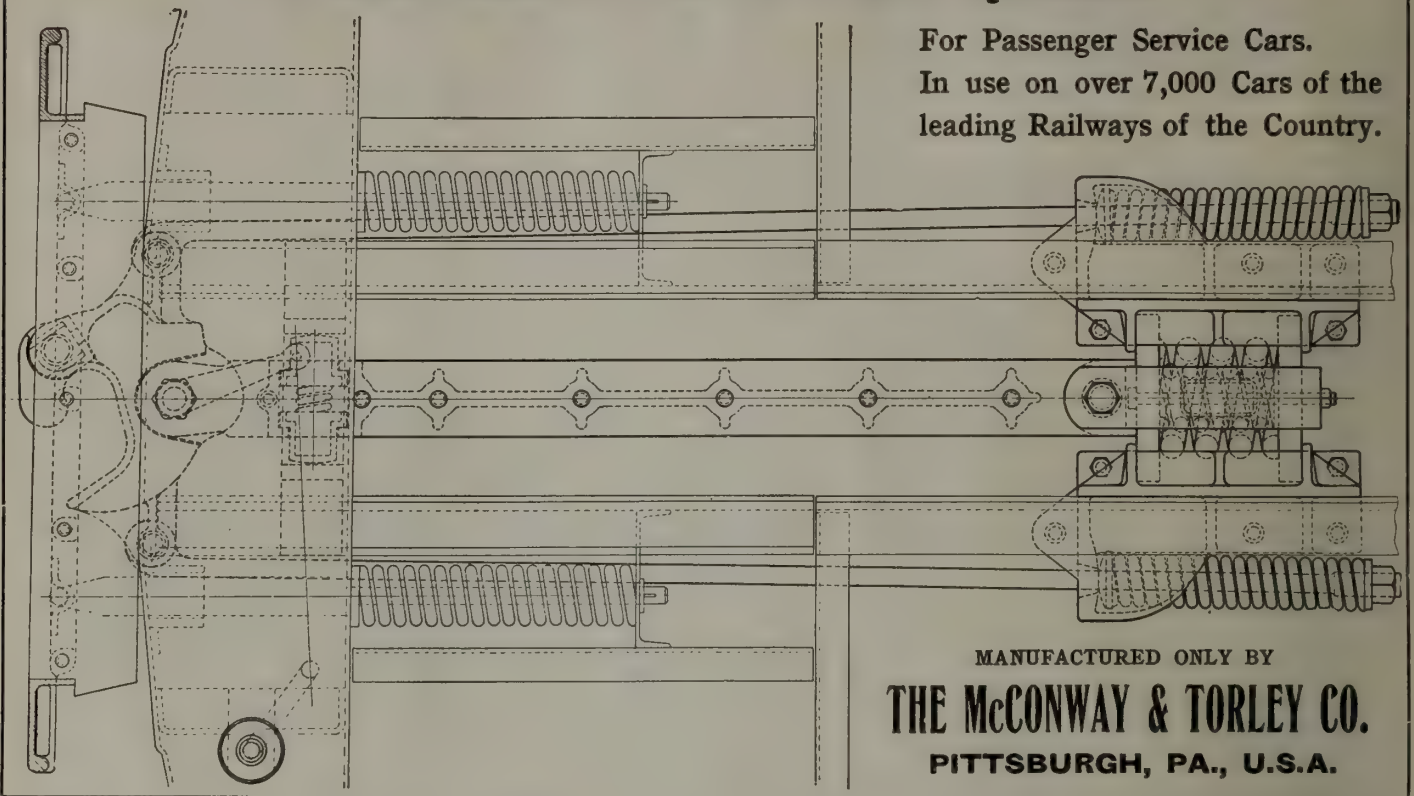
Six claims cases for damages against the C.P.R., arising out of the Caledon railway accident, Sept. 3 1907, were heard at Orangeville, Ont., recently, and it is said that the company will pay about $30,000 in connection with them. M. E. Stewart was awarded $11,000. Most of the claims have been settled out of court.

The board of conciliation which has been dealing with the dispute between the Canadian Northern Ry. and its firemen and engineers on the eastern lines, respecting wages and hours of labor, reached a decision recently, and the award was signed. The firemen and engineers on the company's western lines agreed to accept the terms of the award as applying to their wages and hours also.

The I.C.R. and the city of Moncton, N.B., are having a dispute as to which is entitled to the sum of $50 inflicted as a fine on a passenger on the I.C.R., for refusing to pay his fare. The railway claims that any fine imposed under the Government Railways Act belongs to the Government. The matter has been referred to the city legal department, and in the meantime the amount has been paid into the city treasury.

THE BUHOUP 3-STEM COUPLER

THE MOST COMPLETE AND UP-TO-DATE EQUIPMENT



For Passenger Service Cars.
In use on over 7,000 Cars of the leading Railways of the Country.

MANUFACTURED ONLY BY

THE McCONWAY & TORLEY CO.

PITTSBURGH, PA., U.S.A.

CANADA CAR COMPANY

MONTREAL, QUE. **LIMITED**

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS—CASTINGS—FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS
BOX 2286, MONTREAL.

Works: TURCOT

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta.—Press reports from Calgary state that the construction of a railway running from the extreme north of Alberta to the U.S. boundary will be undertaken in the spring, the money for its construction being provided by an issue of bonds guaranteed by the Provincial Government. Nothing has been definitely stated about the route of the projected railway, but it is said that it will extend from the Peace River country, and run south to the east of the Calgary and Edmonton Ry., reaching the U.S. boundary at Coutts.

Hon. C. W. Cross, Attorney-General of Alberta, arrived in Ottawa, Dec. 15, for the purpose of interviewing the Dominion Cabinet on the policy of the Provincial Government as to railway construction in Alberta.

Alberta Central Ry.—Application will be made next session of the Dominion Parliament for an act authorizing the company to construct extensions of its projected railway as follows: From its westerly terminus near Rocky Mountain House to the G.T. Pacific Ry. in or near the Yellowhead Pass; easterly from the terminus near the elbow of the Battle River to or near Saskatoon or Warman, Sask.; and from the main line east of Red Deer, Alta., southerly and easterly to Moose Jaw, Sask. The applicants will also ask to have power conferred upon the company to increase the issue of debentures, bonds or other securities which it may issue from $20,000 per mile of railway constructed to $30,000 a mile; to increase the capital of the company from $1,000,000 to $2,000,000, and for an extension of time within which the already authorized lines may be constructed. Smith and Johnson, Ottawa, are solicitors for the company. (Dec., pg. 865.)

Algoma Central and Hudson's Bay Ry.—It is reported that surveys have been made for an extension from the present end of track, mileage 69.35, at the Chippewa River, Ont., northerly to Michipicoten, mileage 103.65. The report adds that it has not been decided when construction will be started.

Application will be made next session of the Dominion Parliament for an act to extend the time for the commencement and completion of the authorized lines from the C.P.R. main line northerly towards James Bay, not farther north than the Equam River.

Alsek and Yukon Ry.—Application will be made next session of the Dominion Parliament for an act extending the time for the commencement and completion of the authorized line. Lewis and Smellie, Ottawa, are solicitors for the applicants.

Athabasca Northern Ry.—The Dominion Parliament will be asked next session to pass an act extending the time for the commencement and completion of the line authorized to be constructed by 4 and 5 Edward VII, chap. 57. Smith, Markey, Skinner, Pugsley and Hyde, Montreal, are solicitors for the company.

Athabasca Ry.—Application will be made next session of the Dominion Parliament for an extension of time for the commencement and completion of the authorized lines, and for permission to enter into agreements with other railway companies. Smith and Johnston, Ottawa, are solicitors for the applicants.

Bathurst Iron Mine Line.—The Canada Iron Corporation, Ltd., which was incorporated in 1908, and which has taken over the Drummond iron properties, etc., at various points in Nova Scotia, New Brunswick, Quebec and Ontario, has a lease of a hematite and magnetic iron ore deposit near the Nepisiquit River, some 25 miles up stream from Bathurst, N.B. Mining engineers estimate the property to contain 20,000,000 tons of merchantable hematite iron ore, carrying 53 to 55% of metallic iron, which he believes can be mined and transported to Bathurst Harbor for shipping at from 75c. to $1 a ton. Representatives of the corporation waited on the New Brunswick Government Dec. 11, and asked for a guarantee of bonds for a railway from the mines to Bathurst, and for other concessions. A press dispatch says that the Government will submit a bill to the Legislature to grant the aid desired, with certain restrictions, and that the corporation will build the line to Bathurst, provide docks and erect a smelter if the Dominion Government will dredge the harbor, which is now unnavigable except for small tugs, etc. The dispatch also says that instead of dredging Bathurst harbor the Dominion Government may build a branch line of the I.C.R. from the mines to Red Pine, two stations east of Bathurst, and carry the ore by that route to Chatham, N.B., for shipment. It is said the Corporation will also apply for a Dominion subsidy for the proposed line.

Brandon Transfer Ry.—Application will be made at next session of the Dominion Parliament for an act extending the time for the commencement and completion of the proposed line. Smith and Johnston, Ottawa, are solicitors for the applicants.

British Columbia.—An application will be made at the next session of the B.C. Legislature for an act incorporating a company with power to construct and operate lines of railway from Hardy Bay in a westerly direction to Quatsino Sound, opposite Coal Harbor; and to build all necessary roads, ways and ferries; to build or acquire and operate wharves, docks, etc., in connection with such railway; to construct telegraph and telephone lines; to generate and dispose of electric power; and with power to connect and make traffic arrangements with other companies. H. Appleton, Victoria, is acting for the applicants.

Cardston to Great Falls, Mont.—Lethbridge, Alta., press reports state that there is a probability that the C.P.R. will construct a line "from Calgary to Macleod, to Cardston, and the International boundary, and thence southerly almost in a straight line to Great Falls, Mont." The C.P.R. already has a line from Calgary to Macleod, so that if there is anything in the report, the line to be constructed will probably extend from Macleod to Cardston—the terminus of the old St. Mary's River Ry.—and thence to Coutts, at the International boundary, the terminus of the Alberta Ry. and Irrigation Co.

Crawford Bay and St. Mary's Ry.—Application will be made next session of the Dominion Parliament for an act amending the company's charter, so as to extend the time for the construction of its authorized railway; to change the name of the company to that of British Columbia, Alberta, Saskatchewan and Manitoba Ry., and to enter into agreements under secs. 361, 362 and 363 of the Railway Act, with the Northern Empire Ry. Dandurand, Hibbard, Boyer and Gosselin, Montreal, are solicitors for the applicants.

Crow's Nest and Northern Ry.—Plans have been filed with the British Columbia Government for a line to be constructed from Crow's Nest to Crown, B.C., some 12 miles. C. O. Diffenderfer, Spokane, Wash., is Chief Engineer, and J. A. Williams is President of the company.

Delaware and Hudson Co.—The extension of the Quebec, Montreal and Southern Ry., the Canadian line of the D. and H. Co., has been completed as far as Ste. Philomene, Que., where a junction is effected with the Lotbiniere and Megantic Ry. The extension passes through the towns of Nicolet and St. Gregoire, both of which have been served for years by the G.T.R. and the Intercolonial; and then opens up new territory serving the towns of La Baie du Febvre, Becancour, Gentilly and Ste. Cecile. The big bridge over the Nicolet River will probably be completed by Feb., when the new extension will be opened for freight and passenger traffic. The construction of the additional 40 miles, from Ste. Philomene to Quebec, will be gone on with in the spring. (Sept., 1908, pg. 618.)

Intercolonial Ry.—A deputation from Fredericton, N.B., waited on the Minister of Railways at Ottawa, Dec. 6, to urge the erection of an up-to-date station in that city. (Dec., pg. 865.)

It was reported in Moncton, N.B., Dec. 9, that the route for the proposed change of location of the Intercolonial Ry. between Moncton and Truro had been laid out. There have been three parties in the field since Aug., 1908, locating a line between the points named, to pass through Parrsboro, and so avoid the present heavy gradient over the Cobequid mountains.

The watertank at the Island yard, St. John, N.B., holding 100,000 gallons, burst Dec. 14, doing damage to the extent of over $10,000.

International Ry. of New Brunswick.—A contract has been entered into between the Department of Railways and Canals and the company, under the act relating to subsidies to certain railways, varying the contract entered into for a line from the western end of the 20 miles, as already constructed from Campbellford, to the St. John River, between Grand Falls and Edmundston, dated Aug. 24, 1908, to provide for the payment of the double subsidy.

Kettle River Valley Ry.—The Department of Railways has entered into a contract with the company, under the act granting aid to certain railways, for the construction of a line from Carmi to Penticton, B.C., 50 miles.

Kootenay Central Ry.—Application will be made next session of the Dominion Parliament for an act amending the act of incorporation and amending acts, by extending the time fixed for the completion of its railways. Harvey, McCarter and Macdonald are solicitors for the company.

Maritime Coal, Ry. and Power Co.—A contract has been entered into between the company and the Department of Railways under the subsidy act, for a line from Joggins Mine to the Bay of Fundy, N.S., one mile.

Ontario, Hudson's Bay and Western Ry.—Application will be made next session of the Dominion Parliament for an act to extend the time for the commencement and completion of the authorized lines. Rowell, Reid, Wilkie, Wood and Gibson, Toronto, are solicitors for the applicants.

Pacific Coast Coal Mines Ltd.—Application will be made to the B.C. Legislature for an act authorizing the construction of railways or tramways in the Districts of Cranberry and Cedar, and in the District of Prince Rupert, Vancouver Island, for transporting coal to seashore ports, or to connect with other railways. Power will also be sought to construct and operate telegraph and telephone lines and to confer powers under the Water Clauses Consolidation Act. Barnard and Robertson, Victoria, are solicitors for the applicants.

Prince Edward Island Ry.—The electric plant at the power-house at Charlottetown, P.E.I., for which tenders have been asked, will consist of a 75 k.w. direct-current generator, with potential of 230 volts, direct connected to and mounted on same base with engine. The specifications state that the generator must be under control so that it will not show a variation as great as 2%. (Dec., pg. 865.)

Quebec Central Ry.—Surveys have been completed for the extension of the line from St. George to St. Justine, Que., a distance of 30 miles. The extension follows the Famine River. Negotiations relative to the securing

"BROWNHOIST"

Our Locomotive Cranes are used all over the world and are most wonderfully efficient and economical. The picture shows one used by Grand Rapids and Indiana Railway Co., Grand Rapids, Mich. Write us for "1730," and learn more regarding these machines.

The Brown Hoisting Machinery Co.

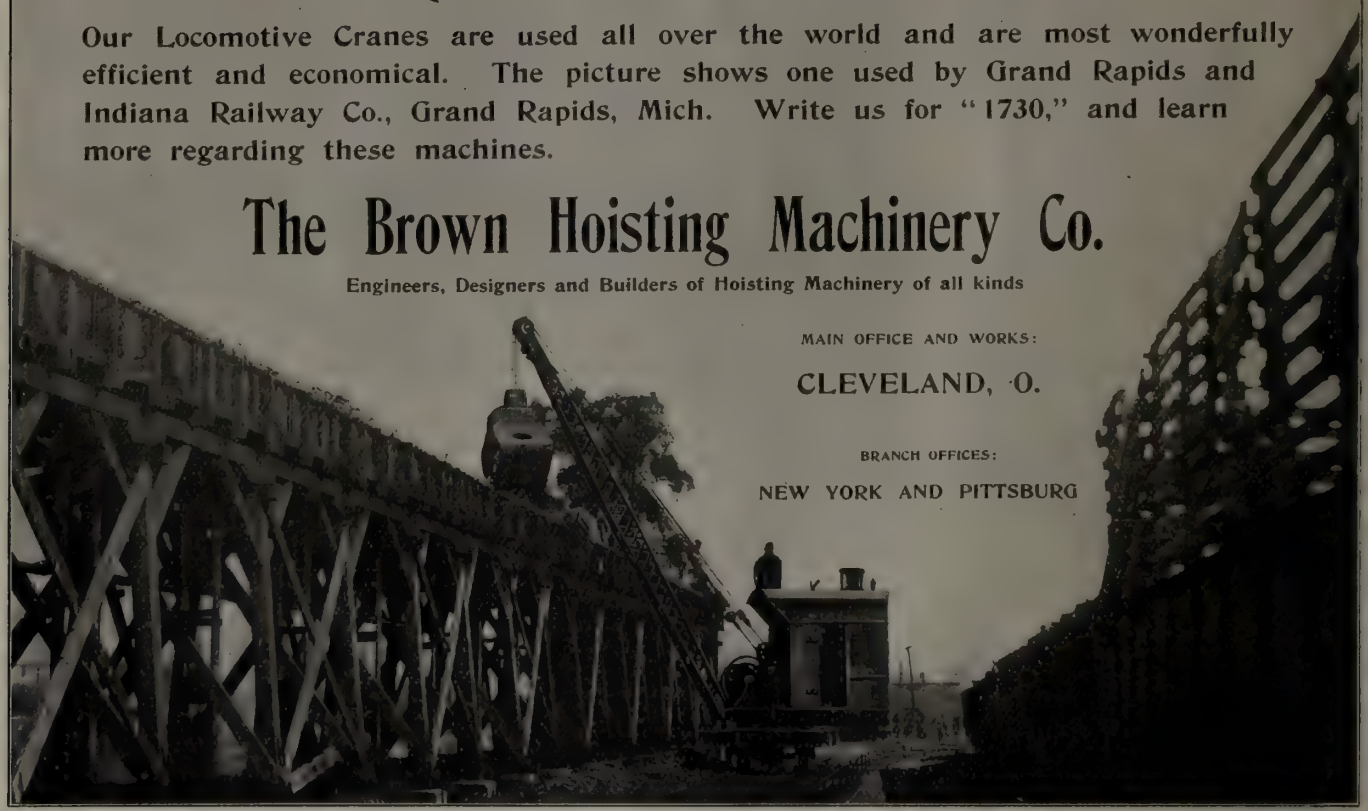
Engineers, Designers and Builders of Hoisting Machinery of all kinds

MAIN OFFICE AND WORKS:

CLEVELAND, O.

BRANCH OFFICES:

NEW YORK AND PITTSBURG



ACME RAILWAY EQUIPMENT CO.

PHILADELPHIA, PA.

THE "ACME"

THE OLD

ADOPTED ON

1,800 INTERCOLONIAL RAILWAY CARS

50 TEMISKAMING & NORTHERN ONTARIO CARS

300,000 CARS IN STATES

DOUBLE HANDLE CALLED FOR "Where a coupler couples by impact, but cannot be uncoupled unless the brakeman or switchman goes between, or over, or under the cars, or around the end of the train, IN ORDER TO REACH THE APPLIANCE ON THE CONNECTING CAR, such a coupling is **DEFECTIVE AND PROHIBITED BY LAW.**"—*Judge McPherson, Des Moines, Iowa.*

the right-of-way are proceeding, and it is expected that construction will be commenced in the spring, and that the line will be completed before Jan., 1910.

Railway to Hudson's Bay.—Reports received by the Department of Railways recently show that rapid progress is being made with the surveys on the route of the proposed railway to Hudson Bay. Four parties have been placed in the field by the Dominion Government, and alternative routes are being surveyed. It is anticipated that the engineers will be in a position to make a general report to the Government by the end of Feb., and that it will be immediately presented to Parliament. (Nov., 1908, pg. 787.)

Rimouski International Ry.—Application will be made next session of the Dominion Parliament for an act to incorporate a company with this name, with power to construct a line from Rimouski, Que., to Edmundston, N.B., along the Rimouski River to the centre of Duquesne township, and turning westerly along one of the tributary streams of the lakes in the northern part of Chenier tp., thence in the direction of Eagle's Lake in Biencourt tp., and following the River Biencourt to Squateck Lake, the second Squateck Lake and the River Squateck, in Rouillard tp., and possibly the Owens River, and the west branch of Iroquois River. Power will also be asked to operate steam and other vessels on the waters touched by the railway; to utilize steam and water power for electrical generation and to dispose of the surplus power; to operate telegraph and telephone lines along the railway; to construct or acquire hotels, restaurants, etc. All of the foregoing works to be declared for the general advantage of Canada. L. N. Asselin, Rimouski, Que., is solicitor for the applicants.

Southern Central Pacific Ry.—Application will be made next session of the Dominion Parliament for an act reviving the act of incorporation, chap. 191, 3 Ed. VII, R.S.C. 1903, as amended by chap. 162, 6 Ed. VII, R.S.C. 1906; to change certain of the incorporators and to extend the time for the commencement and completion of the railway so authorized. A. T. Thompson, Ottawa, is solicitor for the company.

Temiskaming and Northern Ontario Ry.—The first train from North Bay to Cochrane, Ont., the point of junction with the National Transcontinental Ry., was run Nov. 25. The roadbed has been fully ballasted to the junction, and was reported to be in good condition. A notable feature of the section of the line between Driftwood City and Cochrane is a long tangent of 17 miles, which ends about five miles south of Cochrane. The greater part of the tangent is over muskeg. At Cochrane a station 30 by 150 ft. has been erected, in which all the offices are at present located. This building is for temporary use, and will be converted into a freight shed when the permanent station has been erected. On the day named the members of the Commission, a number of officials, H. D. Lumsden, Chief Engineer National Transcontinental Ry., and a large party, went over the line in a special train. One of the features of the trip was a sale of lots in the new town by the Commission. The sale realized over $50,000 for the 145 lots which were sold. The Commission proposes to expend $15,000 during the winter in clearing and grading the streets through the lots sold. The main thoroughfare will be 100 ft. wide, and other streets will have a width of 66 ft.

The spur line at Haileybury has been completed to Moore's Cove, and freight trains have been run in to that point. It is said that the line will not be pushed ahead any further at present. The difficulty in the way arises out of the objections of some of the residents to having the line pass along the lake shore in front of their residences. An injunction was taken out to prevent the Commission from constructing this piece of line, and until a settlement has been arrived at, nothing further will be done.

It is reported that the Commission has decided to erect a car repair shop and a pipe-casting shed at North Bay.

During the past fall a considerable amount of information was collected by engineers on behalf of the Commission regarding suitable routes for branch lines in the north country. Survey parties have gone over all the routes leading to the new mining districts in the vicinity of Cobalt. These districts include South Lorraine, Montreal River, Gowganda, and Northern Temiskaming. It is understood that just as soon as any of these districts become of sufficient importance to warrant the construction of a branch line, the work will be put in hand. At present the South Lorraine district appears to be the place which is in most pressing need of a railway. In the Montreal River district the winter road to Elk City will help the prospectors and miners considerably. (Dec., pg. 867.)

Vancouver, Fraser Valley and Southern Ry. Application will be made next session of the Dominion Parliament for an act reviving chap. 175, 6 Ed. VII, R.S.C. 1906, being the act of incorporation of the company; and to extend the time for the commencement and completion of the railway so authorized. McPhillips, Tiffin and Laursen, Vancouver, B.C., are solicitors for the applicants.

Victoria and Barclay Sound Ry.—The Dominion Parliament will be asked next session for an act incorporating a company with this title to construct a railway from Victoria, B.C., by way of Otter Point and San Juan to Barclay Sound, near Sarita River, such railway to be declared to be for the general advantage of Canada. W. H. Langley, Victoria, B.C., is solicitor for the applicants.

Windsor Tunnel and Lake Erie Ry.—Application will be made next session of the Dominion Parliament for an act incorporating a company with this title to authorize the construction of a single or double track railway from Windsor, southerly through the townships of Sandwich West, Anderdon, Colchester North, Malden, Colchester South, and Gosfield South, to Kingsville, Ont., with power to construct branch lines as follows: (a) From the village of Harrow to the shore of Lake Erie, near Oxley; (b) from some point on the line in Sandwich West to the Detroit River, in the same township; (c) from near Harrow, westerly through the townships of Colchester South and Malden to Amherstburg, Ont. It is desired to have the lines to be constructed declared to be for the general advantage of Canada; to have authority to enter into an agreement with the company now constructing the tunnel under the Detroit River, for running privileges for the company's cars, and to operate steamships from Oxley to the shore of Lake Erie in the U.S. G. J. Leggatt, Windsor, Ont., is solicitor for the applicants.

Winnipeg and Northwestern Ry.—Application will be made next session of the Dominion Parliament for an act extending the time for the construction and completion of this projected railway, and authorizing it to construct branches as follows: (a) From its authorized line near the Narrows of Lake Manitoba westerly to the Assiniboine River, and thence northwesterly to its authorized line at or near Nut Lake; and (b) from the last-mentioned branch near Good Spirit Lake southeasterly to the G.T. Pacific Ry., at a point between the Manitoba boundary line and the second meridian. It is also intended to ask for power to authorize the company to guarantee the securities of other companies. A. T. Drummond, Toronto, is acting for the company.

Winnipeg City Power Line.—Tenders were received Dec. 28, by the Secretary of the Board of Control, Winnipeg, for the construction of the general works for the supply and erection of various portions of a transmission line between Point du Bois and Winnipeg. Individual tenders will be received for general works at Point du Bois; erection of transmission line, steel towers, and electric transmission cable. The city corporation has already completed the construction of a railway line between the two points.

G.T.R. Betterments, Construction, Etc.

Portland Docks, etc.—The damage to the company's docks and sheds at Portland, Me., by the recent fire, was estimated at $300,000. It was officially stated, Dec. 4, that there was no danger of traffic being hindered by the fire, as there were ample facilities at the company's other five docks there for shipping everything at present in sight.

Electrification of Point St. Charles Shops.—In connection with the press reports, referred to in our last issue, that consideration was being given to plans for the electrification of the shops at Point St. Charles, Montreal, we are advised that there is no intention to do anything in this regard at the present.

Toronto Union Station.—In connection with the recent call for tenders for clearing the site for the proposed new union station at Toronto, it is stated that there is no immediate chance of the building being started at once. G. W. Mitchell, Master of Bridges and Buildings, Toronto, stated that the company only desires to clear up the property and realize on the stone and brick.

The Belt Line.—The G.T.R. is reported to have purchased the old Lander homestead just west of the Toronto and York Radial Ry. west of Yonge St., and bordering on the old belt line. It is stated that the object of the purchase is to construct a yard there to be used in connection with the old station and yard on the east side of Yonge St. The purchase has revived the stories of a reconstruction of the old belt line, and its utilization for freight purposes between the yards at Mimico and at East York. The company's officials state that no good object would be at present attained by the reconstruction of the belt line. The only use of the line at present is that the eastern portion can be used as a siding for stock cars at the eastern end.

London Improvements.—Work was started in the London, Ont., yards Nov. 25, on raising and reballasting a number of tracks. The work is not regarded as having any bearing on the general plan of track elevation, which has been under discussion for some years. The Grand Central Hotel, London, has been purchased by T. P. Phelan, of the Canada Railway News Co., and it is stated that the purchase has been made so that when the contemplated improvements are carried out, the new station will have hotel accommodation attached to it.

Strathroy Station and Yards.—A press report states that plans for the remodelling of the station at Strathroy, Ont., have been prepared, and will be carried out at an early date. It is also said that waterworks will be installed in the yard, and other improvements will be carried out.

Port Huron Shops.—The Mayor of Port Huron, Mich., has been informed that E. H. Fitzhugh, Third Vice-President G.T.R., is negotiating with an eastern manufacturer to take over the portion of the company's shops which have been vacated in consequence of the opening of the new shops at Battle Creek, Mich. (Dec., 1908, pg. 869.)

"AMERICAN" BRIDGE ERECTORS' ENGINE

"AMERICAN"

Steam and Electric Hoists Locomotive Cranes and DERRICKS

Designed for Every Purpose
Built for the Discriminating Buyer

WRITE FOR CATALOGUE "R M"

AMERICAN HOIST & DERRICK CO.

ST. PAUL, U.S.A.

CHICAGO NEW YORK PITTSBURG NEW ORLEANS SAN FRANCISCO

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.

MONADNOCK, CHICAGO

Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this.

Complete copies of any of the orders summarized below, or of others previously passed by the Commission, will be furnished for 25 cents, cash to accompany requests for copies in all cases.

In our last issue, order 5583 was summarized as follows:

5583. Nov. 10.—Ordering that the crossing at Aylmer St., Peterboro, Ont., have watchman at same daily from 6 a.m. to 7 p.m., cost of same to be divided between the C.P.R. and the City of Peterboro.

The summarizer, in preparing this, made a mistake; it should have read:

5583. Nov. 12. — Authorizing Manitoba Government to erect telephone wires across G.T.P.R. tracks one mile west of Rivers, Man.

5584. Nov. 12.—Authorizing C.N.O.R. to construct bridge over Greene's Creek, mileage 52, west from Hawkesbury, Ont.

5585. Nov. 12.—Authorizing Bell Telephone Co. to place wires across G.T.R. at foot of Peter St., Toronto.

5586. Nov. 12.—Authorizing Manitoba Government Telephone Commission to place wires across C.N.R. at Loretta.

5587. Nov. 12.—Authorizing Toronto Electric Light Co. to place conduit ducts under C.P.R. at Christie St., North Toronto.

5588. Nov. 11.—Authorizing Manitoba Government Telephone Commission to place wires across C.N.R. near Lavenham.

5589, 5590. Nov. 11.—Authorizing Bell Telephone Co. to place wires across C.P.R. at the main road, Megantic, and half-a-mile north of Labelle, Que.

5591. Nov. 11.—Authorizing C.P.R. to open for traffic the portion of its Wolseley-Reston branch from mileage 98.2 to Wolseley, Sask., 24 miles.

5592. Nov. 11.—Approving C.N.O.R. location through Gurd and Patterson tps., Parry Sound district, Ont., mileage 228.75 to 242.75, west from Ottawa, Ont.

5593. Nov. 11.—Authorizing Water Commissioners of Guelph, Ont., to lay water main under G.T.R. at Crimea St.

5594. Nov. 11.—Authorizing New Brunswick Telephone Co. to place its wires across C.P.R. at Perth, N.B.

5595. Nov. 11.—Approving revised location of Esquimalt and Nanaimo Ry., Wellington-Alberni extension, from mileage 125 to 133.21.

5596. Nov. 11.—Authorizing G.T.P.R. to cross road allowances in Saskatchewan between mileage 100.298 and 153.60.

5597. Nov. 11.—Authorizing G.T.R. to construct spur line, and a spur therefrom, to Hiram Walker & Son's premises, Walkerville, Ont.

5598. Nov. 12.—Authorizing Edmonton Ry. Co., through application of City of Edmonton, to cross, at level, with its lines and poles, the G.T.P.R. and the C.N.R. at intersection of First St. and Namayo Ave., Edmonton, Alta.

5599-5604. Nov. 13.—Authorizing the Bell Telephone Co. to erect wires across W.E. & L.S.R. Co. at various points.

5605. Nov. 4.—Authorizing C.P.R., lessees of Ontario & Quebec Ry., to change location of its spur to Sherwin-Williams Paint Co.'s premises, approved by order 4857, of June 2, 1908.

5606. Sept. 14.—Ordering G.T.P.R. to treat with the John Arbuthnot Co., Ltd., of Winnipeg, with respect to certain property in Winnipeg, owned by applicants, included in location of railway company's line approved by order 3507, of Aug. 15, 1907.

5607. Nov. 4.—Directing the C.P.R. to construct highway crossing in Mortlach, Sask.

5608. Nov. 3.—Authorizing City of Edmonton to construct, at rail level, the lines of its electric railway and erect poles and wires across Calgary & Edmonton Ry., at White Ave., Strathcona, and at intersection of proposed line of C. & E.R. Co. with Jasper St., near Tenth St., Edmonton.

5609. Oct. 20.—Directing Michigan Central Rd. to provide farm crossing for R. N. MacVicar, Brook tp., Ont.

5610. Sept. 14.—Ordering G.T.P.R. to treat with C. R. Muttleberry, Winnipeg, with respect to certain lands owned by applicant in Winnipeg, through which the G.T.P.R. is intended to pass, as to the purchase of the said property.

5611. Oct. 20.—Dismissing complaint of W. Wigle, Kingsville, Ont., against refusal of Pere Marquette Rd. to carry passengers on its way freight or local trains.

5612. Nov. 4.—Allowing G.T.R. to leave out filling and packing mentioned in sec. 230 of the Railway Act, 1903, from Dec. to April in each year, both months included.

5613. Oct. 20.—Dismissing complaint of W. Wigle, Kingsville, Ont., that W.E. & L.S.R. Ry. is charging excessive rates for passenger traffic, in violation of the provisions of the Railway Act.

5614. Oct. 22.—Authorizing C.P.R. to cross road allowances on its Stoughton-Weyburn branch, Sask., between mileage 0 and 36.

5615. Sept. 14.—Authorizing G.T.P.R. to construct its railway over road allowances in Miniota municipality, Man.

5616. Oct. 6.—Authorizing C.P.R. to cross road allowances on its main line grade diversion, on Medicine Hat section, between Kincorth & Walsh, Alta., between mileage 102.11 and 110.56.

5617. Oct. 28.—Directing Ottawa Electric Ry. not to allow passengers to stand on front platforms of cars. That motormen be forbidden to engage in conversation with passengers or others while cars are in motion. That a printed notice to this effect be posted in a conspicuous place inside every car. That the distance between cars on the Britannia Line be not less than 1,000 ft. while descending grades. That cars carrying passengers shall always have both a motorman and conductor upon them while in operation.

5618. Nov. 18.—Authorizing R. H. Ashton, Morrisburg, Ont., to lay a water pipe under G.T.R. in Morrisburg, Ont.

5619-5628. Nov. 18.—Authorizing Bell Telephone Co. to place its wires across G.T.R., 1 mile west of St. Basile station, Que.; St. Bruno station, 1½ miles east of Ridgeway station, Ont.; Albert St., Stratford, Ont.; ½-mile northeast of Port Dover, Ont.; 3 miles north of Beeton station, Ont.; 3½ miles southeast of Alliston station, Ont.; 2½ miles southeast of Alliston station, Ont.; 1 mile east of St. Bruno station, Que., and at St. Basile station, Que.

5629. Nov. 18.—Authorizing C.P.R. to open for traffic the portions of its line from mileage 0 to 14.0, and from 18.6 to 31.2, Kenora section; from mileage 51.1 to 63.5, from 97.9 to 104.3, from 104.3 to 115.0, and from 127.8 to 133.5, Ignace section; and the second track of the double-track diversion, from mileage 98.6 to 99.0, from mileage 102.64 to 104.81, and from mileage 130.0 to 132.0, Ignace section.

5630. Nov. 18.—Authorizing C.P.R. to construct a bridge at mileage 12.55, Owen Sound section.

5631, 5632. Nov. 18.—Authorizing Alberta Government Telephones to place wires across C.P.R., ½-mile west of Coaldale, and 2 miles west of Woodpecker, Alta.

5633. Nov. 13.—Authorizing C.P.R. (Walkerton & Lucknow Ry.) to cross certain highways in Grey and Bruce counties, Ont.

5634. Nov. 5.—Ordering G.T.P.R. to treat with Graves & Ferris, as owners of the n.e. ¼ of sec. 16-53-24, w. 4th m., through which the railway is intended to pass, respecting the purchase of same.

5635. Sept. 23.—Approving location of C.N.R. Goose Lake branch, from where it joins the Qu'Appelle, Long Lake & Saskatchewan Ry. in Saskatoon, Sask., to sec. 6-31-12, west of 3rd m., mileage 57.96.

5636. Nov. 3.—Authorizing the People's Telephone Co. and E. P. Smith to place wires across C.P.R. near Johnville station, P.Q.

5637. Nov. 3.—Dismissing application of C. Franche, Wendover, Ont., for farm crossing over C.N.R.

5638. Nov. 3.—Authorizing St. Maurice & Champlain Telephone Co. to make telephonic connections with ticket offices in stations and with freight offices of the C.P.R. in Louiseville, Yamachiche, Batiscan, Ste. Anne de la Perade, and Lac a la Tortue, Que.

5639. Nov. 3.—Authorizing the C.N.Q.R. to take part of lot 8, Longue Pointe, Que., property of Montreal Protestant House of Industry and Refuge for the construction of a Y.

5640. Nov. 19.—Authorizing G.T.P. Telegraph Co. to place wires across C.N.R. east of Portage la Prairie, Man.

5641. Nov. 14.—Ordering that the derails provided at the crossing of the C.N.Q.R. by the Montreal St. Ry., at the intersection of Valois Ave. and Ontario St., Montreal, be interlocked with home signals and otherwise protected, by Dec. 31, 1908.

5642. June 23.—Authorizing C.N.R. to construct an overhead crossing across C.P.R. near Bell's Corners, at mileage 12.03 from Ottawa.

5643. Dec. 4.—Authorizing the City of Portage la Prairie, Man., to lay water and sewer mains under C.P.R. at Gaddy St.

5644. Nov. 3.—Authorizing C.P.R. to take possession of parts of the south halves of lots 34 and 35, 3rd con., Humphrey tp., Parry Sound district, Ont., belonging to C.N.O.R.

5645. Nov. 3.—Rescinding order 5107, dated July 28, 1908, directing G.T.R. to install an electric bell at highway crossing in Cornwall tp., Ont.

5646. Nov. 3.—Authorizing G.T.R. to construct spur lines from lot 5 to lot 7, 12th con., Tay tp., Ont.

5647. Nov. 20.—Regulations for the erection of mail cranes. See pg. 27.

5648. Nov. 20.—Authorizing Mount Carmel & Centralia Telephone Co. to place wire across G.T.R. north of Centralia station, Ont.

5649. Nov. 20.—Authorizing town of Thorold, Ont., to place wires for lighting purposes across G.T.R. at two points at Thorold.

5650. Nov. 20. — Authorizing Manitoba Government Telephone Commission to place wires across C.P.R. near Plum Coulee.

5651. Nov. 12.—Ordering Toronto Electric Light Co. to remove certain poles east of Scott St., Toronto, near the G.T.R., complained of by the latter company, within 4 months from Nov. 12, 1908.

5652. Nov. 20.—Authorizing C.P.R., as lessees of British Columbia Southern Ry., to construct spur line to the East Kootenay Lumber Co.'s premises.

5653. Nov. 3.—Directing C.P.R. to submit plans for approval of Board, showing a 16 ft. clearance over C.N.R. tracks at Little Key River, Ont., and to make alterations at said crossing in accordance therewith, within 50 days.

5654. Nov. 16.—Ordering C.P.R. to complete work of connecting its railway with the G.T.R. at Galt, Ont., by Jan. 1, 1909.

5655. Nov. 10.—Authorizing Guelph & Goderich Ry. Co. to cross road allowances on

POLSON IRON WORKS

LIMITED

TORONTO, CANADA

Steel Shipbuilders, Engineers and Boilermakers

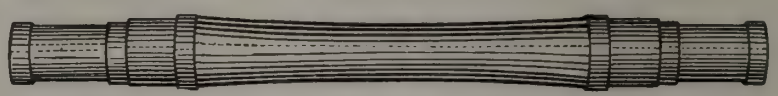
Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers

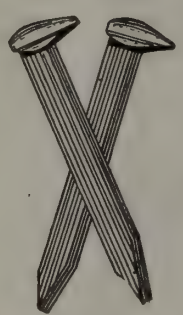
OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO

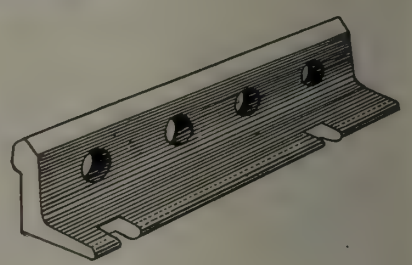
THE HAMILTON STEEL & IRON CO.

HAMILTON, CANADA. LIMITED





RAILWAY AXLES
ANGLE BARS AND
TRACK SPIKES
TIE PLATES



FORGINGS—MARINE AND RAILROAD

IN ROUGH, ROUGH-TURNED OR SMOOTH FINISHED. SPECIALTY OF HEAVY FORGINGS

PIG IRON, IRON AND STEEL BARS.

its Listowel branch, from mileage 0.00 to 16.54.

5656. Nov. 12.—Ordering that the speed of the C.N.R., G.T.R. and C.P.R., when crossing Yonge St., Toronto, shall not exceed 4 miles an hour between 7 a.m. and 12 p.m., from May 11 to Oct. 15 of each year.

5657. Nov. 21.—Authorizing C.N.R. to connect its Prince Albert branch with the Qu'Appelle, Long Lake & Saskatchewan Ry. in Prince Albert, Sask.

5658. Nov. 21.—Approving C.P.R. specifications for steel bridges, comprising sections A to E.

5659. Nov. 21.—Authorizing C.N.O.R. to reconstruct superstructure of bridge across North Nation River, 23.6 miles west of Hawkesbury, Ont.

5660. Nov. 21.—Rescinding order 5463, dated Oct. 22, 1908, authorizing C.P.R. to construct the bridges described therein on the New Brunswick Southern Ry.

5661. Nov. 10.—Ordering Berlin & Waterloo St. Ry. to pay the G.T.R. $1.25 a day, from Dec. 12, 1905, to May 1, 1907, and that the Light Commissioners of Berlin, Ont., pay the G.T.R. $1.25 a day from May 1, 1907, to Nov. 10, 1908, and thereafter the G.T.R. $1.25 a day until further ordered by the Board, re King St. crossing, Berlin, Ont.

5662. Nov. 16.—Dismissing application of Board of Trade of Preston, Ont., for order directing C.P.R., G.T.R. and the B.W.W. & L.H. Ry. to connect their lines in Galt, Preston, Hespeler, Berlin and Waterloo, for interswitching purposes.

5663. Nov. 16.—Dismissing application of Town of Hespeler and Board of Trade of Galt, Ont., for order directing C.P.R., G.T.R. and B.W.W. & L.H. Ry. Co., to connect their lines in Galt, Preston, Hespeler, Berlin and Waterloo, Ont., for interswitching purposes.

5664. Nov. 16.—Dismissing application of Board of Trade of Berlin, Ont., for order directing C.P.R., G.T.R., and B.W.W. & L.H. Ry. Co., to connect their lines in Galt, Preston, Hespeler, Berlin and Waterloo, Ont., for interswitching purposes.

5665. Nov. 16.—Dismissing application of Board of Trade of Waterloo, Ont., for order directing G.T.R., C.P.R., and B.W.W. & L.H. Ry. Co., to connect their lines in Galt, Preston, Hespeler, Berlin and Waterloo, Ont., for interswitching purposes.

5666. Nov. 10.—Ordering G.T.R. to erect gates and place a day and night watchman at Thames St., Ingersoll, Ont.

5667. Nov. 24.—Authorizing Brantford & Hamilton Electric Ry. Co. to open for traffic the portion of its line from Alfred St. to Market St., Brantford, Ont.

5668. Nov. 23.—Rescinding order 5510, dated July 14, 1908, authorizing the Grand Valley Ry. Co. to cross the G.T.R. in Brantford, Ont.

5669. Nov. 24.—Approving Supplement 4 to Canadian Classification N1.13, subject to certain conditions.

5670. Nov. 11.—Ordering C.N.O.R. to construct a farm crossing opposite property of Mrs. H. A. McLeod, Stoney Brae, Ont.

5671. Nov. 10.—Dismissing complaint of H. J. Gibney and other residents of Alliston, Ont., against the closing of Nelson, Wellington and Queen sts.

5672. Nov. 27.—Authorizing G.T.P.R. to transport on construction trains, or by special service if necessary, workmen, contractors, employes, etc., with their effects, between Fort William and the end of track, mileage 0.5 to 188.2, Lake Superior branch.

5673. Nov. 10.—Dismissing application of J. S. Digman, Toronto, for order directing Bell Telephone Co. to furnish him with a copy of its latest Official Telephone Directory for Western Ontario and the United States.

5674. Nov. 23.—Authorizing C.P.R. to construct spur to the Astorville Lumber Co.'s premises.

5675-5677. Nov. 23. — Authorizing Bell Telephone Co. to place wires across G.T.R. tracks at Delhi, Ont., near Marshville station, Ont., and near air line station, Simcoe, Ont.

5678. Nov. 25.—Directing that locomotives operated in Ontario shall be equipped so as to prevent unnecessary emission of smoke. (See pg. 9.)

5679. Nov. 25.—Approving G.T.P. Telegraph Co. tolls.

5680. Nov. 11.—Ordering C.P.R. to re-arrange approaches to Parry Sound road and other highway crossings in Foley tp., where crossed by the railway in that township.

5681. Nov. 12.—Authorizing G.T.R. to erect and maintain gates and watchmen at Ellis and Windermere Avenues, York tp., Ont.

5682. Nov. 17.—Authorizing G.T.R. Co. to construct 2 spur lines to the Expanded Metal & Fire-Proofing Co.'s premises, Toronto.

5683. Nov. 11.—Directing C.N.O.R. to construct a cattle-pass in Foley tp., Ont., where A. Oastler shall designate.

5684. Nov. 11.—Directing C.N.O.R. to build two culverts in Foley tp., Ont., where A. Oastler shall designate.

5685. Nov. 11.—Directing C.N.O.R. to construct a watering-place where its railway intersects A. Oastler's farm, in Foley tp., Ont.

5686. Nov. 3.—Authorizing City of Ottawa to construct an aqueduct for waterworks purposes along a part of lot 39, con. A, Ottawa, front of Nepean tp.

5687. Nov. 20.—Dismissing application of Crow's Nest Pass Coal Co. for order requiring C.P.R. Co. to provide a special tariff of tolls for applicant company. (See pg. 11.)

5688. Nov. 12.—Authorizing G.T.R. Co. to install and maintain gates and watchmen at the Jameson Ave. crossing, Toronto.

5689. Nov. 13.—Dismissing application of F. W. Wegenast, Brampton, Ont., for order directing G.T.R. to issue him a 55-trip ticket for use between Brampton and Toronto. (See pg. 13.)

5690. Nov. 17.—Regulations for lighting passenger cars. (See pg. 31.)

5691. Nov. 24.—Authorizing the City of Edmonton and Strathcona Radial Tramway to use such portions of Edmonton, Yukon & Pacific Ry. Co.'s right-of-way as may be necessary for approaching and crossing Dominion Government bridge across North Saskatchewan River, connecting Strathcona and Edmonton.

5692. Nov. 3.—Directing C.N.O.R. to connect the spur from its main line in Hawkesbury, Ont., to Riordon's pulp mills yards, with the G.T.R. track in the yards.

5693. Nov. 3.—Directing that the new road the C.P.R. was authorized to construct by order 5217, from the new station location at milepost 22 to the road that runs from the village of Bolton to the 6th Line, be 18 ft. wide; and that the C.P.R. old main line and switches to the premises of A. McFall, Bolton, be left open for traffic until May 1, 1909.

5694. Nov. 27.—Authorizing C.N.R. to open for freight traffic its Goose Lake branch railway between Saskatoon and Zealandia, Sask., 60 miles.

5695, 5696. Nov. 27.—Authorizing Bell Telephone Co. to place wires across the Pere Marquette Rd. at Adelaide St., London, Ont.

5697, 5698. Nov. 27. — Authorizing Bell Telephone Co. to place wires across W.E. & L.S.R. Ry. Co. near Essex and Kingsville, Ont.

5699. Nov. 27.—Approving change of location of C.P.R. Weyburn-Lethbridge branch from sec. 21, tp. 8, r. 14, west of 2nd mer., at Weyburn, to sec. 4, tp. 8, r. 29, west 2nd mer.

5700. Nov. 27.—Authorizing C.P.R. to construct spur line to G. Gauthier's premises, St. Martin parish, Laval county, Que.

5701. Nov. 27.—Authorizing C.P.R. to construct spur in Sudbury, Ont.

5702. Nov. 27.—Authorizing C.P.R. to construct a spur line at Mile End, Que.

5703. Nov. 27.—Authorizing Qu'Appelle, Long Lake and Saskatchewan Ry. & Steamboat Co. to construct a spur line to the Sturgeon Lake Lumber Co.'s premises, Prince Albert, Sask.

5704. Nov. 27.—Authorizing C.P.R. Co. to open for traffic the portion of its line between Sheho and Leslie, Sask., provided the speed of trains is limited to 15 miles an hour.

5705-5707. Nov. 27.—Authorizing Bell Telephone Co. to place wires across C.P.R. near L'Epiphanie station, Que.; at Hunt St., Hamilton, Ont., and near Wingham station, Ont.

5708. Nov. 27.—Authorizing C.P.R. to construct spur line to A. Hain's premises, West Toronto, Ont.

5709. Nov. 27.—Authorizing Niagara, St. Catharines & Toronto Ry. to construct a spur line to Lincoln Paper Mills, Merritton, Ont.

5710. Nov. 27.—Authorizing C.P.R. to construct a spur line to Turnbull & Cousin's premises, near Nevis, Alta.

5711. Nov. 27.—Authorizing B.C. Telephone Co. to place wires across C.P.R. at Huntingdon, B.C.

5712. Nov. 27.—Authorizing C.P.R. Co. to use bridges on Emerson section, Central Division.

5713. Nov. 27.—Authorizing C.P.R. Co. to construct bridge across right-of-way at mileage 99.88, Smith's Falls section, Ont.

5714. Nov. 27.—Approving changes in C.P.R. Quill Lakes branch, from sec. 36, tp. 30, r. 11, west 2nd mer., to sec. 23, tp. 33, r. 22, west 2nd mer.

5715. Nov. 27. — Authorizing C.N.R. to open for traffic the portion of its line from Rossburn to Russell, Man.

5716. Nov. 27.—Authorizing C.P.R. to construct spur line to the False Creek Lumber Co.'s premises, Vancouver, B.C.

5717. Nov. 27.—Authorizing Bell Telephone Co. to place wires across C.P.R. near Hillsburg station, Ont.

5718. Nov. 18.—Approving revised location of Niagara, St. Catharines & Toronto Ry. through lot 27, cons. 5, 6, and 7, Crowland tp., Ont.

5719. Nov. 28.—Directing that contracts, conditions, by-laws, etc., of the United States and the Great Northern Express Companies, may continue to be used and have effect until June 1, 1909, subject to terms and conditions contained in order of Nov. 22, 1907.

5720. Nov. 28.—Directing that, subject to terms and conditions contained in order of Nov. 8, 1906, the time during which the North American Telegraph Co. may charge such telephone tolls as it was, immediately previous to July 13, 1906, authorized by law to charge, be extended until June 1, 1909.

5721. Nov. 28.—Directing that all contracts, by-laws, etc., of the National and American Express Companies may continue in use and shall have effect until June 1, 1909.

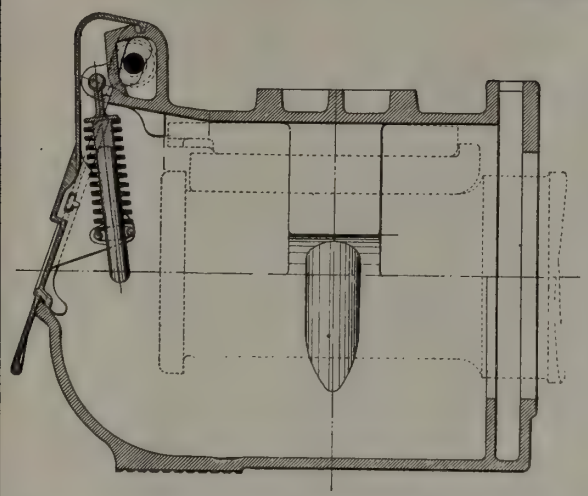
5722. Nov. 28.—Directing that, subject to terms and conditions expressed in order of Nov. 8, 1906, the period during which the Bell Telephone Co. may charge such telephone tolls as it was, previous to July 13, 1906, authorized by law to charge, be extended to June 1, 1909.

5723. Nov. 28.—Authorizing W. C. Albert, Edmundston, N.B., to lay a water pipe under Temiscouata Ry.

5724. Nov. 28.—Extending until June 1, 1909, the time for the approval of the Can-

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



THE STRONGEST, LIGHTEST, TIGHTEST BOX MADE

The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCord Force Feed Lubricator

McCORD & COMPANY
Old Colony Building, Chicago

N. J. HOLDEN CO., Ltd.,
302 St. James Street, Montreal

N. CURRY, President
N. A. RHODES, Vice-President

CAPITAL, $1,000,000

J. M. CURRY, Sec.-Treas.

RHODES, CURRY & CO.

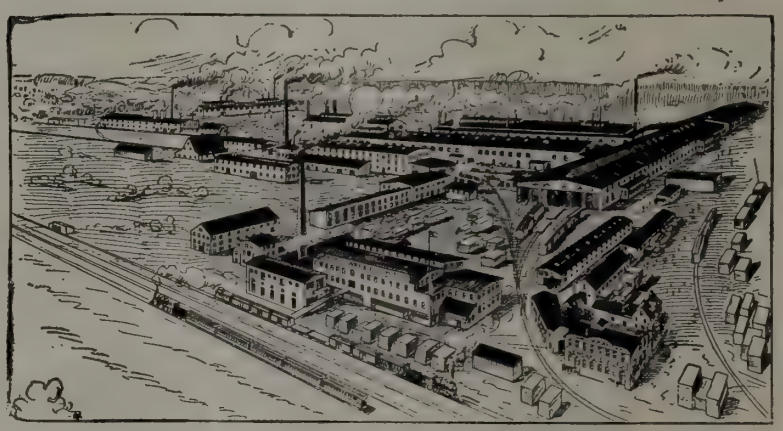
AMHERST, NOVA SCOTIA LIMITED

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels



Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

adian and Dominion Express Companies' contracts, tolls and by-laws.

5725. Nov. 28.—Authorizing Light and Heat Commissioners of Guelph, Ont., to lay a gas pipe under the C.P.R. at Eramosa Road.

5726. Nov. 30.—Approving plans showing temporary repairs to the Ottawa & New York Ry. drawbridge over Cornwall Canal, and authorizing the company to use the bridge until further ordered.

5727. Nov. 30.—Approving revised location of C.N.Q.R. St. Jacques branch, from St. Jacques to Rawdon, Que.

5728. Nov. 30.—Authorizing Bolton Telephone Co. to place wires across C.P.R. in Albion tp., Ont.

5729. Nov. 28.—Authorizing Cobourg Utilities Corporation to lay water pipe under G.T.R. on Ontario St., Cobourg, Ont.

5730. Nov. 30.—Authorizing Bell Telephone Co. to place wires across T.H. & B.R., corner of Hayt and McMurray Sts., Dundas, Ont.

5731. Nov. 24.—Dismissing application of T.H. & B.R. for authority to renew or alter highway bridge under which the T.H. & B.R. crosses the public highway in Brantford tp., Ont., commonly called the London & Hamilton road.

5732. Dec. 1.—Directing C.N.R. to ballast and put in safe and proper condition its Prince Albert branch between Gilbert Plains Jct. and Prince Albert, Sask.

5733. Nov. 26.—Directing C.P.R. to refund to C. E. Deakin, of Montreal, 2c. per 100 lbs. on the 16 carloads of gravel shipped from Miletta pit, near Magog, to Montreal.

5734. Nov. 24.—Authorizing G.T.R. to take additional lands in St. Hilaire parish, Que.

5735. Nov. 26. — Authorizing Manitoba Government Telephone Commission to place wires across C.N.R. at Carberry, Man.

5736. Nov. 25.—Regulations respecting running of freight cars on main line passenger trains. (See pg. 27.)

5737. Nov. 26.—Authorizing North Cowichan municipality, B.C., to construct a highway across E. & N.R., at milepost 41+610.

5738. Nov. 3.—Amending order 4407, dated Mar. 6, 1908, approving location of Montreal & Southern Counties Ry. between Montreal and St. Lambert, Que.

5739. Nov. 4.—Dismissing the complaint of residents of Fort Erie, Ont., alleging that the M.C. Rd. unjustly discriminates against Fort Erie, and in favor of Bridgeburg, in the matter of freight rates on shipments from Black Rock, N.Y.

5740. Nov. 16.—Dismissing application of Algoma Central & Hudson Bay Ry. for order determining continuous routes via Sarnia, Pt. Edward, Goderich, etc., for traffic between points in Canada and easterly and southerly thereof; and fixing the tolls and apportioning the same between the companies interested, as a joint tariff for such continuous routes; and determining the date when the toll or tolls shall come into effect. (See pg. 35.)

5741. Dec. 1.—Dismissing application of H. S. Conn, Ottawa, for order directing C.P.R. to refund certain overcharges on shipments of hay from West Moncton, Ont., and the G.T.R. from Mitchell and Harley, Ont., all consigned to Temagami, on T. & N.O.R.

5742. Dec. 1.—Directing C.N.Q.R. to reconstruct crossing on F. Leduc's farm, St. Casimir parish, Que.

5743. Nov. 26.—Authorizing City of Ottawa to lay water main under G.T.R. at Lees Ave., Ottawa.

5744. Nov. 26.—Authorizing City of Ottawa to lay water main under C.P.R. tracks at Laurel Ave. and Champagne Ave., Ottawa.

5745. Nov. 26.—Authorizing the City of Wetaskiwin, Alta., to construct a highway across the portion of the C. & E.R. which intersects proposed extension of Pearce St.

5746. Oct. 13.—Authorizing T.H. & B. Ry. Co. to construct a farm crossing where its railway abuts H. New's lands in Barton tp., Ont.

5747. Nov. 21.—Authorizing Ingersoll Telephone Co. to place wires across T.L.E. & P.R., on Charles St. West, Ingersoll, Ont.

5748. Nov. 28.—Approving "Form MX 27" and "Form MX 70," of Maritime Express Co., and permitting same to be used until June 1, 1909, subject to terms contained in order of Dec. 19, 1907.

5749. Dec. 3.—Extending for three months from date of order, time during which the C.N.O.R. may use for construction purposes the crossing of its line with the G.T.R. spur line to Edwards' mill, Rockland, Ont.

5750. Dec. 3.—Authorizing G.T.P.R. to close road allowance in secs. 8 and 9, tp. 26, r. 12, west 2nd mer., and between secs. 4 and 5, and 8 and 9, tp. 26, r. 12, west 2nd mer.; and to open in lieu thereof new roads in secs. 4, 5, 8 and 9, tp. 26, r. 12, west 2nd mer.

5751. Dec. 3.—Dismissing application of Town of Port Arthur for order authorizing it to construct under the C.P.R. a flume for generating additional power at the powerhouse on the shore of Thunder Bay.

5752. Dec. 3.—Authorizing Commissioners of the Transcontinental Ry. to take a portion of the Temiscouata Ry. lands in Town of Edmundston and parish of Madawaska, N.B.

5753. Dec. 3.—Dismissing application of C.P.R. for order directing McIntosh & Gullett so to construct a trestle over the siding at their premises at North Toronto, that there will be at least a clear headway of 7 ft. between the top of the highest freight car used by the applicant and the lowest beams of the trestle.

5754. Dec. 3.—Amending order 5568, dated Nov. 3, 1908, by adding after the word "is" in the fifth line the words "or other employe of the railway company specifically charged with such duty by the company."

5755. Dec. 3.—Dismissing application of Township of Grantham, Que., for an order authorizing it to cross the C.P.R. near Drummondville, Que.

5756. Dec. 3.—Authorizing the Bell Telephone Co. to place wires across W.E. & L.S.R. Ry. at private right-of-way at C.P.R. and Gravel Road, southeast of Windsor, Ont.

5757. Dec. 3.—Rescinding order 5512, in re application of Grand Valley Ry. to cross B. & H. Elec. Ry. in Hamilton, Ont.

5758. Dec. 3.—Authorizing the C.P.R. to construct a branch line across Alder St., Vancouver, B.C.

5759. Dec. 3.—Authorizing A. Broder, Morrisburg, Ont., to lay a water pipe under G.T.R. on Church St., Morrisburg, Ont.

5760. Dec. 3.—Dismissing application of Ingersoll Telephone Co. for leave to erect a cable across T.L.E. & P. Ry. in Ingersoll, Ont.

5761. Dec. 3.—Authorizing C.P.R. to construct its railway across Park St., Nelson, B.C.

5762. Dec. 3.—Authorizing G.T.P.R. to construct its railway across certain highways in Manitoba and certain streets in Winnipeg, Man.

5763. Nov. 23.—Authorizing Town of Oshawa, Ont., to lay water main under Oshawa Ry.

5764, 5765. Dec. 4.—Authorizing J. P. Gordon to lay water mains under C.N.R. at Gaddy and Main Sts., Portage la Prairie, Man.

5766. Dec. 3.—Authorizing Government of Alberta Telephones to place wires across C.P.R., 2¼ miles west of Tabor.

5767. Dec. 3.—Amending order 5669 by extending to Jan. 1, 1909, time within which Supplement 4 to Canadian Classification 13 shall become effective.

5768. Nov. 30.—Approving Pacific Express Co.'s contract forms, and granting leave to the company to use them until June 1, 1909.

5769. Dec. 3.—Authorizing International Portland Cement Co. to construct subway under C.P.R. in Hull, Que.

5770. Dec. 3.—Authorizing Government of Alberta Telephones to place wires across C.P.R. at milepost 84.

5771. Dec. 3.—Amending order 5672 by substituting mileage 0.00 to 188.77 for mileage 0.5 to 188.2.

5772. Dec. 3.—Dismissing application of Tilbury tp., Kent county, Ont., for order approving plans of the King & Whittle improvement drain across the C.P.R.

5773. Dec. 3.—Authorizing C.N.R. to construct a branch line in Man. to the Manitoba Ry. Co.'s Morris-Brandon branch in block 39.

5774. Dec. 3.—Authorizing Vancouver, Victoria and Eastern Ry. & Nav. Co. to make competitive tariffs for freight traffic (see pg. 31).

5775. Nov. 30.—Extending until June 1, 1909, time within which contracts, by-laws, etc., of National and American Express Companies may continue in use.

5776. Dec. 3.—Authorizing Toronto Elec. Light Co. to rearrange wires and install tile ducts under C.P.R. and G.T.R. on Esplanade, foot of Scott St., Toronto.

5777. Dec. 3.—Authorizing the City of Winnipeg to place electric light wires across C.P.R. to reach pumping station 6.

5778. Dec. 3.—Dismissing application of J. Overend & Son of Ninette, Man., alleging that the rates charged by the C.N.R. on freight shipped from Winnipeg were excessive. (See pg. 31).

5779-5781. Dec. 4.—Authorizing J. P. Gordon, to lay water mains under C.P.R. and G.T.P.R. tracks on Main and Gaddy Sts., Portage la Prairie, Man.

5782. May 18.—Authorizing G.T.R. to construct a spur line to the Knechtel Furniture Co.'s premises., Hanover, Ont.

5783. Dec. 1.—Directing C.P.R. to clean out and put in good order all ditches leading to and from culvert 89.9, as far as station 31+18, near Crookston, Ont.

5784. Dec. 7.—Dismissing application of Government of Alberta Telephones for an order to place wires across C.P.R. at experimental farm, near Lethbridge, Alta.

5785. Dec. 8.—Authorizing C.P.R. to construct a spur connecting with a siding already constructed for the Dominion Government coal shed.

5786. Dec. 8.—Rescinding order 5511, dated July 14, 1908, authorizing Grand Valley Ry. to cross the T.H. & B.R. in Brantford, Ont., provided crossing be protected by a half-interlocker.

5787. Dec. 8.—Authorizing Cataract Elec. Co. to place wires across C.P.R. in Caledon tp., Ont.

5788. Dec. 8.—Authorizing C.P.R. to construct a spur to the Sherbrooke Machinery Co.'s premises, Sherbrooke, Que.

5789. Dec. 7.—Dismissing application of G.T.R. for order extending time for construction of the branch line and station authorized to be constructed by order 2333, dated Dec. 16, 1908, between G.T.R. main line east of Port Hope viaduct and the northern division of its line north of Ontario St., Port Hope, Ont.

5790–5793. Dec. 7.—Dismissing application of the Hawthorn Hill Rural Telephone

Salary-Raising Training For Railroad Men

There is no profession in which promotion depends in any higher degree upon a man's real ability and technical knowledge than in railroading. Quick promotion then for the railroader is the result of quick and also thorough acquirement of that technical training which will qualify him to hold a higher position. In no way can the ambitious railroad employe secure this technical knowledge so quickly and yet so simply as through the I. C. S. Courses of home training. These Courses have been written by the best railroad experts on this Continent and are taught after a manner that 15 years' experience in training hundreds of thousands of ambitious men for promotion and better earnings has proved to be the most practical and efficient. These Courses include instruction in LOCOMOTIVE MANAGEMENT, LOCOMOTIVE BOILERS, STEAM CYLINDERS, and VALVE GEARS, BREAKDOWNS, COMPOUND LOCOMOTIVES, TRAIN RULES, WESTINGHOUSE and NEW YORK AIR BRAKES, CAR LIGHTING and HEATING, and ELECTRIC HEADLIGHTS.

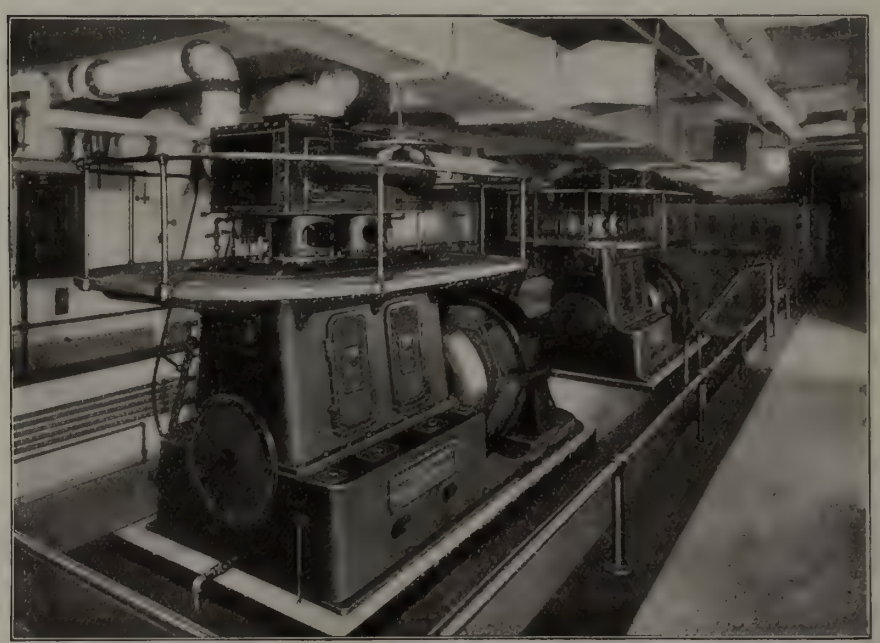
If **YOU** wish to secure the training in your own home, in your spare time, and at an insignificant cost, that will qualify you for promotion to the highest positions in your profession, simply mark and mail this coupon and we will tell you how you can do so. The fact that we have enabled hundreds of other railroad men to secure promotion in itself warrants your careful investigation of our plan if you really wish to better yourself. Don't let a postage stamp stand between you and a better position. **Mark and mail this coupon NOW.**

International Correspondence Schools
BOX 1072, SCRANTON, PA.

Please explain, without further obligation on my part, how I can qualify for a larger salary and advancement to the position before which is marked X.

General Foreman	R. R. Con. Engineer
R. R. Shop Foreman	Civil Engineer
R. R. Trav. Engineer	Bridge Engineer
R. R. Trav. Fireman	Chemist
Locomotive Engineer	Mining Engineer
Air-Brake Instructor	Architect
Air-Brake Inspector	Bookkeeper
Air-Brake Repairman	Stenographer
Mechanical Engineer	Ad Writer
Mechanical Draft.	French } With
Machine Designer	German } Edison
Electrical Engineer	Spanish } Phonogr'h

Name _____
St. & No. _____
Employed by _____ R. R.
City _____ State _____



HIGH-SPEED VERTICAL ENGINES

of the English enclosed type with pressure oiling system, installed by us at the

TRADERS BANK
TORONTO

ROBB ENGINEERING CO., Limited, Amherst, N.S.

DISTRICT OFFICES: Traders Bank Building, TORONTO, Wm. McKay, Manager.
Bell Telephone Building, MONTREAL, Watson Jack, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.

Co. for leave to place wires across G.T.R. at four points in Minto tp., Ont.

5794. Dec. 7.—Dismissing application of G.T.R. for order varying order 2757 of Mar. 27, 1907, authorizing construction of branch line between Caldwell and Penetanguishene.

5795. Dec. 7.—Dismissing application of G.T.R. for an order varying order 2759 of Mar. 27, 1907, by extending time for construction of branch between Orillia and Midland, near Tiffin, Ont.

5796. Dec. 7.—Dismissing application of City of Toronto for order to vary order of the Railway Commission of the Privy Council of Mar. 11, 1902, respecting protection of Dowling and Dunn Avenues, Toronto.

5797. Dec. 7.—Interswitching charges at Walkerville, Ont., and grain rates to Walkerville. (See pg. 31).

5798. Dec. 3.—Authorizing G.T.R. and C.N.R. to operate trains over G.T.R. crossing in Hawkesbury, Ont.

5799. Dec. 3.—Authorizing C.P.R. to construct a spur to A. T. Kelliher's premises, secs. 5 and 6, tp. 24, r. 24, w. 7th m.

5800. Dec. 7.—Dismissing application of C.N.O.R. for approval of its line from Billings Bridge to mileage 29, west from Ottawa, Ont.

Regulation for Erecting Mail Cranes.

The Board of Railway Commissioners has passed the following order, 5647: In pursuance of the powers conferred upon it by secs. 26, 30, and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf, it is ordered that every railway company subject to the legislative authority of the Parliament of Canada, operating a railway by steam power, using mail cranes, be forbidden to erect, place or maintain, on or after Jan 1, 1909, any mail crane along its line of railway, at a distance less than 7 ft. 1¾ ins. from the centre of the track to the point of the arm of the crane when in position, or at a height less than 10 ft. 10 ins. from the bottom of the rail to the top of the arm when in position. And it is further ordered that every such railway company failing or neglecting to comply with the foregoing regulation be subject to a penalty of $100 for every such failure or neglect.

Freight Cars in Passenger Trains.

The Board of Railway Commissioners has passed the following order, 5736: In pursuance of the powers conferred upon it by secs. 30 and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf: It is ordered that every railway company subject to the legislative authority of the Parliament of Canada be forbidden to handle freight cars in through main-line passenger trains, unless such freight cars are equipped with air-brakes, steel-tired wheels, and special trucks designed for use in through passenger train service. Provided, however, that every such company shall be at liberty to use such freight cars in its through passenger service when its baggage cars, or freight cars, especially equipped as aforesaid, become disabled or unfit for use while in transit, and such cars only are available to receive the baggage or freight, as the case may be, to avoid unnecessary delay in forwarding the same. In this event the cars must not be loaded beyond their marked capacity, and the speed of the train must not exceed thirty-five miles an hour. And it is further ordered that every such railway company failing to comply with the foregoing requirements shall be liable to a penalty of not exceeding $50 for every such offence.

Canadian Northern Ry. Construction, Etc.

The Quebec and Lake St. John Ry. has filed plans for extensions of the Quebec and Lake St. John Ry. from Roberval and Chicoutimi, and it is expected that construction will be started in the spring.

Canadian Northern Quebec Ry.—At a recent meeting of the Quebec city council, a letter was read from the company, signed by W. A. Kingsland, Auditor, and H. K. Wicksteed, Chief Engineer, stating that the present yard and trackage was excessively cramped and inadequate for the requirements of the present time. The company, in view of the early opening of the direct line to Montreal, and of the Hawkesbury-Ottawa line, considered that a rearrangement of the present yard was imperative. Plans had been prepared for the solution of the difficulty. These involved the removal of the freight shed to another site and making available for passenger business six separate tracks, three for arrival and three for departure, in place of the single one now used. This arrangement involved the removal of the present shops and engine house, which were quite inadequate for the carrying on of the company's business. Plans for the company's requirements showed an area of about 20 acres to be covered with tracks and buildings. It was, in the company's opinion, impracticable and contrary to the city's interests that any such area of land within the present city limits should be devoted to this purpose, and, therefore, an outside area would have to be obtained. It was submitted that an area of land in the direction of the Beauport flats afforded the only chance for the necessary expansion of the facilities. The President had authorized progress to be made with the work, but before making a start the company desired to have the approval of the corporation to the general scheme of improvement. If the council would pass such resolutions as would enable the company to make an immediate start, the first step taken would be the erection of the car repair shop. This would have the effect of concentrating in Quebec a large amount of work now done in Shawinigan and other outside points. The letter was referred to the Finance Committee for consideration, and is being taken up in connection with the proposal to annex St. Malo and Limoileu to the city. If the amalgamation is decided upon the city council is favorable to the company's proposals, as the present agreement with the city, with respect to the location of the shops within the city, will not require to be amended. One of the conditions of the amalgamation will have to be more direct communication by means of at least one additional bridge. Dorchester bridge is a long distance away from the heart of the village, and the railway bridge has no communication except for steam and electric cars. At low water the St. Charles River, separating Limoileu from Quebec, is less than 300 ft. wide.

Tracklaying on the Garneau cut-off was completed Dec. 10, but G. Tombs, General Freight and Passenger Agent, said it was not likely that a passenger service would be operated before the spring, although schedules had been arranged.

The Department of Railways has entered into a contract with the company, under the terms of the act granting subsidies in aid of certain railways, for the construction of a line of 30 miles, from near Arundel, at the northerly terminus of the Montfort and Gatineau Colonization Ry., to the united townships of Preston and Hartwell; and for a line of 15.2 miles to connect the Montford and Gatineau Colonization Ry. with the main line of the C.N.Q.R. at St. Jerome, Que. This latter line has been constructed.

A branch line to Totogan, Man., has been opened. This is an extension of the Oakland branch, starting from Portage la Prairie, Totogan being 28 miles distant.

M. H. McLeod, General Manager, on his return to Winnipeg, after a trip of inspection over the company's Western lines, Dec. 9, stated that three spans of the six-span bridge over the Saskatchewan River at Prince Albert, Sask., had been completed, and he expected that the whole structure would be completed by March.

Canadian Northern Ontario Ry.—G. Tombs, General Freight and Passenger Agent C.N. Quebec Ry., who went over the C.N.O.R.'s new line from Hawkesbury to Ottawa, Ont., Nov. 30, stated that all that is required to put it in thorough working order is the completion of a couple of bridges. It is not likely, however, that this line will be opened for traffic until the spring. An early extension of the line westward may be looked forward to, added Mr. Tombs.

In connection with the application of the company for a right-of-way for an entrance into Ottawa, the Minister of Railways heard representatives of the company and the city council Dec. 17. It is proposed to cross the Rideau River about 1,000 ft. north of Hurdman's Bridge, run through the Stewart property and strike the G.T.R. near the Ottawa and New York Ry. new weigh scales. The Hurdman road would be crossed by a trestle about 600 ft. south of Gladstone Ave. The council expressed an opinion, in instructing its representatives, that the bridge should be built on as few piers as possible, to lessen the danger of ice jams.

Plans have been filed with the Town Clerk of Orillia, Ont., showing the location of the company's projected branch line from Udney into the town. It is expected that the line will be constructed in the spring.

W. H. Moore, Secretary C.N.O.R., stated, Dec. 12, that the company was prepared to extend its present line from Sudbury to Sellwood, Ont., to the newly opened Gowganda silver district, if the Temiskaming and Northern Ontario Ry. Commission would co-operate. The company is extending its line from Sellwood to Burwash, 20 miles, and a further distance would bring it to Gowganda. The suggestion is that the T. and N.O. Ry. should extend its line from Charlton to Gowganda, and that each line should give the other running rights.

Canadian Northern Ry.—In connection with the purchase of the Duluth, Rainy Lake and Winnipeg Ry. by the C.N.R. Co., it is stated that the agreement provides for the construction of branch lines into the Seine River country, northerly from Fort Frances, Ont. The Weyerhausers, who are interested in timber limits along the D., R.L. and W.R. in Minnesota, also own a number of limits along the Seine River valley, which the projected branch line will be constructed to develop.

Press reports state that the line will be extended northerly from Macleod's pit to Brant, in Stonewall district, Man.

A bi-weekly train service was put in operation, Dec. 1, on the Goose Lake branch, extending from Saskatoon to Zealandia, about 70 miles.

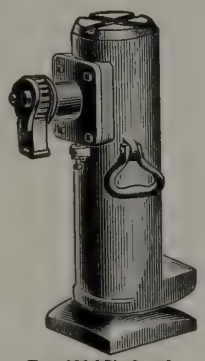
A Saskatoon, Sask., press report states that a survey party in charge of B. Beaumont and —. Mackenzie started out, Dec. 3, to locate a route for the company's projected railway to Calgary. It is said to be desired to have the location so far completed that construction may be gone on with in the spring. (Dec., 1908, pg. 879.)

As a result of the settlement of the strike of machinists on the C.P.R., there has been a rearrangement of the officials of the federation of employes, the offices of which are at Montreal. P. Kennedy, of the Machinists' Union, has been elected to succeed B. Hardy as President; A. R. Mowatt becomes Vice-President, and Jas. Somerville becomes Secretary-Treasurer, succeeding J. H. McVety.

NORTON JACKS

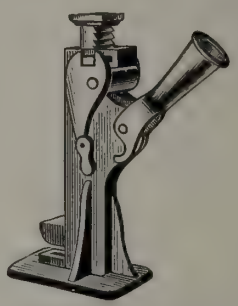
ARE MADE IN CANADA AND SAVE YOU DELAY AND DUTY ON AMERICAN MADE JACKS.

Sectional View



Foot Lift Jack

50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY



15 Ton Track Jack

Traversing Jack

Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

Two Types of Cars

that are making an envious name for themselves

The above style of car is building the railroads of to-day.

Some of the users:

Canadian Pacific Ry.	Macdonnell & O'Brien
Intercolonial Ry.	J. D. McArthur & Co.
Grand Trunk Pacific	M. P. & J. T. Davis
Canadian Northern Ry.	Corbett & Floesch
Canadian Northern Ontario Ry.	Central Ontario Ry.
Canadian Northern Quebec Ry.	New Canadian Co.

Many Others

This style of car is handling the coal of the railroads of to-day.

Some of the users:

Canadian Pacific Railway Co.
Intercolonial Railway
Atikokan Iron Co.

SEND FOR OUR SPECIALLY COMPILED PAMPHLET No. 14

THE HART-OTIS CAR CO., LIMITED

Successors to Dominion DUMP CAR Co., Limited

MONTREAL

Railway Finance, Meetings, etc.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales, for Oct., $32,544, against $37,335 for Oct., 1907. Approximate railway traffic receipts for Nov., $39,424, against $31,937 for Nov., 1907. Total net profits for 5 months ended Nov. 30, $147,993.

Atlantic, Quebec and Western Ry.—A special general meeting of shareholders was called to be held at the company's offices, London, Eng., Dec. 16, 1908, for the purpose of authorizing the directors to issue the securities which the company is empowered to issue under sec. 3 of its act of 1908, in respect of the railways therein referred to, and to give the directors power to secure such securities and to dispose of the same according to law. The meeting was also called for the purpose of empowering the directors to create, and issue from time to time, consolidated bonds or perpetual or terminal debenture stock to the extent in all of $45,000 a mile of railway constructed or under contract to be constructed, or of the railways which the company is authorized to construct or acquire, and to authorize the directors to execute on behalf of the company security for the same.

Canada Atlantic Ry.—An issue of consolidated first mortgage 4% gold bonds, amounting to £598,000, has been placed on the London, Eng., market, through Glyn, Mills, Currie & Co., by the G.T.R., which owns the railway. The issue price was 93, of which 10% was due on application, 25% on allotment, and 58% on Dec. 30. The proceeds of the bonds were required for the purpose of meeting a similar amount of 5% bonds maturing Jan. 5, the holders of the latter having the option of exchanging their bonds on the basis of £102 14s. 9d. for each $500 in payment in full for the bonds of the present issue, the balance of £9 14s. 9d. % due to the holders being paid in cash on Jan. 5. The bonds form part of a total issue of £3,292,200, of which £2,282,400 are already on the market and £411,400 are retained in the treasury to be issued for betterments, etc. The principal and interest are guaranteed unconditionally by the G.T.R. The interest is payable Jan. 1, and July 1, and the principal is payable at par on Jan. 1, 1955. The bonds are secured by a trust deed and constitute a consolidated first charge on all the real and personal property of the Canada Atlantic Ry. Co., excepting ships and branches or extensions to be hereafter constructed.

Canadian Northern Ry.—An issue of £1,027,400 first mortgage 4% land grant bonds was placed on the London, Eng., market recently, and when the subscription list closed, Nov. 25, it was reported that the issue had been oversubscribed. The price was 95%, the bonds being issued in denominations of £100 and £500. Besides constituting a direct indebtedness of the C.N.R., the bonds are secured by a specific first charge in favor of trustees upon 1,250,000 acres of freehold lands in Manitoba and Saskatchewan. Of these lands, since July, 1907, there have been sold 239,000 acres at an average price of $8.46 an acre. Interest is payable Jan. 1, and July 1, a full year's interest being payable July 1, while the principal and interest is repayable at par July 1, 1938, the company reserving the right to redeem the bonds at 103 and accrued interest on three months' notice at any time before July 1, 1918, or thereafter at par.

Central Ontario Ry.—A meeting of shareholders was called to be held at Trenton, Ont., Dec. 7, for the purpose of authorizing the directors to issue bonds to the amount of £250,000 sterling, or such other amount as may be necessary to retire the outstanding bond issue.

Dominion Atlantic Ry.—Gross earnings for Oct., $130,500, against $130,140 for Oct., 1907. Total gross earnings for 10 months ended Oct. 31, $1,071,300, against $1,036,961 for same period 1907.

Grand Trunk Pacific Ry.—Application will be made next session of the Dominion Parliament for an act authorizing the company to issue a further issue of bonds, or perpetual or terminable debenture stock, or both, for such amounts as may be determined upon and fixed by such act, and to apply the proceeds to the general purposes of the company.

Grand Trunk Ry.—Application will be made next session of the Dominion Parliament for an act authorizing the company to create and issue additional Grand Trunk debenture stock, and Grand Trunk 4% guaranteed stock, respectively, in such amounts, subject to the limitations to be fixed in the act, as the shareholders may from time to time determine, and to apply the proceeds to the general purposes of the company; also repealing sec. 19 of the G.T. Arrangements Act of 1862, and substituting other provisions therefor. See also Canada Atlantic Ry.

Lake Superior Corporation.—The Philadelphia, Pa., banks, which had taken over several million dollars' worth of securities of the company in settlement of loans upon which interest had not been paid, has disposed of about $5,000,000 to interests represented by New York and Philadelphia parties. The transaction was completed by the President of the Commercial Trust Co., of New York City, on the part of the purchasers.

New York Central and Hudson River Rd.—Press reports from New York City state that the Vanderbilt interests at present own less than 5% of the stock of this company, and that the largest shareholder is E. H. Harriman. It is also stated that C. M. Depew will shortly retire from his position as chairman of the Board, and that E. H. Harriman will be elected a director, with the intention of ultimately succeeding to the chairmanship of the Board.

Quebec Bridge and Ry. Co.—A special general meeting of shareholders has been called to be held at Quebec, Jan. 4, to authorize the execution of all documents, conveyances and deeds, and the performance of all other acts required or necessary to grant, surrender and release to the Dominion Government all the corporate and individual right, title and interest of the company and its shareholders, in the undertaking, assets, property and franchises of the company; the whole pursuant to the provisions of chap. 59 of the Statutes of 1908, and under the agreement between the Government and the company, dated Oct. 19, 1903, and set out in the schedule to chap. 54 of the Statutes of 1903.

A meeting of the directors was held at Quebec, Dec. 2, 1908, for the purpose of taking the necessary steps for effecting the transfer. The company was originally incorporated in 1887, but practically nothing was done until 1896, when a reorganization was effected, with S. N. Parent as President. On a promise of Dominion aid, the subscribed share capital was increased to $1,000,000, the total amount of capital paid in being $263,700. Subsidies were voted by Quebec City, the Quebec Provincial Legislature, and the Dominion Parliament, and the work proceeded. In 1903 an act was passed by the Dominion Parliament guaranteeing an issue of bonds for the construction of the bridge. The partially constructed bridge collapsed in Aug., 1907, and in 1908 an amendment to the act of 1903 was passed, which gave the Government the right to assume control of the structure, its assets, etc., at the same time guaranteeing the shareholders 5% interest and a bonus of 10% on the amount of stock paid in. This act came into effect on Dec. 1, when an official from the Department of Railways came from Ottawa to liquidate accounts with the Quebec Bridge Company and pay the shareholders, who received $355,000, an advance of $101,300 over the amount they originally paid.

Quebec and Lake St. John Ry.—Gross earnings for Oct., $64,835.24; Nov., $57,742.65; against $65,454.62 and $63,585.27 for Oct. and Nov., 1907. Gross earnings for 11 months ended Nov. 30, $588,075.37, against $600,259.62 for same period 1907.

St. Mary's and Western Ontario Ry.—The Ontario Railway and Municipal Board has issued an order validating a loan of $20,000 made by the township of East Nissouri to the company. The portion of the company's line already constructed extends from St. Mary's to Embro, Ont., and is being operated under lease by the C.P.R.

Temiscouata Ry.—Total traffic receipts for Nov., $17,549.92; aggregate for 11 months ended Nov. 30, $209,835.96.

White Pass and Yukon Ry.—A half-yearly dividend of 2% has been declared on the £1,375,000 stock. This dividend, with the 2% paid in July, 1908, makes the total distribution for the year at the rate of 4%, as compared with 5% which was paid in each of the three previous years.

Gross earnings for Oct., $111,875. Total for 4 months ended Oct. 31, $820,926.

Duluth, Rainy Lake and Winnipeg Ry.

D. D. Mann, Vice-President Canadian Northern Ry., said, in Toronto, Dec. 14: "We have bought this railway from the Virginia Lumber Co., and will take it over shortly. The extension of the line to Duluth will not be immediately considered. Our object is to get connections to Chicago for our line to Winnipeg, and, of course, the line into the U.S. will be a return outlet for Canadian produce. With the acquisition of this line our system will cover nearly 5,000 miles, of which all but 250 miles is now in operation."

This purchase has been under consideration for some time. The line extends from Virginia, Minn., to the Rainy River, at the International boundary, opposite Fort Frances, Ont., a distance of 95 miles. A bridge was constructed over the Rainy River jointly by the D.R.L. and W. Ry., and the Canadian Northern Ry., and the latter constructed a spur line from the bridge to connect with its line from Port Arthur to Winnipeg, at Fort Frances. The line was originally projected as a lumbering line by the Virginia Lumber Co., which is controlled by the Cork and O'Brien interests, and its extension to the Canadian boundary, opened up connection with lumber limits operated by the Haines Lumber Co., of Chicago, Ill., and the Weyerhausens, of St. Paul. There has not been a combination of these lumber interests as has been reported from Chicago. The conditions under which the C.N.R. has secured the D.R.L. and W.R. are such that it also has secured the charter rights of the D.R.L. and W.R., to construct an extension of its line from Virginia to Duluth, which it is proposed to do, at some future time, by a more direct route than the Duluth, Missabe and Northern Ry., by which the line now obtains an entrance into Duluth, on the Duluth and Iron Range Ry. The lumber companies have agreed to ship all their output over the line as well as over the projected extension.

Two special courses of lectures to the students in the Railway Department at McGill University, Montreal, are being delivered this term. A. A. Goodchild, Auditor of Stores and Mechanical Accounts C.P.R., is dealing with the subject of Railway Organization and the Elements of Accounting, and G. C. Wells, Assistant General Passenger Agent Eastern Lines, is dealing with Passenger Business.

CANADA FOUNDRY COMPANY

LIMITED

MONTREAL
HALIFAX
OTTAWA

14-16 KING STREET EAST
TORONTO
CANADA

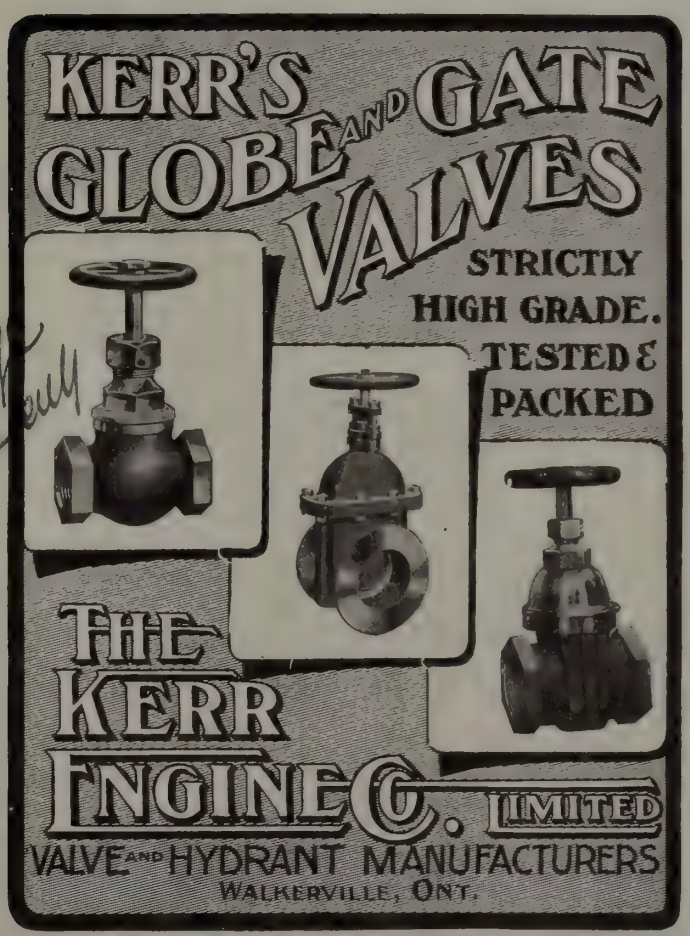
WINNIPEG
VANCOUVER
ROSSLAND

MANUFACTURERS OF

Power Appliances of all kinds

Complete Power Plants

Steam, Gas or Electric


KERR'S GLOBE AND GATE VALVES
STRICTLY HIGH GRADE. TESTED & PACKED
THE KERR ENGINE CO. LIMITED
VALVE AND HYDRANT MANUFACTURERS
WALKERVILLE, ONT.

EDWARDS

TRADE "PAOWNYC" MARK

STEEL TRAP-DOOR

FURNISHED COMPLETE, READY FOR APPLICATION

Weighs but a trifle more than a wood door, is **STRONGER** and cannot **WARP** or **SWELL.** Designed for Steel or Wood Coaches.

Write for Prices, Drawings and Further Information.

THE O. M. EDWARDS CO.
SYRACUSE, N.Y.

Railway Commissioners' Traffic Orders.

5739. Nov. 4.—In the matter of the complaint of certain citizens and residents of Fort Erie, Ont., alleging that the Michigan Central Rd. unjustly discriminates against Fort Erie and in favor of Bridgeburg, Ont., in the matter of freight rates charged by the company on shipments from Black Rock, N.Y., and applying for relief in the premises; upon the hearing of counsel for the M.C.R., no one appearing for the complainants, and upon the report of the Chief Traffic Officer of the Board, it is ordered that the application be dismissed.

HAY RATES TO T. AND N.O.R. POINTS.

5741. Dec. 1.—In the matter of the application of H. S. Conn, of Ottawa, Ont., under the provisions of the Railway Act, for an order directing the C.P.R. and the G.T.R. to refund to applicant alleged overcharges on shipments of hay by the C.P.R. from West Moncton, Ont., and by the G.T.R. from Mitchell and Harley, Ont., all consigned to Temagami, on the T. and N.O.Ry., via North Bay, upon hearing counsel for the railway companies, the applicant appearing in person; and upon the report of the Chief Traffic Officer of the Board, it is ordered that the application be dismissed.

V. V. AND E. RY. APPLICATION.

5774. Dec. 3. In the matter of the application of the Vancouver, Victoria and Eastern Ry. and Navigation Co., under secs. 7, 328 and 329 of the Railway Act, for permission to meet, on the Pacific Coast, the competition of independent water carriers not subject to the Railway Act: It is ordered that the applicant company be, and it is hereby, granted permission to make competitive tariffs for the carriage of freight traffic on any of the routes hereinafter described, namely, between any ports on the mainland of British Columbia, or between any ports in Vancouver Island, or between any port or ports in Vancouver Island and any port or ports on the mainland of B.C., where the transportation is entirely in or on vessels particularized in sec. 7 of the Railway Act; or between any port or ports in Vancouver Island, and any port or ports on the mainland of B.C., where the transportation is partly over the railway of the applicant company in Vancouver Island and partly in or on vessels, as aforesaid, the said traffic to include none other than local port to port freight which might otherwise be handled by exclusively water carriers not subject to the Railway Act; and not to include any freight in transit to or from any point or points where the carriage is partly over the applicant company's railway on the mainland; and may act upon and put in operation the said tariffs immediately upon the issue thereof by the applicant company, before such tariffs have been filed with the Board; and that such tariffs shall forthwith, after the making thereof, be forwarded to and filed with the Board; but that the applicant company shall be exempt from otherwise publishing any of the said tariffs, unless otherwise directed by the Board.

RATES FROM WINNIPEG TO NINETTE.

5778. Dec. 3. In the matter of the complaint of J. Overend & Son, of Ninette, Man., alleging that the rates charged the complainants by the Canadian Northern Ry. Co. on freight shipped from Winnipeg to Ninette were excessive: Upon the reading of what was alleged in support of the application and on behalf of the railway company; and upon the report of the Chief Traffic Officer of the Board, it is ordered that the complaint be dismissed.

WALKERVILLE INTERSWITCHING AND GRAIN RATES.

5797. Dec. 8.—In the matter of the complaint of Hiram Walker & Sons, Ltd., of Walkerville, in respect of interswitching between the G.T.R. and the Pere Marquette Rd. at Walkerville; and to the local grain rate of the P.M. Rd. from Walkerville Jct. to Walkerville, or the P.M. Rd.'s rate from that junction on a through shipment from a point on the C.P.R. Upon the hearing of counsel for the railway companies interested, and what was alleged on behalf of the complainants, it is ordered that the following rates from the following places, on grain shipped to Walkerville in carloads, shall apply, namely:

Elmstead	3¼ cents per 100 lbs.
Belle River	3¾ cents per 100 lbs.
St. Joachim	4 cents per 100 lbs.
Haycroft	4¼ cents per 100 lbs.
Tilbury	4⅜ cents per 100 lbs.

Minimum of 40,000 lbs. per car; delivery to be on the transfer siding of the P.M. Rd. and the G.T.R. at Walkerville; the contracting carrier, viz., the C.P.R., to absorb half the switching charge of the G.T.R., pursuant to order 4988, the P.M. Rd. agreeing to bear its proportion of such absorption upon the basis of the division of the through rate with the C.P.R., the consignee to bear the remaining half of the said switching charge.

Passenger Car Lighting Regulations.

The Board of Railway Commissioners for Canada has passed the following order 5690: In pursuance of the powers conferred upon it by sections 30 and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf; the Board orders that every railway company subject to the legislative authority of the Parliament of Canada, operating a railway by steam power, cause, subject to any exception or exceptions hereinafter contained in this order, the equipment of each and every car requiring lighting used on the railway or portion of railway operated by it, with one of the following lighting systems, namely: The Pintsch compressed oil-gas system. Acetylene gas, under what is known as the absorbent or commercial acetylene system.

That the Pintsch compressed oil-gas system may be used subject to and upon the terms and conditions following, viz.: That the tanks be tested and tight at 300 lbs. pressure to the square inch, and that they stand such tests without distortion. That the maximum working pressure be 150 lbs. to the square inch. That every gas tank attached to a railway car be equipped with an extra heavy stud valve securely fastened to every such tank. That the equipment necessary for the installation of the said system be provided with—A pressure gauge with a dial reading from 1 lb. to 300 lbs. to the square inch, to show the exact pressure of gas carried. A recharging valve to attach to the charging station hose. A regulating valve, to reduce the pressure of gas contained in the tank before it enters the main line piping and lamps on the car. That all piping between the regulating valves and stud valves be of extra heavy seamless steel or iron tubing; and that all elbows or tees be of extra heavy steel fitting. That the high pressure piping and fittings be carefully threaded before being screwed together, the pipe thread to be carefully tinned after being screwed up, and the piping to be sweated to the fittings. That standard tubing be used to connect the low pressure side of the regulating valve with the lamps of the cars; and that a main line cock, to turn on and off the gas, be placed on the inside of each car in a convenient and conspicuous location. That in order to locate leakages, soap suds be used; and that lighted matches or torches be not used for this purpose. That printed regulations defining and explaining the use of the system be posted inside of each car, in close proximity to the main line cock, and that, alongside of such regulations, there be placed and kept available in each car a tank stud valve key, a main line cock key, and such other keys as may be necessary for the use and operation of this equipment. That every car lighted by this system be placed under the charge of a competent and reliable employe of the railway company using such system—every such employe to be specially instructed in regard to the proper working and operating of the same.

That the acetylene, or what is known as the absorbent or commercial acetylene storage system, may be used, subject to and upon the following conditions, namely: That the tanks used in connection with the said system be properly safeguarded against the possibility of explosion and be tested and tight at four times the maximum working pressure, and be able to stand such test without distortion; and that the said tanks be protected by an effective and durable preventative of rust. That the service tank pressure do not exceed 150 lbs. to the square inch. That the acetylene gas be compressed; and that where tanks are charged elsewhere than at the generating station, plans showing in detail the location of all appliances used in connection therewith, including intended location of cars, be submitted to the Board for its approval,—all gas to be thoroughly dried and purified. That car equipment be inspected and tested at least once every six months. That generators, charging apparatus, and other details be under expert supervision at all times. That acetylene gas generators be not installed in or upon cars or other railway rolling stock, except by leave of the Board. That every gas tank attached to a railway car be equipped with an extra heavy stud valve securely fastened to every such tank. That the equipment necessary for the installation of the said system be provided with—A pressure gauge with a dial reading from 1 lb. to 300 lbs. to the square inch, to show the exact pressure of gas carried. A re-charging valve, to attach to the charging station hose. A regulation valve, to reduce the pressure of gas contained in the tank before it enters the main line piping and lamps on the cars.

The Board further orders that every such railway company may use free acetylene as a lighting medium, providing the same is not used under a pressure greater than 10 lbs. to the square inch; every such equipment to be submitted for and subject to the approval of the Board. That these regulations do not prevent or affect the lighting with what is known as mineral seal lamp oil on cars and railways where the same is now used; nor prohibit the lighting of cars by electricity. That every railway company committing any breach of or failing to comply with any of the foregoing provisions be, for each such offence, liable to a penalty of $100. That every railway official or employe charged with any duty in respect of any of the matters aforesaid, who shall commit any breach of, or shall neglect to comply with, the foregoing provisions, be liable to a penalty of $20 for each such offence. That these regulations take effect on and after Jan. 1, 1909.

During Oct., 1908, 27 railway employes were killed in the course of their work on Canadian railways, and 18 were injured. Of the fatalities, 10 were due to being run over, 8 to collisions, 6 to derailments, and one each to being caught between cars, to explosion, and to falling material. Of the non-fatal accidents, 7 were due to collisions, 3 to derailments, 2 each to falls, to explosions, and to being run over, and one each to falling material, and to tools.

MORISON Suspension Furnaces

The universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine —Boilers—

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

MANUFACTURED BY

THE CONTINENTAL IRON WORKS, WEST AND CALYER STS., BOROUGH OF BROOKLYN. Near 10th and 23rd Street Ferries. NEW YORK

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.

The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.

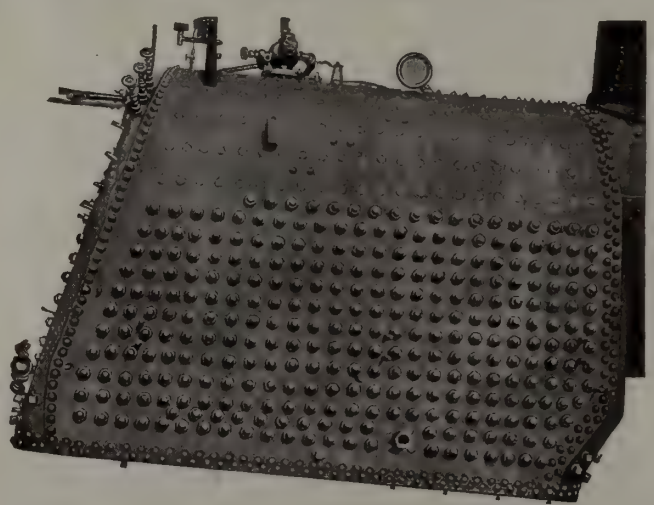
THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

AMERICAN BRAKE SHOE AND FOUNDRY COMPANY

NEW YORK MAHWAH, N.J. CHICAGO, ILL.

N. J. HOLDEN & CO., Agents, 302 St. James St., MONTREAL



AN INSTALLATION OF THE TATE FLEXIBLE STAY

THE TATE FLEXIBLE STAYBOLT.

THE PERFECT STAY

For Locomotive Fire Boxes

Over a million and a half bolts in service on over 100 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited
TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, = Pittsburgh, Penn., U.S.A.

National Transcontinental Railway.

The Commissioners of the N.T.R. report that the whole of the Eastern Division, from Moncton, N.B., to Winnipeg, Man., is now under contract. Considerably over 150 miles of steel had been laid to Nov. 30, and there is a good mileage of the roadbed ready for tracklaying in sections, while much progress has been made with the clearing, rock cutting and filling on other portions of the line. Most of the actual work done has been from Moncton to the St. Lawrence River, from the St. Lawrence River to Weymontachene, on the eastern end of the division, and from Winnipeg to Lake Superior Junction at the western end. There has also been considerable work done in the vicinity of Lake Abitibi. A statement of the condition of the various contracts follows: From Moncton 50 miles west, under contract to the G.T.P.R. Co., much grading done and some rails down; next section west, J. McManus, eight miles, good progress; next section, G.T.P.R. Co., two contracts, one of 40 and the other of 67 miles, much grading done; next section, W. Kitchen Co., 31½ miles, well advanced toward completion; next section, Lyons & White, 62 miles, to New Brunswick-Quebec boundary, work well advanced; M. P. & J. T. Davis, 204 miles, to Quebec bridge, work well advanced over whole contract; M. P. & J. T. Davis, from the St. Lawrence 50 miles west, good progress and some rails laid; Macdonald & O'Brien, 100 miles, good progress and some rails laid; G.T.P.R. Co., 45 miles, to Weymontachene, good progress; Macdonald & O'Brien, 221 miles, roads being cut and supplies taken in; G.T.P.R. Co., 150 miles, to eight miles west of Abitibi River, preliminary and some grading work done; E. F. & G. E. Fauquier, 100 miles, preliminary and some grading work done; M.P. & J. T. Davis, 204 miles, contract just awarded and supplies being taken in; E. F. & G. E. Fauquier, 275 miles, contract let last spring and preliminary construction work commenced; O'Brien & McDougal, 150 miles, to Superior Jct., contract just awarded; J. D. McArthur, 245 miles, from Superior Jct. to Winnipeg, 80% of the work completed.

In a booklet published by the G.T.R., the company reviews its position and says with regard to the Eastern Division: "By the terms of the lease to the company of this portion of the railway it will be seen that the company will practically have the free use of it for seven years, and taking into account the time allowed for construction, which is fixed at seven years, no payments will be required to be made on account of rental until 1919, and since it is to pass through an entirely new and undeveloped section of the country which is now known to be rich in agricultural and mineral resources, as well as timber, it is anticipated that long before the first payment on account of rental becomes due, the company will have reaped a rich harvest from the traffic that will exist upon its completion. This section of the line between Quebec and Winnipeg will pass through what may appropriately be termed the mineral belt of eastern Canada, as in this district, adjacent to the main line, are located the now famous Cobalt deposits, as well as nickel, copper, iron, etc., which are only awaiting the advent of the railway to be brought forth for manufacture."

The permanent rails for the N.T.R. were laid into Moncton, N.B., Dec. 1, the tracks joining the Intercolonial Ry. about a quarter of a mile from the station, and on the western outskirts of the city.

At Cochrane, Ont., where the Temiskaming and Northern Ontario Ry. effects a junction with the N.T.R., the right-of-way has been cut out for a considerable distance in both directions. A mono-rail line is in operation along the right-of-way for the conveyance of supplies from the crossing of the Abitibi River to the junction. The single rail is laid on ties placed 4 ft. apart, a car about 10 ft. long, supported by two wheels on one side, is used to convey the material, a horse at the side supplying the supporting as well as the motive power.

The contracts for the last sections of one division to be placed under contract have been signed. These were let to M. P. and J. T. Davis, Quebec, and are for the following sections, tenders for which were asked Sept. 12: Districts D and E from the western end of Fauquier Bros.' Abitibi contract, westerly for 104 miles. District E, from about 60 miles west of the easterly boundary of this district easterly to the west of Fauquier Bros.' contract, north to Lake Nipigon, about 100 miles. This work is to be completed by Dec. 31, 1910. There are at present no means of communication with this district, and the contractors will themselves have to construct a wagon road northward from Jackfish Bay, on Lake Superior. This is now being surveyed, and it is expected that most of the construction in this part of Ontario will be put in hand early in the spring.

We are advised that none of the tenders recently sent in for some of the buildings at the shops to be erected near Winnipeg has been accepted. It was originally stated that the tender of T. Kelly & Sons had been accepted, but the Commissioners' Engineer reported that probably better prices could be obtained for the work if tenders were asked for the whole plant instead of for separate buildings. It is stated that tenders will be asked at an early date for the whole of the plant.

GRAND TRUNK PACIFIC RY.

A summary of the work done on the construction of the section of the N.T.R., which is being constructed by the G.T. Pacific Ry., shows that the laying of track on the 666 miles from Winnipeg to the Battle River had been completed; as well as on the branch line from Fort William to Superior Junction, Ont., 188 miles, and that trains were being operated on both sections. The erection of the bridge over the Battle River was completed Dec. 15, and track laid over it. This will enable tracklaying to be resumed on the completed roadbed towards Edmonton, Alta. It is intended to have the line completed and opened for traffic as far as Edmonton by the fall. Grading has also been completed to the end of the Prairie section at Wolfe Creek, 129 miles west of Edmonton, and 916 miles west of Winnipeg.

For operating purposes the section of the line recently opened for traffic between Winnipeg, Man., and Wainwright, Alta., has been designated the Prairie Division.

The G.T.P. Ry Co. will make application next session of the Dominion Parliament for an act ratifying and confirming an agreement dated June 6, 1908, made between itself and the Midland Ry. of Manitoba, respecting joint facilities at Portage la Prairie, Man.

A station building is under construction at Waterous, Sask., by the Carter-Halls-Aldinger Co., of Winnipeg, which has also contracts for the erection of stations at Biggar and Wainwright.

The location survey for the main line between Edmonton and Prince Rupert was reported to have been completed Nov. 26. The parties working in the vicinity of Fort George, B.C., were the last in the field, and they came out to Ashcroft Nov. 26. It is probable that during the summer some surveys will have to be undertaken for the revision of the surveys just completed. R. P. Bishop, one of the engineers, states that the line has been located for part of the distance through the Nechaco district, into which many settlers were going. The surveyed route crosses the Fraser River just above Fort George, and follows the south shore of the Nechaco River nearly to Fraser Lake. Thence it skirts the south shore of Fraser Lake as far as Stella. From there two lines have been laid out.

Large quantities of equipment continue to be shipped from Vancouver to Prince Rupert, B.C., for Foley, Welch and Stewart, the contractors for the building of the G.T.P.R. easterly. Among the plant are two steam shovels to be used on the laying out of the terminal yard at Prince Rupert. The work of laying out the townsite is being rapidly proceeded with, preparatory to opening it up in May, in accordance with the agreement with the B.C. Government.

In a recent interview C. M. Hays, President G.T.P. Ry., said he expected that the company's easy gradients—not more than 21 ft. to the mile going west—would in a few years twist around a great portion of the wheat export trade of the northwest, and with the opening of the Panama Canal in 1914, Canada would send wheat to Europe and Asia by way of the Pacific Ocean. He looked forward to seeing Prince Rupert one of the great wheat ports of the world.

G.T. PACIFIC BRANCH LINES.

The Lake Superior Branch, extending from Fort William to Superior Jct., on the main line from Winnipeg to Moncton, N.B., was opened for traffic Nov. 27, and is being operated as the Lake Superior Division. The mileages of the different station points are: Westfort, Fort William, 0.0; C.P.R. crossing, 0.6; Albe, 7.4; Baird, 13.21; Crest, 20.90; Dona, 26.42; Ellis, 32.83; Flett, 38.82; Griff, 45.72; Horne, 51.05; Dexter, 56.94; Linke, 62.34; Jakes, 67.83; Knowlton, 99.57; Oscar, 107.31; Petry, 114.34; Quorn, 121.99; Reba, 127.07; Snowdon, 134.45; Tanain, 139.14; Unaka, 145.28; Valora, 151.72; Weke, 160.26; Hunt, 166.60; Yonde, 170.80; Larn, 178.05; Alcona, 185.23; Superior Junction, 188.77. The branch is being used for the purpose of taking in supplies for the construction of the main line, and it will not be until the completion of the main line from Winnipeg, that there will be any other than contractor's traffic over it. A contract has been entered into with the Department of Railways, under the terms of the act granting subsidies in aid of certain railways, for the construction of a branch line from the National Transcontinental Ry. to Port Arthur and Fort William, Ont., a distance not exceeding 220 miles. The ratepayers of Fort William were asked to vote Jan. 1, in favor of a by-law to raise $12,000 by means of debentures to pay for a portion of the right-of-way secured by the city for the G.T.P.R. in the city. (Dec., 1908, pg. 873.)

Press reports state that work is proceeding on the construction of a Government telegraph line from Athabasca Landing, Alta., northerly, and that it will be carried to Little River, 75 miles, this winter, and continued to the Lesser Slave Lake later in the year. A sum of $10,000 was voted at the last session of the Dominion Parliament for the extension of this line towards Peace River Landing, by way of the south side of Lesser Slave Lake. The distance between the extreme points in question is about 290 miles, and the line to be strung under this appropriation is about 70 miles. The poles, wire, etc., is being distributed along the route during the winter in readiness for erection early in the spring. It is probable that a further sum will be voted at the next parliamentary session.

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

NICKEL

THE CANADIAN COPPER COMPANY

NICKEL FOR NICKEL STEEL

THE ORFORD COPPER COMPANY

WRITE US FOR PARTICULARS AND PRICES

General Offices: 43 Exchange Place, NEW YORK

THE ALGOMA STEEL CO., LIMITED

SAULT STE. MARIE, ONTARIO

IS NOW BOOKING ORDERS FOR **STEEL RAILS** FOR DELIVERY DURING THE SEASON OF 1908

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to ensure desired deliveries.

Office:
CANADA LIFE BUILDING,
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS

A.C. and H.B.R. Application for Joint Tariff.

On the application of the Algoma Central and Hudson Bay Ry. Co. for an order under secs. 7, 317, 333, 334, and 336 of the Railway Act for joint tariff with the G.T.R., Railway Commissioner McLean gave the following judgment Nov. 23:

In the case of the Algoma Central and Hudson Bay Ry. Co. v. the G.T.R. Co., in which application was made on behalf of the steamboats of the A.C. and H.B.R. Co. to obtain a joint tariff with the G.T.R., the application was refused, it being held that in terms of secs. 266 and 267 of the Railway Act of 1903, a line of steamships operated by a railway company running to ports reached by the line or lines of another railway does not constitute a continuous route within the meaning of secs. 266 and 267 of the Railway Act of 1903. 5 Canadian Ry. Cases, 199. The applicant company relied upon sec. 276 of the Railway Act as making the provisions of secs. 266 and 267 extend to the traffic mentioned.

In respect of the present application: The jurisdiction conferred under secs. 333 and 334 of the Railway Act in regard to through or joint rates is based on section 25 of the English Railway and Canal Traffic Act of 1888. This section is an expansion of the "reasonable facilities" clause of the Act of 1854. The principles involved in the English Act are the same as those in the Canadian Act, although the means whereby the through rate may be obtained differ. Section 25 of the Act of 1888 provides inter alia that the "facilities" shall include "the due and reasonable receiving, forwarding, and delivery—at through rates, tolls, or fares." Sub-section 5. "If an objection be made to the granting of the rate or to the route, the Commissioners shall consider whether the granting of the rate is a due and reasonable facility in the interest of the public, and whether.....the route proposed is a reasonable one....."

The more important expressions of opinion by the English Railway Commission follow. Reasonableness of the through rate, and the interest of the public are the tests by which the demand must be tried. Didcot, Newbury, and Southampton Ry. Co. v. L. and S.W. Ry. and others, 10 Ry. and Canal Traffic Cases, 15, 17.

"It was not the intention of Parliament, nor has it been the practice of the Court to encourage applications for through rates, the only effect of which would be to transfer traffic from one route to another, or to reduce reasonable rates." Ib. per Lord Cobham, 25.

In order to grant through booking, public inconvenience must be made out. Barret v. G.N.R., 1 Ry. and Canal Traffic Cas., 38.

A through rate was refused because not a facility in the interests of the public. Swindon, Marlborough, and Andover Ry. v. G.W.R. and L. and S.W.R., 4 Ry. and Canal Traffic Cases, 350.

".....however desirable a reduced rate may be in the interests of the public, it is always necessary to see whether there is a commensurate advantage to the railway company which may be forced by the decision of the Commissioners to accept a lower scale of charge than that which it is actually making, and to which it is entitled." Per Collins J., in Plymouth Chamber of Commerce vs. G.W.R. and L. and S.W.R., 9 Ry. and Canal Traffic Cases, 72.

".....I for one should be inclined, in a case of this sort, to take very seriously into consideration, on the question of public interest, the fact that two competitive routes must tend to make either company more likely to give reasonable concessions to traders." Plymouth, Devonport and S.W.R. v. G.W.R. and others, 10 Ry. and Canal Traffic Cases, 68.

The Interstate Commerce Commission of the United States has passed on the question of joint or through rates in Loup Creek Colliery v. Virginia Ry. Co. and Chesapeake and Ohio Ry. Co., XII Interstate Commerce Reports, 471. In this case, Commissioner Clements said: "Joint rates are only empowered with the manifest intent of giving effect to the general purposes of the Act to regulate commerce by securing reasonable facilities to the public and by preventing unreasonable and unjust rates, facilities, and discriminations." 477.

The authorities quoted show that the public interest and the question of the reasonableness or otherwise of the existing rate arrangements are the vital points in any application for through rates. I am of the opinion: That the Algoma Central Ry. Co. has not proved that there is a public interest involved, or that the existing rate arrangement is unreasonable.

Chief Commissioner Mabee agreed with Commissioner McLean.

Commissioner Mills said: The serious thing to my mind is that, with the present local rates on the G.T.R. (so much higher than those charged to the Northern Navigation Co.) the applicant company is prohibited from carrying its own supplies and its own manufactured goods in its own boats; and it should not be overlooked that the Northern Navigation Co. now finds it necessary to increase the number of its boats in order to accommodate the traffic via the G.T.R.

Great Northern Ry. Lines in Canada.

Emerson, Man., to Winnipeg.—Press reports state that the survey being made by the company's engineering staff from Emerson, at the International boundary, to the south-eastern limits of Winnipeg, have been completed. The located route runs from Emerson, on the east side of the Red River, to Ste. Agathe, where it crosses to the west side of the river and runs northwesterly to the right-of-way purchased a couple of years ago in the city, and running parallel with the C.P.R. Gretna branch to Ross St. It has not been announced when construction will be started, but it is said that grading will be commenced in the spring.

Midland Ry. of Manitoba.—Application will be made next session of the Dominion Parliament by the G.T. Pacific Ry. Co., for an act ratifying and confirming an agreement made June 6, 1908, with this company, respecting the provision of joint facilities at Portage la Prairie, Man.

Coutts to Crow's Nest Pass.—The passing of the Alberta Ry. and Irrigation Co. under the control of the C.P.R. has brought about an increased activity of G.N.R. locating engineers in Alberta. The G.N.R. has a line extending to the International boundary at Sweet Grass, Mont., and Coutts, Alta., connecting with the A.R. and I. Co.'s line. A Frank, Alta., report states that the President of the G.N.R. has expressed an opinion that within a couple of years the company would be cut off from this connection, and to forestall such an event is preparing for the construction of a line to connect Sweet Grass with its lines in the Crow's Nest Pass district. The reports further state that two charters have been purchased by the J. J. Hill interests for the construction of lines in the territory mentioned. One of these is for an east and west line through the Crow's Nest Pass, and the other for a north and south line somewhat to the east of the Pass.

Crow's Nest Southern Ry.—The extension of this line from Fernie, through Hosmer and Olsen to Michel, B.C., 20.9 miles, was opened for traffic Nov. 30. Connection is made at Michel with the Crow's Nest Pass Coal Co.'s tracks. (Dec., 1908, pg. 855.)

Canadian Freight Classification Amendments.

The Board of Railway Commissioners has passed the following order, 5669: In the matter of the application of the Canadian Freight Association, under sec. 321 of the Railway Act, for the approval of a proposed supplement, filed as supplement 4 to Canadian Classification 13; a supplement to the said proposed supplement; and an addition to the said proposed supplement referring to automobiles. Upon the report and recommendation of the Chief Traffic Officer of the Board, it is ordered that the additions and changes embodied in the said proposed supplement 4 to the Canadian Classification 13, and the supplement to the said proposed supplement, be approved, subject to the following exceptions and conditions, namely:

The proposal to make the classification of printed matter, unbound, n.o.s., the same as bound books, is hereby disallowed.

The proposal to increase the classification of crude rubber from l.c.l. 3rd, c.l. 5th, to l.c.l. 1st, c.l. 3rd class, is hereby disallowed; but an advance to l.c.l. 2nd, c.l. 4th class is hereby permitted and authorized; the classification of gutta percha, l.c.l., to be reduced from 1st to 2nd class.

That the proposed reclassification of wagons (delivery) express, and peddlers'), be withdrawn pending reconsideration or hearing; but is hereby approved, provided the following changes be made, namely: One-horse, with fixed or standing tops, minimum 1,500 lbs. each, 1st class; two-horse, without tops, wheels and poles off, minimum 1,500 lbs. each, 1st class; two-horse, with fixed or standing tops, minimum 1,800 lbs. each,. 1st class.

The proposed minimum weight of 14,000 lbs. per car on mixed carloads of bicycles, tricycles, velocipedes, quadricycles, motor cycles, automobiles, and parts thereof, is hereby reduced to 10,000 lbs.

That the carload classification of bicycles and bicycle parts, all kinds, n.o.s., crated or boxed, be changed to read "crated, or boxed, or in bundles."

That the proposed changes with respect to bottle caps, and bottle wrappers be withdrawn, in accordance with the applicant's request.

That the words "cast iron, not machine finished, on skids," qualifying hoisting drums of passenger and freight elevators, be struck out, in accordance with the applicant's request.

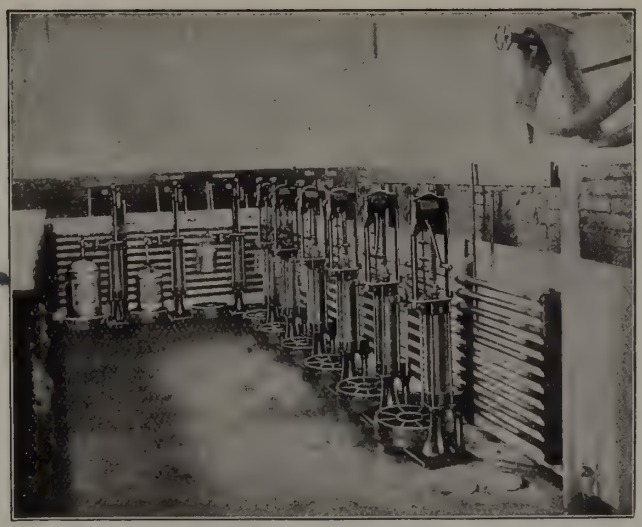
That rule 15 (1) be made to read as follows: "Freight shipped in waterproofed pulp, fibre, or double-faced corrugated board boxes (facings to be of fibreboard), will be accepted at the ratings and conditions provided for the same shipments in wooden boxes, when meeting the following requirements, except that in the case of sub-secs. 1, 2, 6 and 7, it will also be subject to owner's risk of damage and leakage in each case."

That the proposed reclassification of automobiles be suspended pending hearing, notice of which will be given.

And it is further ordered that the said supplement become effective within three weeks from the date of receipt of this order by the Chairman of the Advisory Committee of the Canadian Freight Association, or, in his absence, by his representative.

On the application of the Canadian Freight Association the Board passed an order 5767, Dec. 3, extending the time within which supplement 4, above referred to, shall become effective until Jan. 1, 1909.

A G.T.R. official at London, Ont., is reported to have stated that the company will as soon as possible dispatch its trains by telephone instead of telegraph.



BOWSER PUMPS IN A RAILWAY STOREHOUSE

FIRE-PROOF OIL STORAGE

When your oils are stored by the Bowser System, you know they can never be the source of a fire—

What is more, fire starting from some other source cannot get to the oils.

These are only two results of

THE BOWSER SYSTEM

The Bowser is constructed so as to secure the measure of safety prescribed by the National Board of Fire Underwriters.

Equipments for Railway Oil Houses described in Bulletin 18. Send for it.

S. F. BOWSER & CO., LIMITED
66-68 FRASER AVENUE, - - TORONTO

THE

NEW HOTEL BREVOORT CHICAGO

The Twentieth Century Hotel **Absolutely Fireproof**

Centrally Located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG,
PROPRIETORS

ARTHUR M. GRANT,
MANAGER

"FOREST, STREAM AND SEA-SHORE"

A book of over 200 pages, illustrated in colors and in half-tone, giving well-written description of the country contiguous to the line of railway, replete with historic incident, legend and folk-lore, worthy a place in any library. Send ten cents in stamps to

General Passenger Department, Intercolonial Railway
MONCTON, N.B.

TRANSPORTATION APPOINTMENTS.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Atlantic, Quebec and Western Ry.—The Earl of Ranfurly is reported to have been appointed President, vice Viscount Templetown, resigned.

Canadian Pacific Ry.—W. G. Annable, heretofore General Baggage Agent, has been appointed General Passenger Agent, Atlantic Steamship Service, vice G. McL. Brown, transferred. Office, Board of Trade Bldg., Montreal.

J. O. Apps, heretofore Assistant General Baggage Agent, has been appointed General Baggage Agent, vice W. G. Annable, transferred. Office, Montreal. We are advised that no appointment to the position of Assistant General Baggage Agent will be made for the present.

G. S. Cantlie, heretofore Superintendent Car Service, has been appointed General Superintendent Car Service. Office, Montreal.

John Leslie, heretofore Auditor of Disbursements, has been appointed Assistant Comptroller. Office, Montreal.

F. E. Shrimpton, heretofore chief clerk to Auditor of Disbursements, has been appointed Auditor of Disbursements, vice J. Leslie, promoted. Office, Montreal.

W. J. Moule, heretofore chief clerk statistical department, has been appointed Assistant Auditor of Disbursements. Office, Montreal.

E. N. Todd, heretofore Assistant Export and Import Freight Agent, Toronto, has been appointed Export Freight Agent, in charge of export traffic, via Atlantic seaboard, vice P. B. Earle, resigned to enter private business. Office, Board of Trade Bldg., Montreal.

B. Pendleton has been appointed District Master Mechanic, District 1, Eastern Division, vice J. H. Mills, assigned to other duties. Office, Farnham, Que.

A. W. Horsey has been appointed District Master Mechanic for District 2, and Chalk River section, District 4, Eastern Division, including Brockville and Prescott branches, vice G. T. Fulton. Office, Smith's Falls, Ont.

W. Coulter, heretofore Terminal Agent, Toronto, has been appointed Assistant Superintendent, Toronto Terminals and Hamilton joint section, which from Dec. 17, 1908, have been operated as District 4, Ontario Division. He will report direct to the General Superintendent. Office, Toronto. The position of Terminal Agent at Toronto has been abolished.

G. D. Robinson, heretofore chief clerk General Foreign Freight Agent's office, Montreal, has been appointed Assistant Export and Import Freight Agent in charge of export and import traffic, Ontario Division lines west of Smith's Falls, Ont., vice E. N. Todd, promoted. Office, Union Station, Toronto.

C. Rowe is reported to have been appointed as a special fruit agent, in charge of matters pertaining to that trade. Office, Toronto.

R. V. Nicholson, heretofore foreman carpenter, White River, Ont., has been appointed Bridge and Building Master, District 2, Lake Superior Division. Headquarters, White River, Ont.

A. West, heretofore Road Foreman Locomotives, District 2, Central Division, has been appointed District Master Mechanic, District 1, Central Division, vice A. H. Eager, transferred. Office, Kenora, Ont.

D. C. Coleman, heretofore Superintendent District 3, Pacific Division, Nelson, B.C., has been appointed Superintendent Car Service, Western Lines, Winnipeg, vice J. A. McGregor.

A. E. Trump, heretofore Chief Dispatcher District 3, Central Division, Brandon, Man., has been appointed Chief Dispatcher District 2, Central Division, vice W. J. Uren, promoted. Office, Brandon, Man.

W. J. Uren, heretofore Chief Train Dispatcher District 2, Central Division, Winnipeg, has been appointed Superintendent District 3, Central Division, vice T. R. Flett, transferred. Office, Brandon, Man.

J. K. Savage, heretofore Trainmaster District 3, Central Division, Brandon, Man., has been appointed Chief Train Dispatcher, same district, vice E. G. Trump, transferred. Office, Brandon, Man.

W. M. Ansley has been appointed Trainmaster District 3, Central Division, vice J. K. Savage, assigned to other duties. Office, Brandon, Man.

T. R. Flett, heretofore Superintendent District 3, Central Division, Brandon, Man., has been appointed Superintendent District 5, Central Division, vice C. S. Maharg, transferred. Office, Saskatoon, Sask.

C. S. Maharg, heretofore Superintendent District 5, Central Division, Saskatoon, Sask., has been appointed Superintendent District 2, Western Division, Medicine Hat, Alta., vice J. S. Lawrence. The official circular announced that Mr. Lawrence had been assigned to other duties. We have since been advised that he has been granted leave of absence.

F. L. Hay, heretofore acting Superintendent Sleeping and Dining Cars and News Service, District 5, Pacific Division, has been appointed Superintendent Sleeping and Dining Cars and News Service, District 5. Office, Vancouver, B.C.

Allan Cameron, heretofore General Traffic Agent, London, Eng., has been appointed General Traffic Agent, New York, vice E. V. Skinner, deceased, who had the title of Assistant Traffic Manager.

G. McL. Brown, heretofore General Passenger Agent, Atlantic Steamship Service, Montreal, has been appointed General Traffic Agent, Great Britain and Europe, vice Allan Cameron, transferred. Office, London, Eng.

Referring to the appointment of S. E. Cruse as the company's representative at Antwerp, Belgium, announced in our last issue, we are advised that his title is Agent.

H. T. Wilgress, heretofore chief clerk General Traffic Agent's office, Yokohama, Japan, has been appointed Agent, Trans-Pacific Steamship Line, there.

Grand Trunk Pacific Ry.—A. B. Smith, Manager Telegraph Department, has also been appointed Superintendent of Time Service and Watch Inspection. Office, Winnipeg.

J. W. Pringle has been appointed acting Locomotive Foreman, with charge of all matters pertaining to the Motive Power and Car Departments, vice O. C. Fraser, resigned. Office, Earl, Saskatoon, Sask.

Grand Trunk Ry.—The following Agents have been appointed: St. Michel, Que., J. A. Toupin; Jacques Cartier Jct., Que., W. J. Rowland; Powassan, Ont., J. J. Carey (Permanent); Thedford, Ont., G. S. Cline; Goderich, Ont., G. H. Lauder; Burgessville, Ont., H. G. Simmons; Allenford, Ont., J. E. Brent; Milverton, Ont., W. F. Burgman; Brussels, Ont., W. J. Kyle.

A press report that A. Grills, Roadmaster at Hamilton, Ont., had been appointed General Roadmaster of the joint southern division, which is operated jointly by the G.T.R. and Wabash Rd., had not been confirmed up to Dec. 29. S. A. Haynes, heretofore General Roadmaster of that division, with headquarters at St. Thomas, is reported to have resigned to go into farming in Missouri.

New York Central and Hudson River Rd.—W. H. Newman, President, has resigned, the resignation to take effect Feb. 1. It is said he will continue as a director.

Temiskaming and Northern Ontario Ry.—V. T. Bartram, Purchasing Agent, having resigned, the position has been abolished. All matters relating to the department are now in charge of W. W. Graham, storekeeper. Office, North Bay, Ont.

Corrections for the Erring.

"The first Canadian electric locomotive is now being built in the Canadian General Electric works, Peterboro. It has been built for use in a tunnel at Shawinigan Falls."—Canadian Machinery, Dec., 1908.

The locomotive referred to is not "the first Canadian electric locomotive." The first one built in Canada was completed in January, 1896, by the Canadian General Electric Co. for the Hull Electric Co. The one built recently is not "for use in a tunnel at Shawinigan Falls." It is for the Shawinigan Falls Terminal Ry. There is no tunnel on that company's line. The Shawinigan Co. had one electric locomotive before it placed the order for the one completed recently.

"George S. Cantilo, Superintendent of Car Service of the Canadian Pacific, has been appointed also General Superintendent of Car Service, with office at Montreal, Que."—Railroad Age Gazette, Dec. 4, 1908.

The official referred to does not trace his descent from sunny Italy, as might be inferred from our contemporary's spelling. He is of Scotch extraction, and his name is Cantlie. He has been appointed General Superintendent of Car Service, not "also" General Superintendent of Car Service, the title "General," etc., abolishing the previous title.

We quite appreciate the impossibility of securing absolute accuracy in all information published, and will be much obliged to any of our readers who will point out to us any mistakes which may occur in our reading matter. Our chief aim is accuracy, and our readers can materially assist us in securing the ideal we aim at.

Railway Subsidy Contracts.

The Department of Railways and Canals has entered into contracts, under the provisions of the act granting aid to certain railways, for the construction of the following lines:

ST. MAURICE VALLEY RY.—From Three Rivers to Grand Mere, Que., 28 miles. (Oct. 2, 1908.)

ST. MARY'S AND WESTERN ONTARIO RY.—From Woodstock to Exeter, Ont., 45 miles. (Oct. 3, and a supplemental agreement, Dec. 10.)

INTERNATIONAL RY. CO. OF NEW BRUNSWICK.—Varying the contract of Aug. 24, 1908, for a line from the western end of the 20 miles, as already constructed from Campbellton, to the St. John River between Grand Falls and Edmundston, N.B., so as to provide for the payment of the double subsidy. (Aug. 26, 1908.)

KETTLE RIVER VALLEY RY.—From Carmi to Penticton, B.C., 50 miles. (Oct. 19, 1908.)

GRAND TRUNK PACIFIC RY.—For a branch line from the National Transcontinental Ry. to Port Arthur and Fort William, Ont., 220 miles. (Oct. 19, 1908.)

CANADIAN NORTHERN QUEBEC RY.—From near Arundel to the united townships of Preston and Hartwell, 30 miles, and for a line connecting its Montford and Gatineau line with the main line at St. Jerome, Que., 15.2 miles. (Oct. 26, 1908.)

MARITIME COAL, RY. AND POWER CO.—From Joggins mine to the Bay of Fundy, N.S., one mile. (Dec. 2, 1908.)

VANCOUVER AND LULU ISLAND RY.—From Eburne to New Westminster, B.C., 9.65 miles.

At the sixth annual meeting of the Canadian Freight Association, Western Lines Freight Inspection Bureau, in Winnipeg, Dec. 15, W. C. Bowles, General Freight Agent C.P.R. Central and Western Divisions, was elected President. H. R. Partriarche was re-elected Secretary-Treasurer, and was also re-elected Manager of the Canadian Car Service Bureau, Western Lines.

WASHBURN STEEL COUPLERS

Freight, Passenger and Engine.

MANUFACTURED IN CANADA

Write us for Catalogue and Quotations.

TAYLOR & ARNOLD

180 ST. JAMES ST., MONTREAL

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING
232 ST. JAMES STREET, MONTREAL

DOMINION IRON AND STEEL CO.

LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1909. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICE AND WORKS: SYDNEY, CAPE BRETON, CANADA

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

PUBLICATION OFFICE,
157 Bay Street, Toronto, Canada.
Local and Long Distance Telephone, Main 3201

UNITED STATES REPRESENTATIVE
A. Fenton Walker
143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.
The Toronto Transportation Club.

SUBSCRIPTION PRICES, INCLUDING POSTAGE

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, JANUARY, 1909

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. J. H. McMaugh, Toronto, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, A. S. Hobson, Sherbrooke, Que.; MANAGER, J. E. Duval, 121 Board of Trade, Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E.J.Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. F. Chapman, Deseronto, Ont.; SEC.-TREAS., T. Marshall, Toronto.

OFFICIAL ORGAN.—THE RAILWAY & MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche. Office, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, L. R. Johnson, Montreal; SECRETARY, J. Powell, St. Lambert, Que.

MEETINGS at Windsor Hotel, Montreal, 1st Tuesday of each month, 8 p.m., except June, July and August

Canadian Street Railway Association.

PRESIDENT, J. E. Hutcheson, Ottawa; SEC.-TREAS., Acton Burrows, 157 Bay St., Toronto.

OFFICIAL ORGAN.—THE RAILWAY AND MARINE WORLD, Toronto.

Canadian Society of Civil Engineers.

PRESIDENT, J. Galbraith, Toronto; SECRETARY, C. H. McLeod, Montreal.

MEETINGS at 877 Dorchester St., Montreal, every alternate Thursday, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, R. J. Craig, Cobourg, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN.—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto.

MEETINGS at Rossin House, Toronto, 3rd Tuesday each month, except June, July and August.

Dominion Marine Association.

PRESIDENT, A. A. Wright, Toronto; SEC.-TREAS., F. King, Kingston, Ont.

Eastern Canadian Passenger Association.

CHAIRMAN, F. E. Barbour, Rutland, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto SECRETARY, R. B. Wolsey, C.E., Toronto. Rooms, 96 King St. West, Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, T. Henry, Montreal.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. A. Jackson, Montreal.
SECRETARY, M. K. Wilson, New York.

Niagara Frontier Summer Rate Committee.

CHAIRMAN, W. J. Lynch, Chicago, Ill.
SECRETARY, Jas. Morrison, Montreal.

Quebec Transportation Club.

PRESIDENT, E. A. Evans; SECRETARY, A. H. Davis, Box 324, Quebec.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

Alphabetical List of Advertisers.

	PAGE
Abbott, W.	60
Acme Railway Equipment Co.	18
Alexander Car Replacer Mfg. Co.	72
American Brake Shoe & Foundry Co.	32
American Car & Equipment Co.	74
American Hoist & Derrick Co.	20
American Specialty Co.	72
Babcock & Wilcox Ltd.	76
Beatty, M., & Sons, Ltd.	66
Belle City Malleable Iron Co.	70
Bowser, S. F., & Co., Limited.	36
Bradstreet Company	60
Brown Hoisting Machinery Co.	18
Burnham, Williams & Co.	48
Burrows,—Acton Burrows, Limited.	Cover 1
Butterfield & Co.	74
Canada Car Co., Ltd	16
Canada Foundry Co., Ltd.	30
Canadian Bridge Co., Ltd.	68
Canadian Bronze Co., Ltd.	74
Canadian Fairbanks Co., Ltd.	4
Canadian Gold Car Heating & Lighting Co., Ltd.,	40
Canadian Iron & Foundry Co., Ltd.	44
Canadian Locomotive Co., Ltd.	42
Canadian Northern Railway	56
Canadian Office & School Furniture Co., Ltd.	64
Canadian Pacific Railway Land Department.	60
Canadian Railway Accident Insurance Co.	Cover 1
Canadian Ramapo Iron Works, Ltd.	60
Canadian Rand Co., Ltd.	52
Canadian Westinghouse Co., Ltd.	Cover 2
Cardwell Mfg. Co	72
Chicago, Milwaukee & St. Paul Ry.	70
Chicago Ry. Equipment Co.	Cover 2
Cleveland City Forge & Iron Co.	62
Cleve-Mor Engineering & Construction Co.	Cover 2
Clifton Hotel, Niagara Falls, Ont.	68
Coddington, W H.	66
Coghlin, B. J., & Co	64
Continental Iron Works	32
Crossen Car Mfg. Co., of Cobourg, Ltd.	46
Date, John	60
Delaware and Hudson Co.	70
Dominion Bridge Co., Ltd.	62
Dominion Car & Foundry Co., Ltd.	Cover 4
Dominion Iron & Steel Co., Ltd.	38
Dominion Wire Rope Co., Ltd.	10
Doty Engine Works Co.	58
Drewry, E. L.	64
Drummond, McCall & Co.	34
Duner Co.	74
Edwards, O. M., Co.	30
Engineering News Book Dept.	50
Falls Hollow Staybolt Co.	66
Farlow Draft Gear Co.	52
Flannery Bolt Co.	32
Galena Signal Oil Co.	2
Galt Malleable Iron Co.	74
Gardner, J. T.	58
Gartshore, J J	62
Gartshore-Thomson Pipe & Foundry Co., Ltd.	60
Goldschmidt Thermit Co.	42
Grand Trunk Railway	46
Greening, The B., Wire Co., Ltd.	66
H and E Lifting Jack Co	40
Hamilton Pattern Works	74
Hamilton Steel & Iron Co., Ltd.	22
Harrison Dust Guard Co.	62
Hart-Otis Car Co., Ltd.	28
Hayes Track Appliance Co.	44
Holden, N. J., Co.	—
Hopkins, F. H., & Co.	10
Hotchkiss, Blue & Co.	71
Hotel Cadillac, Detroit, Mich.	Cover 1
Hudson's Bay Company	40
Hunt, Robert W., & Co	64
Hunter-Rose Co., Ltd.	74
Hutton, James, & Co.	70
Illinois Central Railroad	74
Imperial Bank of Canada	70
Intercolonial Railway	36
International Correspondence Schools	26
International Marine Signal Co.	58
International Mercantile Marine Co.	68
Jardine, A. B., & Co.	54
Jessop, Wm., & Sons, Ltd.	66
Kerr Engine Co., Ltd.	30
Knowlton, W. H.	74
Latrobe Steel & Coupler Co	62
Lewis, Rice, & Sons, Ltd.	34
Lima Locomotive & Machine Co.	68
Lufkin Rule Co.	Cover 1
Mail Job Printing Co., Ltd.	74
McCaskill, Dougall & Co.	Cover 1
McConway & Torley Co.	16
McCord & Co.	24
McDougall, John, Caledonian Iron W'ks Co., Ltd.	70
McGregor-Banwell Fence Co., Ltd.	48
Metcalf, John S., Co.	68
Modoc Soap Co.	74
Montreal Locomotive Works, Ltd.	6
Montreal Rolling Mills Co., Ltd.	56
Montreal Steel Works, Ltd.	14
Munn & Co.	58
Mussens Limited.	Cover 1 and 8
National Malleable Castings Co.	Cover 1
New Hotel Brevoort, Chicago, Ill.	36
Norton, A. O.	28
Ontario Wind Engine and Pump Co.	64
Orford Copper Co.	34
Ottawa Car Co. Ltd.	Cover 1
Owen Sound Wire Fence Co., Ltd.	62
Parry Sound Lumber Co., Ltd.	74
Phillips, Eugene F., Electrical Works, Ltd.	64
Piper, The Hiram L., Co., Ltd	74
Piper, N. L., Railway Supply Co., Ltd.	42
Polson Iron Works, Ltd.	22
Porter, H. K., Co.	14
Positive Lock Washer Co.	66
Preston Car & Coach Co., Ltd.	74
Pyke, J. W., & Co.	38
Pyle National Electric Headlight Co.	20
Rail Joint Co. of Canada, Ltd.	Cover 1 and 12
Rendle, A. Edgcumbe	Cover 1
Rhodes, Curry & Co., Ltd.	24
Robb Engineering Co., Ltd.	26
Robertson Machinery Co.	74
Safety Car Heating & Lighting Co.	12
Saxby and Farmer, Ltd.	Cover 1
Sheriffs Mfg. Co.	64
Simplex Railway Appliance Co., Ltd.	Cover 4
Smart, James, Mfg. Co., Ltd.	46
Standard Coupler Co.	48
Standard Explosives, Limited.	44
Standard Steel Works	48
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold	48
Thomas, J. Lewis	39
Toronto Bolt and Forging Co., Ltd.	50
Toronto Pressed Steel Co., Ltd.	52
Vulcan Iron Works	48
Wallace Supply Co.	64
Washburn Steel Castings & Coupler Co.	38
Waugh Draft Gear Co.	Cover 1
Wire & Cable Co.	Cover 1
Wolfe Brush Co.	70

J. LEWIS THOMAS
C.E., F.A.I.C.
CONSULTING ENGINEER
43 Bank of Toronto Chambers
LONDON, ONTARIO
Electric and Steam Railways
PROPOSITIONS INVESTIGATED AND REPORTED ON

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

CANADIAN GOLD CAR HEATING & LIGHTING CO. LIMITED

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished. Improved System of Acetylene Car Lighting.

Largest Manufacturers in the World of Car Heating Apparatus

H & E PATENT BALL-BEARING LIFTING JACKS

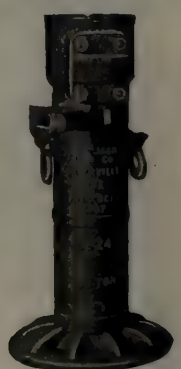
For Railway and Bridge Work, Contractors' and Builders' Use

Foot-Lift

For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed. Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

Square Base

Journal Jack



Plain

MANUFACTURED BY

H & E LIFTING JACK COMPANY, WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

MAINLY ABOUT PEOPLE.

Sir H. Montagu Allan has been re-elected President of the Montreal Jockey Club.

Sir Henry M. Pellatt returned to Toronto from London, Eng., Dec. 6.

W., Mrs. and the Misses Mackenzie arrived in Toronto Dec. 21, from Great Britain.

E. B. Osler, M.P., Director of the C.P.R., has been elected Hon. President Toronto Western Hospital.

Miss M. Calvin, daughter of H. Calvin, Kingston, Ont., was married to W. H. Boyd, Ottawa, recently.

W. D. Reid, President Reid Newfoundland Co., arrived in Montreal from St. John's, Nfld., early in December.

H. E. Carry, C.E., has been given charge of the laying out of the park, etc., at Shaughnessy Heights, Vancouver, B.C.

Chas. Mitchell, father of A. J. Mitchell, Comptroller Mackenzie, Mann & Co., Ltd., died in Toronto Dec. 26, aged 67.

C. M. Hays, Second Vice-President and General Manager G.T.R., arrived in Montreal, Dec. 21, from Great Britain.

H. Paton, President Shedden Forwarding Co., Montreal, has been elected a director of the Royal Bank of Canada.

F. W. Morse, Vice-President and General Manager, G.T. Pacific Ry., was a guest of the Governor-General, at Ottawa, Dec. 8.

E. A. Neil, Traffic Manager Buffalo and Susquehanna Ry., Danville, Pa., was married to Miss M. Post at Toronto recently.

D. B. Hanna, Third Vice-President Canadian Northern Ry., returned to Toronto, Dec. 21, 1908, after a short trip to Great Britain.

M. V. B. Stearns, who died suddenly at London, Ont., recently, aged 68, was for 20 years in the M.C.R. service at St. Thomas, Ont.

J. A. McHarg, for 25 years stationmaster G.T.R., London, Ont., died there Dec. 11, aged 68. He had been in G.T.R. service 47 years.

W. C. Bowles, General Freight Agent Central Division C.P.R., Winnipeg, left there Dec. 16, for a month's vacation in California.

R. R. Jamieson, ex-General Superintendent, Central Division, C.P.R., Winnipeg, has been elected mayor of Calgary, Alta., for the current year.

S. Bend, chief clerk, M.C. Rd., West Detroit, Mich., who died Dec. 8, aged 56, was in the service of the same company at Windsor, Ont., about 35 years ago.

The engagement of Miss N. J. H. Kerr, daughter of Senator Kerr, to E. F. Osler, son of E. B. Osler, M.P., Toronto, was announced recently.

The engagement is announced of Miss E. H. Messent, of London, Eng., to J. D. Wilson, Montreal, nephew of Sir C. Rivers Wilson, President G.T.R.

R. Kerr, Passenger Traffic Manager C.P.R., Montreal, was present at the recent meetings of the Transcontinental Passenger Association in Chicago, Ill.

T. Britt, General Fuel Agent, C.P.R., Montreal, was elected First Vice-President of the International Railway Fuel Association at its inaugural meeting at Chicago, Ill., recently.

F. Dane, one of the Temiskaming and Northern Ontario Ry. Commissioners, has declined to accept the office of President of the ward 4 Conservative Association, Toronto.

G. C. Wells, Assistant General Passenger Agent C.P.R. Eastern Lines, Montreal, was present at the recent meeting of the New England Passenger Agents' Association at Boston, Mass.

Mrs. Archer Baker, wife of the C.P.R. European Manager, London, Eng., was a guest at the Guildhall there, at the reception and luncheon in honor of the King and Queen of Sweden.

G. W. West, Superintendent of Motive Power, New York, Ontario and Western Ry., Middletown, N.Y., died there Dec. 24. He was a former President of the American Association of Master Mechanics.

C. B. Hibbard, who was until recently General Manager Quebec, Montreal and Southern Ry., and Napierville Jct. Ry., is reported to have been appointed Second Vice-President Quebec Eastern Ry.

H. R. Charlton, G.T.R. Advertising Agent, has been awarded a special gold medal as collaborator in connection with the G.T.R. pavilion at the Franco-British Exhibition, recently held in London, Eng.

G. Gibson, son of Hon. J. M. Gibson, Lieut.-Governor of Ontario, and ex-President Dominion Power and Transmission Co., Hamilton, Ont., died at Colorado Springs, Col., Dec. 15, aged 28.

The following are among the directors of the Bank of Montreal elected for the current year: Lord Strathcona, Sir Thos. G. Shaughnessy, R. B. Angus, C. R. Hosmer, Hon. Robt. Mackay, and Jas. Ross.

Hon. Walter Scott, Premier of Saskatchewan, has decided to take up the duties of the newly created portfolio of Railways and Telephones, and A. P. McNab has been appointed his successor as Minister of Public Works.

Wm. Easton, Civil Engineer and estate agent, Taunton, Somerset, Eng., who died at Clifton, Eng., Nov. 17, aged 86, was between 1845 and 1851 engaged in Canada on canal surveys for the British Government.

G. J. Bury, General Manager C.P.R. Western Lines; F. T. Griffin, C.P.R. Land Commissioner of Winnipeg, and A. C. Shaw, General Agent Passenger Department, Chicago, Ill., were in Montreal recently on a business trip.

R. G. Gray, ex-Roadmaster Toronto, Hamilton and Buffalo Ry., died at Hamilton, Ont., Dec. 6, aged 56. He was connected with the T.H. and B.R. since its construction, prior to which he was in the M.C. Rd. service.

R. Reford, of the R. W. Reford Co., Managers of the Donaldson, Thomson and other steamships, has given $50,000 in securities to McGill University, Montreal, the interest of which is to be devoted to increasing the professors' salaries.

A. F. Colwell, who resigned his position in the C.P.R. Freight Traffic Manager's office at Montreal recently, has entered the service of the Saskatoon Tent and Mattress Co. at Saskatoon, Sask., in which he is one of the principal stockholders.

Sir H. Montagu Allan is reported to have been offered the position of High Commissioner for Canada in London, Eng., in succession to Lord Strathcona, whose early retirement on the ground of increasing age is looked for.

H. R. Charlton, G.T.R. Advertising Agent, Montreal, was entertained at luncheon at Winnipeg, Dec. 7, by the Western Canada Press Association, in recognition of the kindness shown to members when on a trip through Eastern Canada some time ago.

Mrs. C. Doheny, who has been employed by the G.T.R. at its Bonaventure station, Montreal, for 17 years, is the first female pensioner of the recently organized fund. She is 72 years of age, and the amount to which she is entitled is $16.67 a month.

H. Armstrong, M.P.P., Portage la Prairie, who has been appointed Provincial Treasurer of Manitoba, in succession to the late Hon. J. H. Agnew, is actively engaged in fishery business on the Lake of the Woods and Lake Winnipeg, owning a number of tugs and other vessels.

H. P. Dwight, President G.N.W. Telegraph Co., and the grand old man of Canadian telegraphy, celebrated his 80th birthday Dec. 23, and in connection therewith, was presented with a gold scarf pin by I. McMichael, Vice-President and General Manager, on behalf of the Toronto staff.

Col. J. M. Gibson, Lieut.-Governor of Ontario, and formerly President of the Dominion Power and Transmission Co., was the principal guest at a dinner given in Hamilton, Ont., recently, on his removing from that city to take up his residence at Government House, Toronto.

D. B. Hanna, Third Vice-President Canadian Northern Ry., Toronto; W. I. Osborne, of Chicago, Ill., and G. J. Moore, of Detroit, Mich., have been reappointed receivers of the Chicago and Milwaukee Electric Ry. by Judge Grosscup, of Chicago, who has consolidated the foreclosure suits.

Mrs. M. Bennett, of Chicago, Ill., widow of J. O. Bennett, formerly in the railway mail service in Toronto, died Dec. 3, at the residence of one of her sons at Ottawa. The funeral took place at Toronto, Dec. 8, from the residence of another of her sons, B. H. Bennett, General Agent Chicago and North-Western Ry., Toronto.

W. Stitt, General Passenger Agent C.P.R., Montreal, recently received a beautifully engrossed letter from the Canadian Mining Institute, bearing the signatures of the leading mining men of Canada, Europe and the U.S., thanking him for the courtesy extended to them on their tour of the Canadian mining districts.

Wm. Whyte, Second Vice-President C.P.R., and Hugh Sutherland, Executive Agent Mackenzie, Mann and Co., Ltd., Winnipeg, have been elected directors of the Winnipeg Industrial Exhibition Association, which proposes to hold a world's fair there in 1912 to celebrate the centenary of the landing of Lord Selkirk's settlers.

R. M. Pratt, a well-known civil engineer, died at Winnipeg Dec. 12. He was at various times connected with the C.P.R. and C.N.R., having been engaged in the Crow's Nest Pass for the former company and since 1898 among other things in the construction of dock and coal handling plant for the latter at Port Arthur and Key Inlet, Ont.

Lt.-Col. H. S. Greenwood, who has been engaged in railway and general engineering work in South Africa for the Imperial Government, and who has recently returned to Canada, was, prior to going to South Africa, Assistant Superintending Engineer of the Trent Canal at Peterboro, Ont. He was previously engaged in engineering work on the Cornwall canal.

V. T. Bartram, who has resigned his position as Purchasing Agent of the Temiskaming and Northern Ontario Ry., is going into railway construction, dredging and mining. It may be mentioned that his name appeared in our Dec., 1908, issue as one of the provisional directors of the recently incorporated Cape Breton Dredging Co., Ltd., with office in Toronto.

C. P. Coleman, who has been appointed Travelling Freight Agent Atchison, Topeka and Santa Fe Ry., Buffalo, N.Y., was for some time prior to entering railway service engaged in business in Toronto. He has been with the A. T. and S.F. Ry. for 9 years, having occupied the positions of stenographer and rate clerk at New York, and chief clerk passenger and freight departments at Buffalo, N.Y.

J. L. Morrison, who died in Toronto Dec. 4, aged 74, was one of the first di-

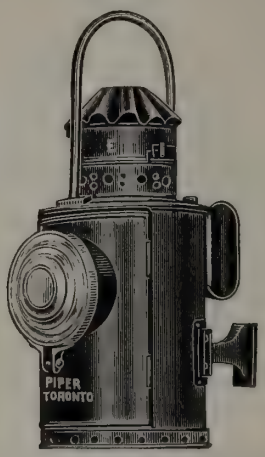
THE **N. L. PIPER RAILWAY SUPPLY CO.,** LIMITED

— TORONTO —

MANUFACTURERS OF

RAILWAY LAMPS ETC

(Registered 1902) **CLASSIFICATION LAMP**



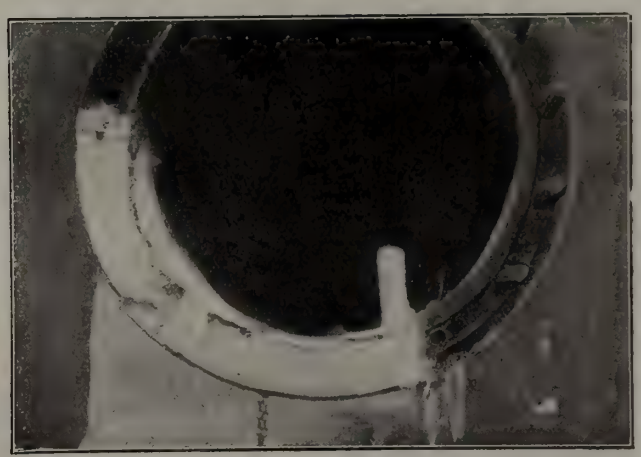
(Registered 1902) **ENGINE TRI-COLOR LAMP**

(Registered 1902) **MARKER LAMP**

CANADIAN LOCOMOTIVE Co. LTD.,

KINGSTON, ONT.,

Builders of Simple and Compound **LOCOMOTIVES** Adapted to every variety of service.



LOCOMOTIVE CYLINDER REPAIRED WITH THERMIT

WELDING

Locomotive Frames, Connecting Rods, Driving Wheel Spokes, and Mud Rings

By the THERMIT PROCESS, welds may be made to all kinds of steel sections without removing the broken part. Locomotive frames and mud rings may be welded without dismantling the engine. Stern-posts and rudder frames of steamships may be quickly repaired without removing them from the ship. Furthermore, all this may be accomplished in one or two days, depending on conditions.

Write for descriptive pamphlet No. 18-N and for "REACTIONS," the Thermit Quarterly.

Goldschmidt Thermit Co.

103 Richmond St. W., Toronto, Ont.

General Offices: 90 West St., New York.
Pacific Coast Branch: 432-6 Folsom St., San Francisco.

rectors of the Credit Valley Ry., being elected in 1873, and later he constructed the Kingston, Ont., St. Ry. In 1879 the Toronto Board of Trade entertained him at a banquet in recognition of his services in promoting the construction of railways, and in 1881 he was presented with a life pass over the Credit Valley Ry.

A number of C.P.R. steamship lines' officials were in Montreal recently to take leave of G. McL. Brown, on his leaving Canada to take the position of General Traffic Agent at London, Eng. Among them were: S. J. Sharp, Western Passenger Agent, Toronto; H. M. McCallum, General Agent, Winnipeg; C. E. Benjamin, General Agent, Chicago, Ill., and T. J. Burns, Northwestern Passenger Agent, Minneapolis, Minn.

J. A. Cuttle, Managing Director Montreal Transportation Co., died on a train near San Francisco, Cal., Dec. 20. As head of the Montreal Transportation Co., he was most active in the development of the Canadian inland water traffic. He was for many years an active member of the Montreal Corn Exchange and the Board of Trade. At the time of the sittings of the transportation commission, he was a very important witness regarding inland transportation.

J. F. Kane, whose appointment as Fuel Agent, C.P.R. Western Division, Calgary, Alta., was announced in our last issue, was born at Toronto, Sept. 8, 1884, and entered C.P.R. service in 1900, since when he has been, to April, 1901, office boy at Toronto; April, 1901, to June, 1902, stenographer, Master Mechanic's office, Winnipeg; June, 1902, to July, 1906, secretary to Second Vice-President, Winnipeg; July, 1906, to Nov., 1908, chief clerk Second Vice-President's office, Winnipeg.

J. W. Donald, formerly District Passenger Agent Chicago and Alton Rd., Detroit, Mich., died there recently. He had suffered from locomotor ataxia for several years. In Feb., 1908, he was compelled to resign his position with the Chicago and Alton Rd., and spent some time at Egypt, Mass., from which place he wrote, on Sept. 18 last, to the Managing Director of THE RAILWAY AND MARINE WORLD: "I am improving, eat and sleep well, and suffer little pain, but do not get so as to walk any distance. They say it's coming, and I may get round to see the boys once more."

John Leslie, who has been appointed Assistant Comptroller C.P.R., Montreal, was born at Toronto, and entered railway service with the Toronto, Grey and Bruce Ry. as assistant cashier, and was subsequently cashier, accountant and auditor in succession. On the absorption of the railway by the C.P.R. in 1893, he was placed in charge of the accounts of the Ontario lines at Toronto until Mar., 1895, and until 1897 at Montreal; 1897 to Oct. 2, 1899, chief clerk to Auditor; Oct. 2, 1899, to Dec. 1, 1908, Auditor of Disbursements, Montreal.

L. D. Chetham, city ticket agent C.P.R., Victoria, B.C., who has recently been also appointed District Passenger Agent Esquimalt and Nanaimo Ry., was born in Matlock, Derbyshire, Eng., Nov. 5, 1869, and entered C.P.R. service in Canada in 1888, since when he has been connected with the passenger department, with the exception of three years spent in Australia. He was from June, 1901, to Mar., 1908, chief clerk, passenger department, Victoria, when he was appointed city ticket agent at Victoria, and in Sept., 1908, was also appointed District Passenger Agent E. and N. Ry.

J. O. Apps, who has been appointed General Baggage Agent C.P.R., Montreal, was born at Tara, Ont., Nov. 9, 1877, and entered railway service in 1893, since when he has been to 1896 clerk, local freight agent's office, Illinois Central Rd., Chicago, Ill.; Nov., 1896, to Nov., 1897, in a railway supply office; Nov., 1897, to June, 1898, clerk; June, 1898, to 1901, secretary; and to Mar., 1903, assistant-chief clerk to General Superintendent C.P.R. Eastern Division, Montreal; Mar., 1903, to May 1, 1908, chief clerk to General Baggage Agent, C.P.R., Montreal; May 1 to Dec. 1, 1908, Assistant General Baggage Agent C.P.R., in charge of the lines east of Fort William, Ont.

G. McL. Brown, who has been appointed General Traffic Agent C.P.R., London, Eng., was born in Hamilton, Ont., Jan. 29, 1865, and entered railway service in 1882, since when he has been successively: 1882 to 1885, freight department Northern and Northwestern Ry.; 1885 to 1887, Superintendent's office and other departments G.T.R.; Sept., 1887, to 1902, C.P.R. service at Vancouver, acting successively as ticket agent, district passenger agent, and executive agent; July, 1902, to Nov., 1905, Superintendent Dining, Sleeping and Parlor Cars and News Service, Montreal; Nov., 1905, to Dec., 1908, General Passenger Agent C.P.R. Atlantic Steamship Lines, Montreal.

W. G. Annable, who has been appointed General Passenger Agent C.P.R. Atlantic Steamship Lines, Montreal, was born at Ottawa, Mar. 3, 1875, and entered railway service 1891, since when his record has been: 1891 to Jan., 1901, starting as junior clerk and rising to chief clerk, C.P.R. City Passenger office, Ottawa; Jan., 1901, to Nov., 1905, in General Passenger Department, Montreal, having charge of the steamship reservations on the Pacific for through passengers from Europe, as well as those on the continent; also on the Atlantic for through passengers from the Orient; also the Chinese business in detail for the company, the recording of such passengers through Canada in bond to other countries; Nov., 1905, to Dec., 1908, General Baggage Agent C.P.R., Montreal.

Lord Northcote, who recently completed his term as Governor-General of Australia, and who has been visiting friends in Canada on his homeward journey, was one of the original directors of the C.P.R., and though that connection has been severed, still maintains the utmost interest in the company. Lady Northcote is the adopted daughter of Lord Mount Stephen, a former President of the company. During their stay in Montreal Lord and Lady Northcote were the guests of R. and Mrs. Meighen, the latter being a sister of Lord Mount Stephen. They were also at various times entertained by the Governor-General and Lady Grey, Sir Thos. and Lady Shaughnessy, Sir Wm. and Lady Van Horne, Sir George and Lady Drummond, Sir Montagu and Lady Allan, and R. W. and Mrs. Reford.

H. J. Maguire, whose appointment as District Baggage Agent C.P.R., Pacific Division and B.C. and Pacific Coast Steamship Service, at Vancouver, B.C., was announced in our last issue, was born at Toronto June 16, 1881, and entered railway service July, 1896, since when he has been successively to Feb., 1904, office boy, clerk, and stenographer, General Baggage Agent's office G.T.R., Toronto; Mar. to July, 1904, Agent Canadian Transfer Co., Toronto; Aug. to Nov., 1904, chief clerk in Baggage Master's office, Toronto Union Station Association; Dec., 1904, to Apr., 1906, Baggage Master C.P.R. and G.N.R. jointly, Nelson, B.C.; Apr., 1906, to May, 1907, chief clerk to Assistant General Baggage Agent, C.P.R., Winnipeg; May, 1907, to Nov., 1908, Travelling Baggage Agent C.P.R. Western Lines, Winnipeg.

Allan Cameron, who has been appointed General Traffic Agent C.P.R., New York, was born March 14, 1864, and entered railway service in 1879, since when he has been consecutively to July 31, 1882, messenger and clerk Great Western Ry. of Canada, Toronto; Aug. 7, 1882, to May 1, 1883, baggage master Northern Ry. of Canada, Orillia, Ont.; June 1, 1883, to June 1, 1887, clerk local freight office, C.P.R., Vancouver, B.C.; June 1, 1887, to Feb., 1890, clerk General Freight and Passenger Department, C.P.R., Vancouver; Feb., 1890, to July 1, 1893, freight and passenger agent, C.P.R., Victoria, B.C.; July 1, 1893, to Sept. 30, 1896, freight and passenger agent, C.P.R., Portland, Ore.; Oct. 1, 1896, to July 1, 1899, District Freight Agent C.P.R.; July 1, 1899, to Dec., 1900, Assistant General Freight Agent, C.P.R., Vancouver; Jan., 1901, to Aug., 1905, in charge of Asiatic business Oregon Rd. and Navigation Co.'s steamers as General Agent at Hong Kong, China; Aug., 1905, to Dec., 1908, General Traffic Agent C.P.R., London, Eng.

S. E. Cruse, who has been appointed C.P.R. Agent at Antwerp, Belgium, was born at Liverpool, Eng., Oct. 10, 1864. He was educated at the Liverpool Institute, and after serving in various capacities in offices of Liverpool merchants, entered transportation service Jan. 1, 1888, since when he has been, to 1891, assistant bookkeeper; 1891 to 1892, Assistant Passenger Manager; 1892 to Oct., 1903, Passenger Manager, Dominion Line, Liverpool, Eng. In 1897, when the Dominion Line inaugurated its passenger service to Boston, Mass.; he was sent there to organize matters, and again visited Boston in 1901 in connection with the inauguration of a direct Mediterranean service. On the absorption of the Dominion Line into the International Mercantile Marine, he was from Oct., 1903, to Mar., 1904, Manager of the White Star Line Boston-Mediterranean service, and from Mar., 1904, to Sept., 1905, was Resident Manager, same service, Naples, Italy; and Sept., 1905, to Dec. 31, 1908, Agent White Star and Hamburg-Amerika Lines, Naples, Italy. He is a grandson of Capt. Robson Cruse, R.N., who was mortally wounded at Trafalgar under Nelson.

D. C. Coleman, whose appointment as Superintendent of Car Service C.P.R. Western Lines, Winnipeg, was announced in our last issue, was born at Carleton Place, July 9, 1879, and entered railway service 1899, since when he has been successively: Nov., 1899, to Jan., 1900, stenographer, Assistant Engineer's office, Fort William, Ont.; Jan., 1900, to July, 1900, Secretary to Superintendent at Fort William, Ont.; July, 1900, to Sept., 1900, Secretary to General Superintendent, Winnipeg; Sept., 1900, to Feb., 1901, Secretary to Superintendent, Fort William, Ont.; Feb., 1901, to Mar., 1901, Secretary to Superintendent, Cranbrook, B.C.; Mar., 1901, to May, 1902, chief clerk Superintendent's office, Cranbrook; June 1, 1902, to April, 1903, chief clerk General Superintendent's office, Lake Superior Division, North Bay, Ont.; April, 1903, to Feb., 1904, General Superintendent's accountant, Lake Superior Division, North Bay; Feb., 1904, to Mar., 1907, chief clerk General Superintendent's office, Central Division, Winnipeg; Mar., 1907, to June, 1907, chief clerk Assistant General Manager's office, Western Lines, Winnipeg; June, 1907, to Nov., 30, 1908, Superintendent, district 3, Pacific Division, Nelson, B.C. Entire service with C.P.R.

Among the subscribers to the Hammond Endowment Fund, inaugurated by H. C. Hammond, President Northern Navigation Co., in connection with the Toronto Free Hospital for Consumptives, are the following: E. B. Osler, M.P., director C.P.R., $5,000; C. Cockshutt, director Niagara Navigation Co.; J. A. McKee, President Western Steam-

CANADIAN IRON & FOUNDRY CO.

LIMITED.

MANUFACTURERS OF

Car Wheels, Cast Iron Water and Gas Pipe, Flanged Pipe and Specials. Castings of All Kinds

WORKS AT: HAMILTON, ONT.; ST. THOMAS, ONT.; FORT WILLIAM, ONT.; MONTREAL, P.Q.; THREE RIVERS, P.Q.; LONDONDERRY, N.S.

HEAD OFFICE:— IMPERIAL BANK BUILDING, MONTREAL

W. T. RODDEN, Managing Director J. F. JOHNSON, Secretary-Treasurer
GEO. C. TUNSTALL, Jr., Sales Manager

STANDARD EXPLOSIVES

LIMITED

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL

Works: L'ISLE PERROT, NEAR VAUDREUIL, P.Q.

The Pennsylvania Railroad System has an average of one Hayes Derail for every two and seven-tenths miles of road.

That's pretty fair evidence of merit; but there are other convincing reasons why you cannot do better than to install our derails:

We are derail specialists; we have done nothing but manufacture derails and attachments for five years.

Our derails have been tried out under every possible condition and have thoroughly proven their efficiency.

We make it our business to have you entirely satisfied with every piece of material we ship you. We want not only your first order but your continued future patronage.

Let us ship you a trial order from our works at Hamilton, Ontario.

Address: Hayes Track Appliance Co., Geneva, N.Y.

ship Co.; L. Solman, Managing Director Toronto Ferry Co.; A. M. Nanton, Managing Director Alberta Ry. and Irrigation Co.; each $1,000. Hon. J. S. Hendrie, director Northern Navigation Co.; W. J. Sheppard, Vice-President Northern Navigation Co.; R. B. Angus, director C.P.R.; Hon. L. J. Forget, director C.P.R.; C. R. Hosmer, director C.P.R.; Sir Thos. G. Shaughnessy, President C.P.R.; Elliott Galt, President Alberta Ry. and Irrigation Co.; each $500. Hon. G. A. Cox, director G.T. Pacific Ry.; J. Galt, director Alberta Ry. and Irrigation Co.; F. L. Wanklyn, Vice-President Dominion Coal Co. and Sydney and Louisburg Ry.; L. A. Hamilton, ex-Land Commissioner C.P.R.; each $100. Wm. Whyte, Second Vice-President C.P.R.; J. H. Munson, General Counsel, C.N.R. Western Lines; each $50. F. W. Peters, Assistant to Second Vice-President C.P.R., $25. W. B. Lanigan, Assistant Freight Traffic Manager, C.P.R. Western Lines; C. E. McPherson, General Passenger Agent, C.P.R. Western Lines; and Hugh Sutherland, Executive Agent, C.N.R., Winnipeg, each $10.

Board of Railway Commissioners.

The principal matter engaging the attention of the Board of Railway Commissioners during Dec., was the Toronto Viaduct question. Chief Commissioner Mabee, assistant Chief Commissioner Scott, Commissioner Mills, opened a sitting at Toronto Dec. 8, and after hearing some minor cases, began the viaduct case Dec. 9. From then until Dec. 19 the Board was occupied in hearing evidence from engineers, manufacturers, merchants and others, the Chief Commissioner allowing very great latitude in the giving of evidence. He intimated, Dec. 19, that the case could be considered closed. The arguments of the numerous counsel will be heard later.

It is the intention of the Chief Commissioner to take up, Jan. 5, the investigation into express tolls which had been opened by the late Chief Commissioner a year ago, and the Chief Commissioner announced recently that a visit would be made to the Pacific coast during the winter to take up a number of matters of importance waiting settlement there.

While the three Commissioners were sitting at Toronto, the remaining members of the Board were at Ottawa transacting routine business.

The Annual Financial Review appendix to Vol. 8 has been issued, containing information of railway, telegraph and other companies, which is compiled and classified in a handy way for reference. Official statements of the leading mining properties are also included. The price of the appendix to other than annual subscribers is $1. The publishers are Houston's Standard Publications, Toronto.

Rate Meetings.—The meetings of the Niagara Frontier Summer Rate Committee, and the Great Lakes and St. Lawrence River Rate Committee, will be held at the Clifton House, Niagara Falls, this year. The rate representatives of the different lines in the Niagara Frontier Summer Rate Committee will meet on Jan. 19 and 20 to arrange details for summer fares from Niagara Falls, Montreal, Quebec, Detroit, Port Huron, etc. The general meeting will open Jan. 21 at 10 a.m. The Great Lakes and St. Lawrence River Rate Committee will meet Jan. 21 at 2 p.m.

The Minister of Public Works for Quebec directed the Engineer of his department, Dec. 4, to investigate and report upon the freight rates charged on the Quebec and Lake St. John Ry., since it passed under the control of the Mackenzie and Mann interests.

Canadian Northern Ry. Earnings, etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-08, from July 1, 1908:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July..	$728,500	$ 525,600	$ 202,900	$159,000—
Aug..	747,400	561,300	186,100	30,400—
Sept..	901,700	650,600	251,100	42,000+
Oct...	1,172,700	752,600	420,100	110,200+
Nov..	1,156,900	744,300	412,600	144,300+
	$4,707,200	$3,234,400	$1,472,800	$107,100+
Inc....$	200,400	$ 93,300	$ 107,100	.....
Dec..	.....	.....	.....	.....

Approximate earnings for 3 weeks ended Dec. 21, $673,300, against $565,200 for same period 1907.

C.P.R. Earnings, Expenses, etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-8, from July 1, 1908:—

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
J'ly	$6,292,880.82	$4,018,307.57	$2,274,573.25	$232,279.41—
Aug. 6	385,956.69	3,807,057.98	2,578,898.71	8,623.56+
Sept.	6,391,672.48	4,277,064.71	2,114,607.77	36,745.58—
Oct..	7,381,970.41	4,726,703.70	2,655,266.71	25,050.93—
	$26,452,480.40	$16,829,133.96	$9,623,346.44	$285,452.36—
Inc..	.....	.....	.....	.....
Dec.	$1,060,471.73	$775,019.37	$285,452.36	.....

Approximate earnings for Nov., $7,156,000 and for 2 weeks ended Dec. 14, $3,071,000; against $6,811,000 and and $2,958,000 for same periods 1907.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross earnings for Oct., $257,439.40; working expenses, $175,941.76; net earnings, $81,497.64; against, $301,398.07 gross earnings; $245,394.49 working expenses; $56,503.58 net earnings for Oct., 1907. Aggregate gross earnings for 4 months ended Oct. 31, $965,558.35; working expenses, $683,480.62; net earnings, $282,077.73; against $1,290,050.90 gross earnings; $924,709.76 working expenses; $365,341.14 net earnings for same period 1907. Approximate earnings for Nov., $233,059; and for 2 weeks ended Dec. 14, $102,538, against $269,425 and $103,051 for same periods 1907.

MINERAL RANGE RD.—Gross earnings for Oct., $77,294.63; working expenses, $56,384.97; net earnings, $20,909.66; against, $73,864.43 gross earnings; $63,182.85 working expenses; $10,681.58 net earnings for Oct., 1907. Aggregate gross earnings for 4 months ended Oct. 31, $296,176.68; working expenses, $230,252.25; net earnings, $65,924.43; against, $290,367.45 gross earnings; $229,125.40 working expenses; $61,242.05 net earnings for same period 1907. Approximate earnings for Nov., $70,021; and for 2 weeks ended Dec. 14, $31,500; against $72,222 and $29,230 for same periods 1907.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for Oct., $1,518,210.31; working expenses, $675,005.01; net earnings, $843,205.30; against, $1,420,546.31 gross earnings; $708,111.56 working expenses; $712,434.75 net earnings for Oct., 1907. Aggregate gross earnings for 4 months ended Oct. 31, $4,928,144.43; working expenses, $2,495,809.36; net earnings, $2,432,335.07; against, $4,586,505.03 gross earnings; $2,698,734.76 working expenses; $1,887,770.27 net earnings for same period 1907. Approximate earnings for Nov., $1,142,593; and for 2 weeks ended Dec. 14, $442,953, against $1,104,517 and $458,741 for same periods 1907.

Grand Trunk Ry. Earnings, Expenses, etc.

The following figures give the earnings of the G.T.R., the C. A. R., the G. T. Western Ry., and the D. G. H. & M. Ry., separately, for Oct., as compared with Oct., 1907:

GRAND TRUNK RAILWAY.

	1908	1907
Earnings	$3,053,000	$3,177,300
Expenses	2,078,000	2,254,200
Net earnings	$ 975,000	$ 923,100

CANADA ATLANTIC RAILWAY.

Earnings	$ 150,000	$ 221,100
Expenses	163,000	206,000
Net earnings	$ 13,000—	$ 15,100

GRAND TRUNK WESTERN RAILWAY.

Earnings	$ 471,000	$ 614,100
Expenses	386,000	516,700
Net earnings	$ 85,000	$ 97,400

DETROIT, GRAND HAVEN & MILWAUKEE RY.

Earnings	$ 145,300	$ 155,900
Expenses	117,800	133,700
Net earnings	$ 27,500	$ 22,200

Approximate earnings for Nov., $3,555,674, and for 2 weeks ended Dec. 14, $1,426,374; against $5,332,940 and $1,649,883 for same periods 1907.

TRAFFIC RECEIPTS OF THE SYSTEM.

Aggregate from July 1 to Nov. 30:

	1908.	1907.	Increase.	Decrease.
Grand Trunk	£2,832,405	£3,198,833	....	£366,428
Canada Atlantic	172,874	213,492	...	40,618
G. T. Western	487,416	589,383	....	101,967
D.. G. H. & M.	150,625	168,864	....	18,239
Total.....	£3,643,320	£4,170,572		£527,252

TRADE AND SUPPLY NOTES.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

The Canadian Westinghouse Co. has issued circular 1157, The Westinghouse Type S. Distributing Transformers.

The Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio, has appointed W. C. Squire, 209 Western Union Bldg., Chicago, Ill., as its agent for railway trade in Chicago territory, and A. S. Mitchell, 45 Broadway, New York, as agent for railway and marine trade in New York territory.

The Hutchins Car Roofing Co., of Detroit, Mich., has established a plant at Blue Bonnets, near Montreal, for the manufacture of all kinds of car doors and metal and plastic roofs for railway cars. The plant is already working on contracts for metal roofs for Canadian railways. The works and office are under the management of F. H. Hopkins, of F. H. Hopkins & Co.

The Alexander Car Replacer Co., of Scranton, Pa., has issued a booklet: "What we do, how we do it," containing a series of illustrations showing the various stages in the manufacture of its replacers which are made both in Scranton and in Montreal, also replacers in position on track and in operation. The company has sold 63,000 pairs of replacers, including 4,000 to Canadian railways, and is represented in Canada by F. H. Hopkins & Co., and Mussens, Ltd.

The Canadian Westinghouse Co.'s pocket diary for 1909, the fifth year of publication, contains more information of interest to engineers and users of power apparatus than any of the former editions, to whom it will prove of great convenience for ready reference altogether apart from its useful features as an up-to-date diary, with maps, etc.

The Canadian Fairbanks Co., Ltd., exclusive selling agents for the Fairbanks-Morse Supplies, has within the past year extended its railway supply department so as to cover such articles in addition to railway supplies as are required by general contractors. This branch of the business is now known as the railway and contractors' department, and includes the following machinery and supplies: Steam shovels, light engines, steam, gasoline or motor-driven concrete mixers, and hoisting machinery, gasoline engines, combined engines and water pumps, combined engines and deep well pumping equipment, railway and contractors' pumps, duplex steam power or gasoline driven pumps, steam pumps, hand and power pumps, triplex power pumps, gasoline direct connected or belt driven air compressors, steam independent condensing apparatus and jet condensers, gasoline or electric turntable and drawbridge machinery, windmills and windmill pumping apparatus, railway water tanks, tank fixtures and all equipment, coaling stations, railway and contractors' supplies, track tools, car movers, barrows, trucks and tinware, stand pipes, motor cars, hand cars, push cars, velocipede cars, wrecking lights, acetylene lights, scrapers, plows, shovels, buckets and cars, bottom dumping buckets and cars, jacks, screw, locomotive and hydraulic jacks, cement testing apparatus, and block machines. In addition to the above list, the company handles all regular supplies required for construction work, and makes a special point of distributing its stock through-

CROSSEN CAR MFG. COMPANY
OF COBOURG, LIMITED

MODERN HIGH-CLASS

ROLLING STOCK

Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows
Car Castings, Forgings and Repair Parts

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON [via Boston & Maine R.R. and Cent. Vermont Ry.] MONTREAL, TORONTO and CHICAGO.
THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.
Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, General Passenger and Ticket Agent, MONTREAL, QUE.

THE ESTABLISHED 1854 INCORPORATED 1881

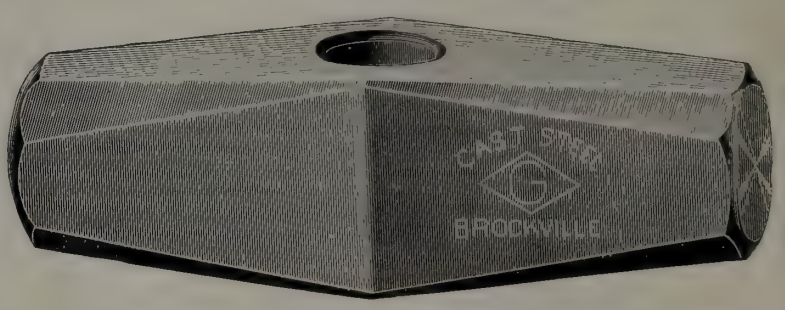
JAMES SMART MFG. COMPANY LIMITED

WORKS
BROCKVILLE, ONT.

WESTERN WAREHOUSE
131 Bannatyne Ave., WINNIPEG, MAN.

Makers of High Grade

Machinists' Hammers
Track Chisels
Nail Hammers
Jack Screws
Bench Axes



OUR TRADE MARK A GUARANTEE OF EXCELLENCE

Stoves, Spike Mauls, Drilling Sledges, Copying Presses
Traversing Jacks, Chopping Axes, Trucks, Pumps, Etc.

Purchasing Agents are invited to send for our Catalogues and Discount Sheets, which will be furnished promptly.

out its various branch houses which are situated in the principal Canadian cities, and from which a large staff of salesmen cover the entire territory from the Atlantic to the Pacific.

Applications to Board of Railway Commissioners.—The Secretary has issued the following circular: "It has been brought to the attention of the Board that railway companies subject to its jurisdiction have, in many instances, when filing applications with the Board, neglected or omitted to comply with the Board's rules of procedure in many respects, the most flagrant of which omissions have been in their neglect to complete their applications by filing the proper plans, proofs of service, consents of municipalities, and the like. I am, therefore, directed to inform your company that, after the receipt of this notice, no application will be received by the Secretary of the Board, unless proof of service on all interested parties so entitled to notice, consents, where the application is so based, and all necessary plans are furnished with such application. In the past, the work has been enormously increased by applicants neglecting these details."

Car Surpluses and Shortages.—The report of the committee on car efficiency of the American Railway Association for the period ended Nov. 27, 1908, shows a total of 132,829 idle available cars, an increase of 11,655 cars over the previous report, and an increase of 21,917 idle cars over the figures of Oct. 28. Taken in connection with the shop reports, which show a decrease of 10,119 in the number of bad order cars, this report seems to indicate that there is but little change in the car situation. There are some shortages reported, but with the exception of the Canadian lines the shortages are slight, and are generally filled from surplus stocks on the roads reporting them. The large shortage reported in the Canadian group is in the extreme western portion of the Dominion and is less an actual shortage than a temporary delay in providing equipment from districts where empties are more plentiful, the distance from the base of supply being an important factor in the situation. Four companies reported in the Canadian group, the surpluses being: 638 box cars, 820 flat cars, 78 coal, gondola and hopper cars, and 539 other kinds, making a total of 2,027 cars of all kinds, against 1,739 cars of all kinds on Nov. 11. The shortages were: 6,480 box cars, and 800 coal, gondola and hopper cars, a total of 7,280 cars, against 8,124 cars on Nov. 11.

The grand jury at Guelph, recently, brought in an indictment against the G.T.R. for maintaining a nuisance in that city, by not having a passenger station with the necessary accommodation for traffic, and for not properly safeguarding the level crossings near the station. The company has been given until the next assizes to make improvements.

In a case in which a Georgetown, Ont., hotelkeeper was charged with supplying intoxicating liquor to a G.T.R. conductor while on duty, Justice Latchford quashed the conviction, Dec. 4, on the ground that as the G.T.R. is under the jurisdiction of the Dominion Railway Act, the Ontario Act, under which the proceedings were taken, cannot be made to apply.

The award of the arbitrators recently made in the matters in dispute between the locomotive engineers of the Canadian Northern Ry. and the company sets forth a stipulation that a railway company must provide adequate stopping places for train crews along its railway when they are forced to remain over night from their homes, and sometime after a long trip in inclement weather.

Railway Rolling Stock Notes.

The Montreal Locomotive Works recently shipped 7 consolidation locomotives to the C.P.R.

The Crossen Car Mfg. Co., Cobourg, Ont., has shipped 2 snowploughs to the Canadian Northern Ry.

The Intercolonial Ry. has ordered one 60-ft. baggage car from the Preston Car and Coach Co., Preston, Ont.

The Eastern British Columbia Ry. has received 2 consolidation locomotives from the Montreal Locomotive Works.

The G.T. Pacific Ry., between Nov. 18 and Dec. 19, added to its rolling stock 500 box cars, nos. 307,425 to 307,924.

The Canada Foundry Co., Toronto, between Nov. 23 and Dec. 22, shipped one consolidation locomotive to the Canadian Northern Ry., and 2 eight-wheeled passenger locomotives to the G.T. Pacific Ry.

The Hamilton Steel and Iron Co., Hamilton, Ont., has ordered one saddle tank locomotive, of 108,000 lbs., from the Canadian Locomotive Co., Kingston, Ont.

Among the U.S. patents granted recently was one for superheater for steam boilers, to H. H. Vaughan, Assistant to the Vice-President C.P.R., and A. W. Horsey, Mechanical Engineer C.P.R.

The Canadian Northern Ry., between Nov. 15 and Dec. 15, received 4 consolidation locomotives from the Canadian Locomotive Co., Kingston, Ont., and one consolidation locomotive from the Canada Foundry Co., Toronto.

The C.P.R., between Nov. 18 and Dec. 22, placed the following orders for rolling stock at its Angus, Montreal, shops: 84 box cars, 3 stock cars, one steel coal car, 1 refrigerator car, 1 box baggage car, 1 mail and express car, 5 Hart ballast cars, 3 vans and 1 Pacific type locomotive.

The C.P.R., between Nov. 18 and Dec. 22, received the following additions to rolling stock: One tourist car, 408 box cars, 1 pile driver, 4 snowploughs, one refrigerator car, and 2 Pacific type locomotives, from its Angus, Montreal, shops; and 16 vans from its Farnham, Que., shops.

The Canadian Northern Ry., between Nov. 15 and Dec. 22, in addition to the orders mentioned in our last issue, ordered the following rolling stock: 6 first-class coaches from Rhodes, Curry & Co., Amherst, N.S.; 200 box cars and 100 stock cars from the Crossen Car Mfg. Co., Cobourg, Ont.

Following are particulars of the 1,000 box cars being built for the Canadian Northern Ry. by Rhodes, Curry & Co., Amherst, N.S., as mentioned in our last issue:

Dimensions	M.C.B.
Capacity	60,000 lbs.
Trunk and body bolsters	Simplex
Brake beams	Simplex
Air brakes	Westinghouse

Following are chief dimensions, etc., of the 500 box cars which are being built for the G.T. Pacific Ry. by Rhodes, Curry & Co., Amherst, N.S., as mentioned in our last issue:

Length, over end sills	36′ 9¾″
Width over side	9′ 0¾″
Height, top of sill to underside of plate	7′ 10¾″
Length, inside	36′ 0″
Width, "	8′ 6″
Height, "	8′ 0″
" from rail to top of running board	13′ 4″
Wheel base of truck	5′ 2″
Bolsters and brake beams	Simplex
Air brakes	Westinghouse

The Montreal Locomotive Works has received an order from Pagano and Cavecci, contractors, Plaster Rock, N.B., for two 4-wheel locomotives, of which the following are chief particulars:

Cylinders	10″ by 16″
Driving wheels, diam	30″
Boiler, type	straight top.
" pressure	150 lbs.
Firebox	42″ by 24″
Tubes, no. and diam	98—1¾″
" length	8′ 2″
Engine, wheel base	5′ 0″
Total weight	36,000 lbs.
Tank, capacity	600 U.S. gals.

Following are additional particulars of the 500 steel frame box cars being built for the C.P.R., as mentioned in our last issue. The steel frames are being built by the Dominion Car and Foundry Co., and the cars are being finished at the C.P.R. Angus, Montreal, shops:

Capacity	40 tons
Body and underframe, steel sheathed with yellow pine	
Length, inside couplers	39′ 10¼″
Width, overframe	9′ 3½″
Axles	5″ by 9″ M.C.B
Brake shoes, Am. Brake Shoe and Foundry Co.'s steel back.	
End doors, iron, 2′ wide by 14″ high, for loading lumber and small iron end door for loading rails.	

Following are chief dimensions of the 1,000 steel, hopper bottom, gondola cars, being constructed in the U.S. for the G.T.R.:

Capacity	50 tons
Weight	38,500 lbs.
Length, inside	30′ 0¾″
Width "	9′ 6″
Length, over all	31′ 6″
Width, "	10′ 1½″
Height, "	10′ 0″
Axles	open hearth steel
Bolsters, body	plate and angle
" truck	pressed steel
Brake beams	pressed steel
Side bearings	steel
Wheels	chilled cast iron
" diam	33″

The Montreal Locomotive Works has received an order from J. D. McArthur Co., Winnipeg, for 6 mogul locomotives, of which the following are chief particulars:

Cylinders	19″ by 26″
Driving wheels, diam	50″
Boiler	extended wagon top
" pressure	180 lbs.
Firebox	95″ by 42½″
Tubes, no. and diam	240—2″
" length	10′ 5¼″
Driving wheel base	12′ 6″
Engine wheel base	20′ 6½″
" and tender	49′ 0½″
Weight on drivers	117,000 lbs.
" total	135,000 lbs.
Tank capacity	5,000 Imp. gals.

Following are chief particulars of the 10 consolidation locomotives which the C.P.R. is building at its Angus, Montreal, shops, as mentioned in our last issue:

Weight on drivers	168,150 lbs.
Total weight	192,350 lbs.
Cylinders, diam	22½ ins.
Pistons, stroke	28 ins.
Drivers, diam	58 ins.
Boiler	wagon top
Steam pressure	180 lbs.
Heating surface, total	2,797 sq. ft.
Tubes, diam	240—2″ and 24—5″
" length	14′ 1⅜″
Firebox	8′ 0⅜″ by 5′ 5¼″
Grate area	43 sq. ft.
Capacity, water	5,000 Imp. gals.
" coal	10 tons
Brake beams	Simplex
" shoes	C.P.R. standard
Couplers	Tower
Headlights	C.P.R. electric
Journal bearings	C.P.R. standard
Superheater	Vaughan-Horsey

On page 37 it is stated that A. E. Trump has been appointed Chief Train Dispatcher District 2, Central Division, C.P.R., with office at Brandon, Man. It should read E. G. Trump and office at Winnipeg.

W. Basdon, section foreman Burketon station, was committed for trial at Bowmanville, Ont., Dec. 7, in connection with a train wreck on the C.P.R. at Sandbank, when three persons were killed. It is alleged that the switch lights were not burning at the time the accident occurred.

The Commissioners and officers of the Victorian Railways, Melbourne, Australia, of which Thos. Tait, formerly of the C.P.R., is Chairman, have sent out a very interesting greeting card for Christmas and the New Year, containing half tone illustrations of the Sydney express train, the general railway offices, Richmond station with its high platforms following English practice, and a train crossing the Yarra River at Hawthorn.

Baldwin Locomotive Works

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND

LOCOMOTIVES

Mine, Furnace and Industrial Locomotives
Electric Locomotives with
Westinghouse Motors and Electric Trucks

BURNHAM, WILLIAMS & COMPANY
PHILADELPHIA, PA., U.S.A.
Cable Address:—"Baldwin," Philadelphia

Standard Steel Works Co.

HARRISON BLDG., PHILA., PA., U.S.A.

THE BRYDGES ENGINEERING & SUPPLY CO. Limited
WINNIPEG, MAN. REPRESENTATIVES

Wheels mounted on axles fitted with motor gear ready for application to equipment

Standard

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

FARNLEY STAYBOLT IRON

HIGHEST GRADE OF IRON FOR STAY-BOLTS, RIVETS AND MINING PURPOSES

All sizes carried in stock in Montreal and Winnipeg

Write us for prices, samples and tests.

TAYLOR & ARNOLD

c/o W. E. SKINNER, LIMITED
SOMERSET BLOCK, WINNIPEG, MAN. 180 St. James St., MONTREAL

Now is the time to place your order for Contractors' Locomotives. Why not buy the best?

VULCAN IRON WORKS

WILKES-BARRE, PA., U.S.A.

Canadian Representatives, MUSSENS LIMITED, MONTREAL

Sessions-Standard Friction Draft Gear
Simplest and Best

Both Made by Standard Coupler Co.
2 RECTOR STREET NEW YORK

Standard Steel Platforms
Used by all Canadian Railways

Central Railway and Engineering Club of Canada.—At the annual meeting of the Club in Toronto, Dec. 22, A. M. Wickens read a paper on the electrification of steam railways. The Secretary-Treasurer's report showed a satisfactory balance in hand. Officers were elected as follows: President, C. A. Jefferis, Master Mechanic Consumers Gas Co.; 1st Vice-President, J. C. Gorden, general foreman G.T.R.; 2nd Vice-President, H. G. Fletcher, manufacturers' agent; Executive Committee: G. Black, road foreman locomotives, G.T.R.; G. Baldwin, yardmaster Canada Foundry Co.; J. Bannan, chief mechanical engineer, City Hall; H. Ellis, machinist, Consumers Gas Co.; W. R. McRae, Master Mechanic, Toronto Ry.; J. Markey, Master Mechanic, G.T.R.; R. Paterson, Master Mechanic, G.T.R. All of the officers are residents of Toronto except Messrs. Patterson and Black, of Stratford, Ont.

A London cablegram says W. Beckett Hill, Manager of the Allan Steamship Line, died at Liverpool Dec. 26.

The G.T.R. has reserved a space of 6,000 ft. at the Alaska-Yukon-Pacific Exposition, to be held at Seattle, Wash., in May.

A through daily train service between Winnipeg and Duluth, Minn., via the Canadian Northern Ry., was inaugurated Dec. 7.

The second annual dinner of the C.P.R. London, Eng., staff was held there Dec. 4, under the presidency of Archer Baker, European Manager.

The C.P.R. is establishing an industrial department for the territory tributary to its western lines, under the direction of F. W. Peters, assistant to the Second Vice-President.

The Montreal Polytechnique School directors are discussing the inauguration of a course in railway transportation, and the help of the Dominion and Provincial Governments, and of the C.P.R. and G.T.R., will be sought to carry out the scheme.

J. L. Doupe, Assistant Land Commissioner C.P.R., Winnipeg, while in Montreal and Toronto recently, said that while the company's land sales during the season were not so great as the previous year, really more land was sold to actual settlers than in the time of boom.

The Winnipeg Union Stock Yards Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $1,000,000, and office at Winnipeg, to acquire and operate stockyards, and carry on the general business of stockyardsmen, etc., throughout the Dominion and elsewhere. The provisional directors are: A. M. Nanton, Managing Director Alberta Ry. and Irrigation Co.; J. H. Munson, General Western Counsel Canadian Northern Ry.; J. A. M. Aikins, Local Solicitor C.P.R.; W. Harvey, Winnipeg; and D'Arcy Tate, Assistant Solicitor G.T. Pacific Ry., Montreal.

Press reports stated recently that an agreement had been arrived at by various railways operating in the U.S., providing for the pooling of the commission in connection with the eastbound traffic for the Atlantic steamship service; and that in the division of business the G T.R., among others, would receive one-sixth. We are officially advised that the report is not correct. The steamship companies naturally ticket the trans-Atlantic business, and have been buying railway tickets in connection with ocean tickets for a great many years, and will continue to do so, giving passengers the choice of routes. It is anticipated that with a better understanding between the railway and steamship companies, a fairer portion of the business will be ticketed over each railway, and without the disturbances which have previously resulted from lack of proper understanding.

ELECTRIC RAILWAYS.

A Toronto Railway Judgment.

The Ontario Railway and Municipal Board gave the following important judgment, Dec. 10:

This is an application made by the Toronto Railway Company to have their rights declared under an agreement, dated Sept. 1, 1891, made between the respondent and G. W. Kiely and others, which agreement was validated by a statute of the Parliament of Ontario, 55 Vic., chap. 99, by virtue of which it is alleged that the company have the right to construct and operate tracks for the purposes of their railway upon any and all streets in the City of Toronto. The company also ask that the respondents, the city, their servants and agents, be restrained and enjoined by the Board from interfering with the construction of the company's railway upon Adelaide St., from Jarvis St. to Bathurst St.; upon Bay St., from Front to Queen St.; upon University Ave., from Queen to College St.; upon Richmond, from Victoria to Church St., and upon Wellington St., from Church St. to York St., all in the City of Toronto, in accordance with plans submitted by the company to the city's engineer, and for an order that the city engineer may be required to state whether he has any reasonable or valid objections to said plans; and if no such objection can be made, that the same should be ordered to be taken as approved.

The following is a short history of the transaction out of which the agreement arose: In 1891, the City of Toronto became the owners of the street railway and the real and personal property of the former street railway company. The old company operated the railway with horses as the motive power. After the city acquired the system, they advertised the railway and appurtenances, together with a franchise for 20 years, to be extended to 30 years if legislative authority could be obtained, for sale by tender under conditions which were adopted by the council. The tender of G. W. Kiely and his associates, called the purchasers, was accepted by a by-law of the city, subject to the execution of an agreement to be approved as therein mentioned. In pursuance of the by-law, the agreement of Sept. 1, 1891, mentioned in the application, was executed. On April 14, 1892, an act of the Parliament of Ontario was obtained, 55 Vic., chap. 99, incorporating Mr. Kiely and his associates as the Toronto Railway Co., and confirming and validating the agreement, and the condition, and tenders within referred to and incorporated therewith, which are described in the act as schedule A. The company paid for the railway and its appurtenances, and the franchise, $1,453,788, and in pursuance of sec. 24 of the conditions of sale, changed the system from a horse to an electric railway, and as such have operated it ever since. It is a matter of common knowledge that the installation of the steam and electric plant, and the relaying of the track necessary to operate the system as an electric street railway, and new cars, cost the company several millions of dollars.

The crucial question to be decided by the Board on this application is, who has the right to pick, choose or select the streets upon which the new lines are to be built? This question would be concluded by the judgment of Judicial Committee of the Privy Council in the consolidated appeals of the Corporation of the City of Toronto v. the Toronto Railway Co. from the Supreme Court of Canada, and of the Toronto Railway Co. v. the Corporation of the City of Toronto from the Court of Appeal of Ontario, delivered April 26, 1907, had not the Parliament of Ontario, on April 14, 1908, by an act, 8 Edward VII, chap. 112, enacted that "notwithstanding any judicial decision interpreting the effect of the said act and the said agreement, it is hereby declared that it is and always has been the true intent and meaning of the said act that the rights retained by and secured to the City of Toronto by the said agreement as to the control and management of the streets of the said city, and as to establishing and laying down new lines of railway, and as to extending the street car service upon the streets of the said city, as may be from time to time recommended by the City Engineer, and approved by the city council, have not been and are not affected by the said act, but said rights remain and are as set out in the said agreement scheduled to the said act."

To give effect to this act, 8 Edward VII, the Board, in determining the case, will treat 55 Vic., chap. 99, as a mere incorporating and validating act, which does not add to, extend or enlarge the rights, powers or privileges of the company. We propose to try the rights of the parties to this application as they exist under the application alone, unaffected, except as to validation, by the act 55 Vic. In arriving at a conclusion as to the construction of the agreement between the parties the Board will keep in view the surrounding circumstances, what the parties were bargaining for, and the objects they had in view as we can gather them from the writings, so that the Board may place themselves in the position of the parties when the bargain was made. The intention of the parties must be gathered from the language of the several documents which make up the contract itself.

What the city was selling, and the company were buying, in addition to the then existing horse railway and the property appurtenant thereto, was the exclusive right to operate surface street railways in the City of Toronto, except on the Island and on a portion of Yonge and Queen Sts., for 20 years, with a right of renewal for a further period of 10 years in the event of legislation being obtained to enable this to be done. This is abundantly clear from sections 5 and 11 of the agreement of Sept. 1, 1891, from sec. 1 of the conditions of sale, and from the recital in by-law 2,929, passed April 27, 1891. The operation of the railway is a business enterprise. It is operated on joint account. The company furnished all the capital necessary for the acquisition, changing, extension, maintenance and operation of the system. The city are paid a percentage of the earnings of the road, payable out of the gross receipts. The city are not required to provide any capital for the enterprise. They furnish the right-of-way along their streets subject to a joint use by the pedestrian and the vehicle. The city have not a dollar in jeopardy. The company took all the financial risk involved in the business of operating the system. It is quite clear that extensions of the lines were contemplated by the parties. The parties did not expect that the then existing lines would suffice or would be sufficient during the whole period of the franchise, to provide adequate and sufficient rapid transit for the people. Neither was it intended that tracks should be laid by the company upon all the streets of the city. The right purchased by the company and granted by the city was the exclusive right, upon certain conditions, to operate surface street railways. The right to operate includes the working of the railway as a system, and carries with it the right to include or exclude particular streets in or from the system. A company advancing all the capital, making themselves responsible for the success of the enterprise, taking all the risk of failure and loss, would require to have the right to select the streets where men most do congregate, where passengers could most readily and easily present themselves for carriage, and where the traffic would be most remunerative. The denial of this right to the company to thus manage their business would require to be stated in very clear and decisive language.

The city depends upon clause 14 of the con-

BOOKS
for
Railroad Men

PUBLISHED BY

The Engineering News
Book Department
220 Broadway NEW YORK

Economics of Railway Operation

By M. L. BYERS

C.E., Ch. Eng. M. of W., Miss. Pac. Ry.

Buckram, 6 x 9 ins.; 672 pages, many figures, diagrams and forms illustrating the best modern practice - $5.00 net

The only publication explaining in detail the operative systems of American railways. Sir William Van Horne says of it: "I regard it as a most useful and valuable book."

Track and Track Work

(Third Edition, Revised and Enlarged)

By E. E. R. TRATMAN

Assoc. M. Am. Soc. C.E.

Cloth, 6 x 9 ins., 520 pages, 232 illustrations, 44 tables and an appendix of statistics of standard track construction on American railways - - $3.50 net

The standard treatise on this subject.

Design of Typical Steel Railway Bridges

By W. CHASE THOMSON

M. Can. Soc. C.E. Assist. Eng. Dominion Bridge Co.

Cloth, 6 x 9 ins., 178 pages, 21 figures, 5 folding plates - - - - $2.00 net

This book has been developed from lectures given by the author, and treats of the commonest types of railway bridges, which were chosen because they seemed best suited to illustrate the problems which occur most frequently to the bridge designer. These include a 60-ft deck plate girder, a 100-ft. deck Warren girder, a 150-ft. through Pratt truss, a 200-ft. through Pratt truss with curved top chord, a 170-ft. swing bridge and a railway viaduct.

Any of these books will be sent, postpaid, on receipt of price, or further details with full list of contents will be given if desired. We can supply promptly, and at lowest price, any book published

KEEP YOURSELF POSTED ON THE LITERATURE OF YOUR SPECIALTY

For the guidance of technical men we issue, at intervals, notices of **new** and **recommended** books on various subjects, by all publishers. This service is **absolutely free** to all and involves no obligation of any kind whatever.

Mark on the attached coupon the special subjects on which **you** wish to be kept informed regarding **new** publications, adding any subjects not mentioned thereon in which you are interested. Send us this coupon **at once** and we will send you these notices as issued.

Engineering News Book Dept. R.M.W. 19
220 Broadway, New York

Send me notices of new books on

Engineering:		
..Civil	..Mining	..Commercial Technology
..Electrical	..Municipal	..Contracting
..Marine	..Railroad	..General Science
..Mechanical	..Architecture	..Metallurgy
	..Automobiles	
	..Chemistry	

Name.....

Address.....

.....

TORONTO BOLT AND FORGING CO.
LIMITED

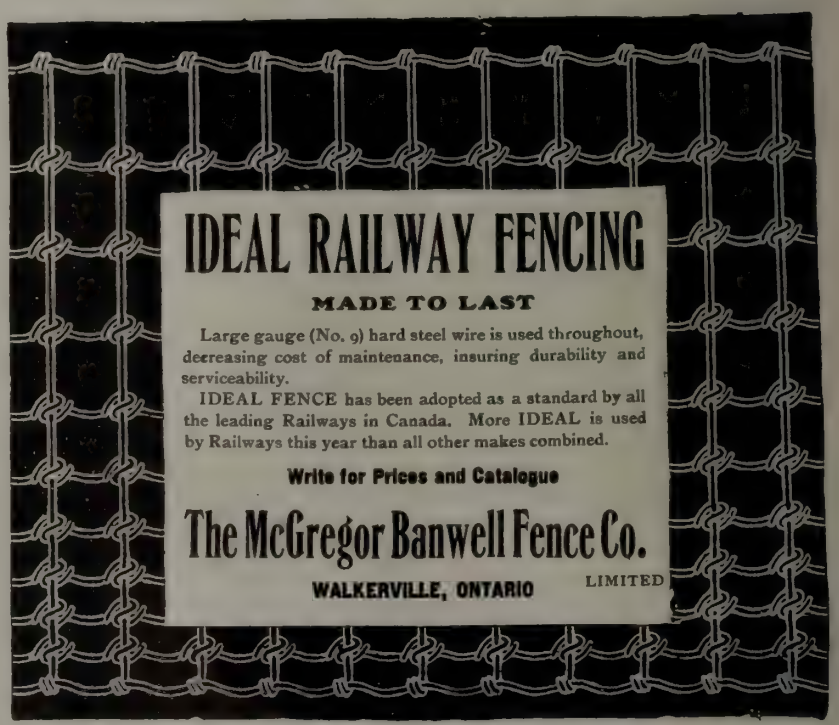
Manufacturers of

BOLTS AND NUTS

OF ALL KINDS, INCLUDING

Track Bolts
Track Spikes
Lag Screws
Boiler and Bridge Rivets

TORONTO — CANADA



IDEAL RAILWAY FENCING

MADE TO LAST

Large gauge (No. 9) hard steel wire is used throughout, decreasing cost of maintenance, insuring durability and serviceability.

IDEAL FENCE has been adopted as a standard by all the leading Railways in Canada. More IDEAL is used by Railways this year than all other makes combined.

Write for Prices and Catalogue

The McGregor Banwell Fence Co.

WALKERVILLE, ONTARIO LIMITED

tract to give them the right to select the streets upon which extensions would require to be built from time to time and to prevent the company from making the choice. This clause would appear at first sight to cut down the exclusive right acquired by the company to operate surface street railways, by making such right depend on the approval of the City Engineer and city council. This clause must, however, be read in connection with clause 17 of the contract. The effect of these two clauses is that while the city may requisition the company to extend its tracks on such streets as may be from time to time recommended by the City Engineer and approved of by the city council, yet the company cannot be compelled to build such extensions. They may refuse to build and abandon the privilege of laying down such new lines or extensions, and the city may grant the right to some other person or company, and in that case the company can have no claim against the city for compensation. To force the company to abandon and to grant the right to build on the abandoned streets to some other person or company, is the only remedy which the city has. This, however, does not prevent the company from picking and choosing the streets that they consider will fit in with the rest of their system, and where the most people require to be accommodated with rapid transit cars and the best financial results obtained. The company have selected the streets mentioned in the application, and the amendments thereto upon which to build extensions. On May 17, 1907, in an application by the city against the company, commonly called the overcrowding case, the record of which has been admitted as evidence in this case, in order to mitigate the congested traffic conditions in the city, this Board ordered the company with all reasonable despatch to construct between 10 and 15 additional miles of single track, and to build 100 new cars to be finished in time to be distributed and put in operation on the system as soon as sufficient new lines were built. Shortly after judgment was delivered by the Board in that case, the Manager of the company endeavored to get the city to agree with him upon the streets upon which the new lines should be built. He says that he has considered the lines that would relieve the congestion, and for that purpose he wants the streets above mentioned, and that he is prepared to improve the service regardless of expense. It appears from the evidence that the streets that have been selected by the company for the new lines have been at one time or another approved by Mr. Rust, the City Engineer. B. J. Arnold, an engineer and traffic expert from Chicago, of international repute, was called into consultation with Mr. Rust by the city. Mr. Arnold, generally speaking, agreed with Mr. Rust as to the necessity for new lines and the streets upon which they should be built. The city council, however, have not approved of the recommendations of these engineers. The city takes the position that the company have no right to build on streets, even when recommended by the City Engineer, unless also approved by the city council.

They also now allege that the construction of railway tracks and the operation of a service of cars upon the streets referred to in the company's application is not necessary, but by a re-arrangement of the routes any congestion that exists can be relieved by the existing tracks.

We determine again, as we determined before in the overcrowding case, after hearing a great deal of expert evidence, and after a careful consideration of the traffic conditions of this city, that new lines and more cars are absolutely necessary to cope with the congestion that now exists. The people are suffering while the city are delaying the company by denying them the streets they require for the new lines. The City Engineer, in his evidence, states that he is not prepared to approve of any plans for street railway extensions until the city council approve of the streets; but that otherwise, as an engineer and as an expert, his views are in accordance with those of the company as to the necessity and advisability of the construction of these tracks. The Board received evidence, submitted by the company, largely of a statistical character, to show the absolute necessity for the new lines in the public interest. Evidence was given on behalf of the city that showed that the building of new lines on Bay St. was objected to by a number of citizens, as the street cars would make it less convenient for cartage from the wholesale houses, for which this street is at present used; also that the location of the lines on University Ave. would create noise, vibration and dust, which would be inimical to patients in a hospital which it is proposed to build upon that street. If the Board are right in their view, that the company have the right to select the streets for the new lines, this evidence is quite beside the mark, for the reason that once the selection is made by the company, neither the city nor the Board have the right to say nay. The company, however, will require, in constructing the new lines, to build subject to the conditions of secs. 12 and 13 of the conditions of sale.

The Board determine that the company ave the right to select the above-mentioned streets, and so declare: We find that the city has denied the company's right and Has prevented the company from using the streets selected for their new lines, and has violated and committed a breach of the agreement which they made with the company. Under the authority vested in the Board by sec. 63 of the Ontario Railway and Municipal Act, 1906, having regard to all the circumstances of the case, we think it reasonable and expedient in our discretion to enjoin and restrain the city, their servants and agents, from preventing or interfering with the construction by the company of the railway upon the said streets mentioned in the application and amendments thereto. The Board reserves further direction. The Board makes no order as to costs except that the city shall provide $50 for stamps upon the formal order.

The Toronto Board of Control decided, Dec. 24, to appeal to the Supreme Court of Canada against the order of the Board, and, should it be rendered necessary, by an adverse decision, to carry the matter before the Judicial Committee of the Privy Council.

Projects, Construction and Betterments.

Brantford and Hamilton Ry.—It is reported that the directors of the Dominion Power and Transmission Co., owning this line, as well as the other electric lines radiating from Hamilton, have decided that it will be necessary to have a direct line to Toronto. This line, it is stated, will start from west of Hamilton and run along the west side of the bay to Burlington, connecting there with the Hamilton Radial Ry., now terminating at Oakville. The construction of this line will give the company a line completely around Burlington Bay, and a through connection between Brantford and Toronto, as soon as the Radial Ry. is extended from Oakville to Toronto. (Dec., 1908, pg. 891.)

Brantford Street Ry.—It was reported, Dec. 13, that the time fixed for the completion of the improvements promised in the agreement of 1907 expired Dec. 1, and that the company had asked for its extension for a further period. The proposed new agreement is that the present lines will practically be reconstructed within a year, and that the extensions, including new loop lines to Terrace Hill, Holmedale, Eastward and Eagle Place, be constructed within two years. The city council is agreeable to this extension of time, provided the company deposits $25,000 as a forfeit in the event of the agreement not being fulfilled.

The question of the ratification of the new agreement with the company came before the city council Dec. 21. In addition to the terms mentioned above, provision is made in the new agreement for the extension of the line to Port Dover at an early date. It was stated that the company had practically completed arrangements for the underwriting of a $3,000,000 bond issue in the U.S.

British Columbia Electric Ry.—Rapid progress is reported to have been made with tracklaying and other work on the New Westminster-Cloverdale section of the line under construction to Chilliwack. The rails were delivered at New Westminster and Cloverdale Dec. 1, so that the work of tracklaying could go on simultaneously from both ends. Surveys have been completed for the entrance of the line into the city along Front St. The route to be followed necessitates the shifting of the C.P.R. and the Great Northern Ry. tracks about 8 ft. nearer the river, which will be done at the B.C.E.R. Co.'s expense. A contract for 150,000 ties has been let for delivery along the route of the new line.

Work on the cemetery extension of the line in Victoria is being progressed with. The rock blasting on May St. has been completed, and steel was laid to the cemetery Nov. 30. This is about half-way to Foul Bay road, which will be the terminal of the extension. It was expected that the line would be opened for traffic Dec. 30. (Dec., 1908, pg. 891.)

During the current year the company intends to construct, at its own car shops, about 26 double-truck city passenger cars, which it has been arranged to have built in such a manner that they can be easily converted into "pay-as-you-enter" cars. They will at first be operated under the present system of collecting fares until the passengers have become accustomed to the new entrances and exits, and it is anticipated the pay-as-you-enter system will be fully adopted during the next year.

Calgary.—A further offer has been submitted by P. A. Rodrique to the city council of Calgary, Alta., to construct an electric railway for the city, finance it, construct it according to the specifications of the city, and turn it over whenever the city desires it. He offers to put up a deposit as a guarantee that he will put through his part of the agreement. The line, he says, can be constructed within the city's estimate, and would be a paying venture from the start. (Dec., 1908, pg. 891.)

Desjardins Interurban Ry.—A public meeting was held at Waterdown, Ont., recently, when the question of the construction of this projected electric railway was considered and an address to the citizens of Hamilton, in favor of the line, was adopted. There has always been considerable difficulty in the way of securing an entrance into Hamilton from Waterdown and the northern country, and the people in their address state that the projected lines "afford improved facilities for the travel and traffic seeking a more direct passage across the country and through Hamilton, making the city a complete centre of passage, as well as of radiation to all surrounding points. The design of the survey is not competition with any existing charter . . . the routes proposed form a united system connecting with or extending every other railway contiguous to it." (Dec., 1908, pg. 891.)

Dunnville, Wellandport and Beamsville Electric Ry.—The taxpayers of Dunnville, Ont., voted in favor of the granting of a bonus of $15,000 towards the construction of the projected railway, Dec. 3. Application is being made for subsidies in adjoining muni-

PUMP YOUR WATER
BY
COMPRESSED AIR

For pumping mines, sand, mine tailings, condensing and factory water, from rivers or lakes having a great rise or fall, the RAND "RETURN AIR" is unquestionably the most economical system known.

Its essential principle, distinguishing it from other pneumatic displacement pumps, is the use of the same charge of air over and over, thus utilizing its expansive power.

No system is so simple to manage or maintains such a high original efficiency indefinitely.

Full information on request.

CANADIAN **RAND** CO., LIMITED
MONTREAL, QUE.

BRANCHES AT:
TORONTO, HALIFAX, WINNIPEG.
VANCOUVER, ROSSLAND, COBALT.

THE
FARLOW TWIN SPRING DRAFT GEAR

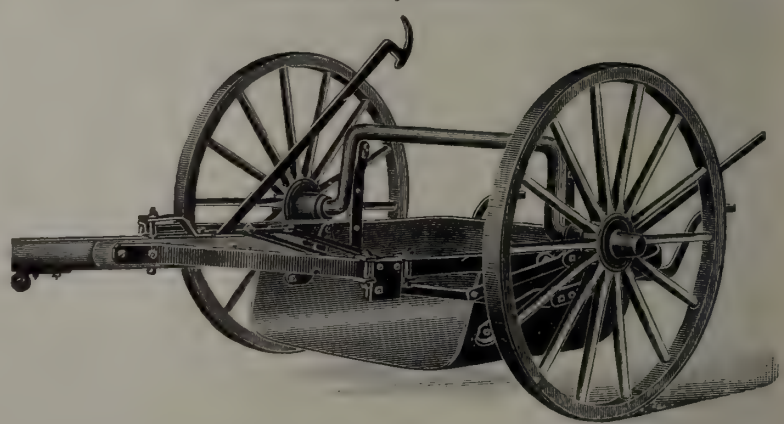
Designed for Wooden or Steel Cars and Engines.
Pulling Strains Distributed Equally on the Three Cross Keys.
Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.

BALTIMORE, MD. CHICAGO, ILL.

THE TORONTO PRESSED STEEL CO.
LIMITED

TORONTO, CANADA



Our **SOLID PRESSED BOWL DRAG** and **WHEEL SCRAPERS** are the most satisfactory in the market. They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies, including

PLOUGHS **DUMP CARS**
DUMP WAGONS **DUMP CARTS**
WHEELBARROWS **TRUCKS**
CEMENT MIXERS **WAGONS**
etc., etc.

PROMPT SHIPMENTS **SEND FOR CATALOGUE**

cipalities. It is reported that a contract for the construction of the line has been let to Wm. Graham, Toronto.

Eastern Ontario Electric Ry.—Application will be made next session of the Ontario Legislature for an act incorporating a company with this title for the purpose of constructing a railway to be operated by electricity or other motive power, except steam, from Cornwall to Toronto, touching at any or all of the various incorporated cities, towns and villages lying in its route through the various townships lying between the two terminal points; also a line from Ottawa to Brockville, with power to construct branch lines or extensions, not exceeding in any case 30 miles, and not beyond the boundaries of the counties in which the townships enumerated in the act are situated. The company desires to have power to issue bonds to the extent of $25,000 a mile. H. F. Holland, Cobourg, Ont., is solicitor for the applicants.

Electric Belt Line.—A meeting was held, Dec. 9, in the Board of Trade, Ottawa, to consider the advisability of applying for a charter for an electric belt line to run from Darling to Brockville, Ont.; through Morrisburg to the southeasterly boundary between Ontario and Quebec; and between Ottawa and Morrisburg. This would give a mileage of about 170 miles, and by means of the line to the Quebec boundary opportunity would be given to a Quebec company to construct a line to Montreal. The meeting was attended by representatives from Cornwall, Carp, Athens, Fitzroy, Prescott, Brockville, and other places. We are advised that a provisional organization was effected as follows: President, Mayor Cossitt, Brockville; Secretary-Treasurer, F. Iveson, Metcalfe; directors: J. F. Ault, Winchester; T. Berney, Athens; F. H. Daniels, Prescott; S. R. Rudd, Arnprior; J. L. Rolston, Metcalfe; D. McArthur, Kenmore; Reeve S. McLure, Fitzroy; J. Hilliard, Morrisburg.

Fort William.—Application will be made next session of the Ontario Legislature, by the city council of Fort William, Ont., for an act confirming and validating a number of by-laws and agreements, among them being the following: (1) A by-law authorizing an agreement with the Mount McKay and Kakabeka Falls Ry., and to raise $9,000 by debentures for the purpose of enabling the city to carry out its part of the agreement. The purpose for which the money is required is to compensate the M. McK. and K. F. Ry. for certain expenditure in the construction of a street railway incurred under authority of the council, in regard to which doubts have been expressed as to the city's authority. (2) A by-law to raise $170,000 by debentures to extend and improve the street railway system. It is proposed to double-track certain portions of the present street railway within the city, and to construct certain extensions, which were authorized by the city's act of 1908, and the city now desires authority to raise money to carry out the works. It is desired to have power to issue the debentures as required for the double-tracking of the line, payable within 30 years, without obtaining the consent of the ratepayers thereto. Provisions are also to be inserted in the act relative to the appointment of the fifth member of the commission to manage the street railway, and the salary to be paid him. (Dec., 1908, pg. 891.)

Hamilton and Dundas St. Ry.—Recent press reports stated that the work of double-tracking this line would be commenced at an early date. We have been officially advised that these reports are inaccurate; that no work is to be started and that no tenders will be asked for.

The Hamilton Street Ry. Co. put a force of men and a large number of teams at work, Nov. 24, on the car barns and repair shops proposed to be constructed on the block bounded by Sanford Ave., King, Wentworth and Wilson Streets, Hamilton, Ont. Objection was taken to the laying of rails to connect the existing lines with the new barns, and a delegation of residents waited on the Board of Works Nov. 26. After discussion the Board decided not to give the company any more rights than they already possessed over existing rights, and made such regulations as will obviate the alleged objectionable features of the concessions as to the conveyance of freight through certain streets. When the matter came before the city council, Nov. 30, the by-law was held up, in order that there might be a further discussion before the Board of Works. As a result of further discussion it was understood, Dec. 12, that the council would pass the by-law provided the company would be satisfied to run only passenger cars on Wentworth St. (Dec., 1908, pg. 891.)

Huron and Ontario Ry.—The Ontario Legislature will be asked next session for an act extending the time for the construction of the company's projected railways, and increasing its bonding powers.

Mount McKay and Kakabeka Falls Ry.—See Fort William. (June, 1908, pg. 431.)

Montreal Street Ry.—The action instituted by the city against the company to force an extension of the lines via the Cote des Neiges road through the newly annexed Mount Royal Ward came before the Recorder Dec. 14. The case for the city having been presented, further argument was adjourned to Jan. 4.

Montreal Terminal Ry.—Application will be made next session of the Dominion Parliament for an act amending the company's charter powers, by extending the time limit for the construction of the railway; for power to construct and operate an elevated railway, and to increase the powers given the company.

Nelson Tramway.—An offer has been submitted by a local syndicate to the Nelson, B.C., city council to operate the street railway in the city, if the corporation will supply power free. It is said that the proposition will be voted upon at the municipal elections. The railway has not been operated for some time.

Southwestern Traction Co.—Application is being made to the London, Ont., city council by the company, for permission to extend its tracks along Simcoe St. to Talbot St. It is said that the object is to provide for a connection with the projected line between London and St. Mary's.

Toronto Ry.—In connection with the judgment of the Ontario Railway and Municipal Board, which appears on page 49, Controller Spence suggests that in the best interests of the city and the company a new agreement should be arrived at which would do away with all causes of friction.

Residents of Ward Three have petitioned in favor of a cross-town street car service from Bathurst St. across the Don, the suggestion being for an extension of the present line at Arthur St. to the Don, midway between Queen and College Streets. The matter was referred to the City Engineer for a report. (Dec., 1908, pg. 891.)

Toronto to Niagara Falls.—W. Mackenzie, on returning to Toronto, Dec. 21, from England, stated that he expected that in the near future an electric railway would be built between Toronto and Niagara Falls, on the Toronto and Niagara Power Co.'s right-of-way.

Winnipeg Electric Ry.—It was reported Dec. 15 that the entire street railway system may have to be rebonded owing to the discovery that stray electric currents are invading the big buildings over the telephone conduits, which are in constant danger of fire. Several small fires are said to have been traced to this source. (Dec., 1908, pg. 892.)

Woodstock to Guelph.—A proposition to connect these two Ontario cities by means of an electric railway was laid before the Berlin Board of Trade, Dec. 10, by W. A. Bugg and —. Warfield. The route proposed to be followed is by way of Berlin, Baden, New Hamburg or Dundee, Plattsville, Bright and Innerkip. The suggestion is that the municipalities through which the line will pass should provide one-third of the stock of the line, which is estimated to cost $750,000, being at the rate of $15,000 a mile. Plattsville, where the project originated, proposes to put up $15,000; New Hamburg is considering a proposition to subscribe $25,000; the amount suggested as Berlin's proportion is $70,000. It was stated that the remaining two-thirds of the cost was ready as soon as the municipalities put up the other third. Mr. Warfield explained to the meeting that the cost of Niagara power would be $19 per h.p. for a 24-hour service, while that of steam-generated power was $30 to $33 per h.p. for a 16-hour service. It was proposed on the projected line to give an hourly service to various towns. Six 50 ft. double-track cars would be provided and the fare would not exceed 2 cents a mile, but the exact amount would be fixed by the municipalities. The proposal was favorably received and arrangements are being made by the promoters to have a series of public meetings held in the various municipalities to discuss the matter.

Electric Ry. Finance, Meetings, Etc.

British Columbia Electric Ry.—A London, Eng., cablegram, dated Dec. 13, stated that an issue of the company's bonds, amounting to £500,000, had been placed on the market.

Gross earnings for Oct., $197,630; operating expenses, $96,075; net operating earnings, $101,555; renewal funds, $14,443; net earnings, $87,112; income from investments, $13,550; net income, $100,662; against $177,105, gross earnings; $86,567, operating expenses; $90,538, net operating earnings; $10,750, renewal funds; $79,788, net earnings; $11,036, income from investments; $90,824, net income, for Oct., 1907. Aggregate gross earnings for 4 months ended Oct. 31, $735,211; net earnings, including income from investments, $356,210; against $633,439 gross earnings and $310,393 net earnings for same period 1907.

Dominion Power and Transmission Co.—A statement has been sent out by the directors to the shareholders, giving an explanation of the decision to suspend the payment of dividends for the present. The reasons given are that there has been extra expenditure on the Brantford and Hamilton Ry., and there was need of improving the Hamilton St. Ry. and other properties, while the proposals of the Ontario Government power plant to enter the Hamilton field interfered with the disposal of the company's securities. The company has been paying semi-annual dividends of 3% on its preferred stock, and in 1907 paid two dividends of ½% on its $4,698,000 limited preferred stock. There is also $2,600,000 of common stock.

Halifax Electric Tramway.—Receipts for Nov., $12,929.44, and for 3 weeks ended Dec. 21, $9,877.62; against $11,836.05, and $9,335.67 for similar periods 1907. Total for 11 months ended Nov. 30, $174,821.22, against $160,475.51 for same period 1907.

London St. Ry.—Gross earnings for Sept., $23,634.33; expenses, $14,651.07; net earnings, $8,983.26; gross earnings for Oct., $18,477.38; expenses, $13,859.56; net earnings, $4,617.82; gross earnings, for Nov., $17,618.26; expenses, $13,414.73; net earnings, $4,203.53; against $23,434.23, gross earnings;

$14,120.07, expenses; $9,314.16, net earnings for Sept.; $18,742.09, gross earnings; $13,-764.65, expenses; $4,977.44, net earnings, for Oct.; $17,549.48, gross earnings; $13,-559.92, expenses; $3,989.56, net earnings for Nov., 1907. Total gross earnings for 11 months ended Nov. 30, $214,474.24; expenses, $152,718.06; net earnings, $61,756-.18; against $212,882.35, gross earnings; $153,500.34, expenses; $59,382.01, net earnings, for same period 1907.

Montreal St. Ry.—Gross earnings for Nov., $301,578.14; expenses, $183,382.03; net earnings, $118,196.11; city percentage on earnings, $10,404.42; interest on bonds and loans, $16,113.30; rent leased lines, $444.43; surplus, $91,233.96; against $296,184.47, gross earnings; $182,637.54, expenses; $113,-546.93, net earnings; $10,240.18, city percentage on earnings; $16,470.63, interest on bonds and loans; $339.96, rent leased lines; $27,050.77, surplus for Nov., 1907. Total gross earnings for 2 months ended Nov. 30, $630,186.26; expenses, $351,506.05; net earnings, $278,680.21; standing charges, $54,-442.43; surplus, $224,237.78; against $608,-082.35, gross earnings; $347,212.68, expenses; $260,870.17, net earnings; $54,919.06, standing charges; and $205,951.11, surplus for same period 1907.

Quebec Ry., Light and Power Co.—An extract from the report for the year ended June 30, 1908, shows net earnings $238,461; from which is deducted $125,000 interest, and $26,-395 dividend, on preference stock, etc., leaving net profit of $87,066, against $84,355 for the year ended June 30, 1907.

Application was made Dec. 23, to the Montreal Stock Exchange, for the listing of the company's stock. The amount of stock covered is, 25,000 shares common stock, and 10,000 shares preferred stock, each of $100; and $2,500,000 bonds. Of the total, 3,276 preferred shares are unissued. The stock is non-assessable and the dividends paid up to the present are, on bonds, 5%; on preferred stock, 7%. The Montreal Trust and Deposit Co. acts as transfer agent and registrar.

St. John, N.B., Ry.—The directors have declared a dividend of 3% for the half-year recently concluded, payable to shareholders of record at Dec. 1, 1908.

Sherbrooke St. Ry.—Following are the officers and directors for the current year: President, P. W. Clement, Rutland, Vt.; Vice-President and Manager, R. Denio, Windsor, Vt.; Secretary-Treasurer, H. R. Barney, Rutland, Vt.; other directors, S. L. Clough, W. A. Morehouse, J. P. Royer, and P. J. Slattery, Sherbrooke, Que.

Southwestern Traction Co.—A writ has been issued by the city council of St. Thomas, Ont., against the Southwestern Traction Co. for $1,311.08, claimed to be due the council's Street Railway Commissioners for maintenance of tracks and construction of the siding opposite the city hall, and $700 back rent.

Toronto Ry.—The percentage paid by the company to the city shows, for Nov., $23,-316.90, against $22,558.63 in Nov., 1907. The figures show a gradually increasing amount, the increase being about $10,000 since Nov., 1903, when the amount was $13,789.56.

Car earnings for Nov., $286,557.43, against $279,235.50 for Oct., 1907. Total earnings for 11 months ended Nov. 30, $3,218,636.53, against $3,097,843.40 for same period, 1907.

Windsor, Essex and Lake Shore Rapid Ry.—An annual and special general meeting of shareholders has been called to be held at Windsor, Ont., Jan. 12, for the purpose of electing directors and for other business, including sanctioning or otherwise dealing with a by-law passed by the directors Aug. 28, creating 2,500 shares of preference stock.

Electric Railway Notes.

The Montreal Street Ry. put 10 new pay-as-you-enter cars into service on its various lines Dec. 4.

Jno. McArthur, Assistant Superintendent Toronto and York Radial Ry., died at Toronto, Dec. 8, aged 56.

C. A. Dertsler, C.E., who was engaged on the B.C. Electric Ry.'s Chilliwack extension, was drowned recently.

The London Street Railway management is considering the remodelling of its cars so as to operate them on the pay-as-you-enter plan.

The Montreal Trust and Deposit Co. has been appointed transfer agent and registrar, in Montreal, for Halifax Electric Tramway Co.'s stock.

The Ottawa Electric Ry. has voted $500 a year for three years towards the $5,000 proposed to be raised by the Ottawa Board of Trade for civic publicity.

The Toronto Board of Control decided, Dec. 8, to extend for two months the time within which the Toronto Ry. must equip its cars with an approved fender.

R. Howes has taken up his residence in Vancouver, B.C., to take charge of the electrification of the British Columbia Electric Ry. Co.'s branch line to Chilliwack.

Between Nov. 15 and Dec. 15, the Ottawa Car Co. shipped two double-truck cars, with 33-ft. bodies, and one single-truck car, with 21-ft. body, for the Edmonton St. Ry.

The civic investigation at Port Arthur, Ont., into charges of malfeasance in connection with the operation of franchises, including the street railway, was commenced, Dec. 15, before Judge O'Leary.

E. Bradenbury, a mining engineer of London, Eng., has entered an action against the Ottawa Electric Ry., claiming $50,000 for the loss of a foot, caused by the accident on the Britannia line, May 24, 1908.

The Ontario Railway and Municipal Board has, at the request of the Hamilton and Dun-

NOTICE is hereby given that application will be made by the Canadian Pacific Railway Company and the Grand Trunk Pacific Railway Company to the Parliament of Canada, at its next session, for an Act to ratify and confirm an agreement, dated the 1st day of December, 1908, made between the Canadian Pacific Railway Company and the Grand Trunk Pacific Railway Company, respecting joint facilities at Fort William, Ontario.

E. W. BEATTY,
Assistant Solicitor, Canadian Pacific Ry. Co.

D'ARCY TATE,
Assistant Solicitor, Grand Trunk Pac. Ry. Co.

Dated at Montreal this 10th day of December, 1908.

NOTICE is hereby given that application will be made by the Grand Trunk Railway Company of Canada to the Parliament of Canada at its next Session for an Act authorizing the company to create and issue additional "Grand Trunk Consolidated Debenture Stock," and "Grand Trunk Four Per Cent. Guaranteed Stock," respectively, in such amounts, subject to the limitation to be fixed by the said Act, as the proprietors of the company may from time to time determine, and to apply the proceeds to the general purposes of the company; also repealing Section 19 of "The Grand Trunk Arrangements Act, 1862," and substituting other provisions therefor, and for other purposes.

W. H. BIGGAR,
General Solicitor, Grand Trunk Railway Company of Canada.

Dated at Montreal, this 2nd day of December, 1908.

"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes

Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.

das Ry., directed Engineer Wyse to make an investigation into the recent accident by which Miss V. Norton was killed.

The Ottawa Electric Ry. has ordered 12 semi-convertible, single-truck cars, with 21-ft. bodies, constructed on the "pay-as-you-enter" principle, from the Ottawa Car Co., Ottawa. These cars were fully described and illustrated in our Oct., 1908, issue.

G. B. Blanchard, Vice-President Dominion Power and Transmission Co., Ltd., Hamilton, Ont., has resigned. Reports of the resignation have been current for some time, but no confirmation could be obtained until it was recently announced that it had been accepted.

The application made by Senator Tessier to the Board of Railway Commissioners, for an order compelling the Ottawa Electric Ry. to issue free transportation to members of parliament, was withdrawn Dec. 1. Counsel stated that the application would be pressed later on.

An engineer representing the Ontario Railway and Municipal Bgard is investigating the conditions of traffic, etc., on the Toronto and York Radial Ry.'s Metropolitan Division, particularly in connection with traffic during the winter, about which the municipalities have complained.

The British Columbia Electric Ry. is reported to have given instructions for the construction of new cars for its Vancouver and Victoria lines, to the value of about $200,000. The orders include 18 of the pay-as-you-enter type, and two cars specially constructed for carrying parties of tourists.

The Halifax Electric Tramway Co., Halifax, N.S., has ordered two semi-convertible, single-truck cars, with 21-ft. bodies, constructed on the "pay-as-you-enter" principle, from the Ottawa Car Co., Ottawa. These cars are exactly similar to those built for the Ottawa Electric Ry., described in our Oct., 1908, issue.

G. W. Lang, who has been appointed Assistant Superintendent Ottawa Electric Ry., was born in Ottawa, June 13, 1872, and entered that company's service June, 1892, as conductor. In May, 1896, he was promoted to Inspector and occupied that position until Nov. 15, 1908, when his present appointment took effect.

The question of the operation of street cars on Sundays is occupying attention in St. Thomas, Ont., and Edmonton, Alta. At St. Thomas it was decided to submit the question to a vote of the electorate at the annual municipal elections, and at Edmonton the city council will petition the Provincial Legislature to amend the act passed last session, forbidding the operation of street cars on any line in the province on Sundays.

A Windsor, Ont., dispatch announces the following changes in the Windsor, Essex and Lake Shore Rapid Ry. directorate, etc.: W. C. Crawford, of Tilbury, Ont., heretofore Vice-President, has been elected President, succeeding Jno. Piggott, who becomes Vice-President. J. W. McColl, Toronto, has been appointed Treasurer, and W. R. Phillimore, Chatham, Secretary, the latter succeeding W. T. Piggott, who has been appointed Managing Director. F. E. Lowe, General Manager, who came from Minneapolis last spring, has resigned.

G. W. Lang has been appointed Assistant Superintendent Ottawa Electric Ry., as announced in our last issue. Superintendent Hutcheson's circular, announcing the appointment, says Mr. Lang will have supervision over the car service and traffic. All men employed in this branch of the service will be subject to his instructions. He will make appointments to the service and will look after the training, discipline and welfare of his men. His headquarters for the present will be at the company's receiving office, Sparks St.

Judgment was delivered in the Supreme Court, Dec. 5, in the case of Amyot vs. Quebec Ry., Light and Power Co., in which plaintiff claimed $200 for damages to his property, and $9,800 representing depreciation, alleged to have been caused by the company's cars leaving the tracks at Maple Ave., Quebec, during Jan., Feb., Mar. and April, 1907. The Court decided that the company had not used all the necessary prudence and precaution when approaching the property in question, and gave plaintiff $141.87 for damages to property, and $3,750 interest and costs.

Two members of the Ontario Railway and Municipal Board inspected, on Dec. 22, a car which the Toronto Ry. had equipped with a third step, with a view to meeting the complaints about the height of car steps from the ground. A trial run which was made with the car demonstrated that at several of the busiest street corners the distance between the edge of the lower step and the curbing was less than 7 ins., and at one of the corners an accident to two lady pedestrians was narrowly averted. It was also shown that the car barn doors and cleaning pits were too narrow for the third step car and that the buildings would practically have to be reconstructed to accommodate it.

Regulations for Ottawa Electric Ry.

In consequence of the accident which occurred on the Ottawa Electric Ry.'s Britannia line on May 24, 1908, the Board of Railway Commissioners has passed the following order no. 5617:

In the matter of sub-sec. 2 of sec. 26 of the Railway Act, and of the Ottawa Electric Ry. Co., the Board orders:

1. That passengers be not allowed to stand on the front platforms of cars.

2. That motormen be forbidden to engage in conversation with passengers or others, while the cars are in motion, or to turn from a forward view of the track, except where necessary in the proper operation of the car.

3. That a printed notice embodying the provisions of clauses 1 and 2 of this order, be posted in a conspicuous place inside every car, at the front, and at each end of cars controlled from both ends.

4. That no car running between Holland Ave., Hintonburg, and Britannia-on-the-Bay, on the company's Britannia line, approach within 600 ft. of an immediately preceding car or cars, while running on level track or ascending grades, nor within 1,000 ft. of a preceding car or cars, while running on descending grades.

5. That cars carrying passengers shall always have both a motorman and conductor upon them while in operation.

G.T. Pacific Elevator at Fort William.

The elevator to be erected at Fort William, Ont., for the Grand Trunk Pacific Terminal Elevator Co., for which a contract has been let recently, will be a fireproof structure with a storage capacity of 3,250,000 bush. It will be designed to receive grain from cars and to ship to cars or to lake vessels. It will include a working house with car unloading shed, a storage house, a grain drying plant and a concrete wharf. All portions of the work will be fireproof in every respect, so that the lowest possible insurance rate may be obtained. The foundations will be of concrete, resting upon piles driven to bed rock.

The working house will be 237′ 4″ by 69′ 4″, with a track shed along one side 240′ by 68′. The first story and the bins of the working house will be of reinforced concrete, and the cupola of structural steel, covered on the outside with galvanized corrugated steel. The working house will be of cylindrical bin construction, the cylinders being 12′ in diameter inside, with walls 6″ thick. The total number of bins in the working house, including interspace bins, will be 142, and the storage capacity of the working house will be approximately 780,000 bush. Floors and roof will be of concrete. The track shed will be of structural steel, with concrete floors and roof. It will cover four unloading tracks.

There will be 20 car pits, each with a capacity of 2,000 bush., set in 5 rows of 4 pits, each row being opposite a receiving leg in the working house. The car pits will discharge through valves operated by an interlocking mechanism on to five 36″ belt conveyors, one of these conveyors running beneath each row of four car pits, and delivering grain to a receiving leg. Ten pair of power shovel machines will be erected. There will be 5 receiving legs and 5 shipping legs, each with an elevating capacity of 15,000 bush. an hour. Each of these legs will discharge to a garner of 2,200 bush. capacity in the cupola of the elevator, and beneath each garner a 2,000 bush. hopper scale will be placed to weigh the grain. From this scale, grain will be spouted to the bins in the working house, to the shipping bins, for shipping to vessels; to the car loading spouts; or to the belt conveyors running to the storage house. There will be 12 shipping bins on the water side and 6 vessel loading spouts. There will be 5 car loading spouts for loading cars in the track shed on the track nearest to the working house.

In the first story of the working house there will be 15 cleaning machines built of wood, covered and lined with steel. Six of these will be especially made for the separation of wild oats from wheat. The machines will be set in 5 batteries of 3 machines each, and each battery will be spouted and operated as one machine. There will be 5 elevator legs to elevate grain from the cleaning machines, each leg receiving from one battery, and having an elevating capacity of 10,000 bush. an hour. These legs will elevate cleaned grain to the top story of the cupola, where they will discharge it either into one of 5 cleaner garners, each having a capacity of 1,500 bush., or into one of the shipping garners. From the cleaner garners it will be spouted to the bins in the working house, or on to the belt conveyors running to the storage house. The screenings from the cleaning machines in the first story will be carried by screw conveyors to a screenings leg which will elevate them to the cupola, and discharge them to 2 screenings separators, from which the various separations will be spouted to small bins in the working house. The wild oats separated from the grain by the cleaning machines in the first story will be carried by screw conveyors to a wild oats leg, which will elevate them to the cupola and discharge through spouts leading to the bins in the working house. In the cupola of the working house there will be 2 flax separators for cleaning flax. They will receive grain from a special flax leg, running from the first story, and will discharge the various separations to adjacent bins in the working house. There will be one leg for elevating dried grain received by belt conveyor from the drying plant; this leg will distribute the dried grain through a screw conveyor and spouts in the cupola to bins in the working house. A 42″ longitudinal, reversible belt conveyor will be installed in the cupola of the working house, for distributing grain longitudinally.

The first story and the bins of the storage house will be built of reinforced concrete. The storage house will be 240′ 5″ by 169′ 11″. There will be 70 cylindrical bins 23′ 3″ in diameter inside, and 54 interspace bins. The bin walls will be 7″ thick and 93′ high. The storage capacity of the storage house

Canadian Northern Ontario Railway.

NOTICE is hereby given that application will be made to the Parliament of Canada, at the next session thereof, for an Act amending the Acts relating to the Canadian Northern Ontario Railway Company (formerly the James Bay Railway Company) as follows:

Authorizing the construction of the following lines of railway:

(a) From a point on or near Nepigon Bay northerly to the junction with the National Transcontinental Railway, with two branches to reach water connections at the northerly and southerly ends of Lake Nepigon;

(b) From a point on the company's authorized line between Montreal and French River in or near the Township of Chisholm, thence northerly and westerly to a point on its Hutton Branch in or near the Township of Capreol;

(c) From a point on the company's authorized line between Sudbury Junction and Port Arthur near the source of the Vermillion River northerly and easterly to a point on the National Transcontinental Railway near its crossing of the Abitibi River;

(d) From a point on the line specified in paragraph (c) between its starting point and the Great Northern Bend of the Montreal River, thence in a generally southerly and easterly direction to a point at or near the south end of Lake Temiscamingue.

Also fixing and extending the times for commencement and completion of the lines of railway authorized by the Canadian Northern Ontario Railway Act 1906-7, between points at or near the following points, in brief—(a) Washago to Kincardine, (b) Arnprior to Gananoque, (c) Pembroke to Cobourg or Port Hope, (d) Township of Pickering to Owen Sound, (e) At or near Toronto to Windsor with a branch from London to St. Thomas and Sarnia and a branch or loop north of Toronto, (f) Niagara River to Goderich, (g) Between Dunnville and Port Dover to Owen Sound or Meaford, (h) Washago to Midland, (i) Hawkesbury to Toronto-Ottawa line in Leeds or Lanark, (j) Parry Sound to North Bay; and the line of railway authorized by chapter 65 of the Statutes of 1902, namely, in brief, French River to Batchewana Bay; and the line of railway authorized by section 3 of chapter 110 of the Statutes of 1905, namely, in brief, Toronto to Ottawa.

Also fixing the limit of securities which may be issued in respect of the lines first above mentioned.

GERARD RUEL,
Chief Solicitor.

Toronto, 22nd December, 1908.

The Edmonton and Slave Lake Railway Company.

NOTICE is hereby given that The Edmonton and Slave Lake Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may complete and put into operation the railway which it has been authorized to construct by section 8 of chapter 66 of the Statutes of Canada, 1899, and for other purposes.

GEO. F. MACDONNELL,
Solicitor for the Applicant.

Toronto, Ontario, 23rd December, 1908.

Application will be made at the forthcoming session of the Dominion Parliament for an act authorizing the Mexican Land and Irrigation Company to acquire and operate railways, tramways, and telegraph and telephone lines outside the Dominion of Canada; to change the name of the company; and for other purposes. Blake, Lash and Cassels are solicitors for the applicants.

New Trails to the Canadian Game Lands

Before the six railways of the Canadian Northern System followed the old fur trails into the Canadian game lands, only a hardy few dared to go in. But now, the back places of the woods—wealthy in moose, caribou, deer and bear—may be quickly and easily reached. The Canadian Northern system serves a wide range of undisturbed territories. Here are a few suggestions:

The country between Parry Sound and Sudbury, traversed by the CANADIAN NORTHERN ONTARIO RAILWAY, is a land of lonely muskeg and brulé, the native country of the white-tailed deer. From Sudbury north to Sellwood this same line goes in through a moose hunting territory unequalled in Ontario.

The CANADIAN NORTHERN QUEBEC and QUEBEC AND LAKE ST. JOHN RAILWAYS span the native country of the ouananiche, northern brook trout, and the spruce-shored lakes of the Roberval country, where moose and caribou abound.

The eastern shore of Nova Scotia, from Yarmouth to Halifax, is served by the HALIFAX AND SOUTH WESTERN RAILWAY. On the barrens, slightly inland from the railway, are some of the best places for big moose in the east.

THE CANADIAN NORTHERN RAILWAY from Port Arthur to Edmonton, with many branches, griddles almost undisturbed haunts of moose, caribou, deer, wolves, bear, and all species of four-footed and feathered game.

For Information, General and Special, Address the Information Bureau, Canadian Northern Railway, Toronto

RAILWAY SPIKES

Particular attention is paid by us to the rolling of the material, and in the making of the Spikes we conform to the most exact specifications.

That our Spikes give satisfaction is proved by their use on all the leading railway lines.

We also manufacture

TRACK BOLTS TIE PLATES ANGLE BARS, ETC.

THE MONTREAL ROLLING MILLS CO.

will be approximately 2,470,000 bush. The story above the storage bins will be of structural steel, covered on the outside with galvanized corrugated steel, and floors and roofs will be of concrete. Five 36″ belt conveyors running through steel galleries from the working house will be used for filling the bins, and five 36″ belt conveyors running through tunnels beneath the storage house and under the track shed, and discharging to the shipping legs, will be used for emptying the bins. Provisions have been made so that additional storage capacity may be added at the end of the storage house, to give a maximum total future capacity of 10,000,000 bush.

The grain drying plant will comprise a No. 6 drier, with a capacity of 5,000 to 7,500 bush. in 10 hours, a boiler for furnishing steam to the drier, spouting for filling the machine and a 20″ belt conveyor, running to the drier leg in the working house, for taking the dried grain away from it.

Grain Elevator Notes.

The Winnipeg Elevator Co. has constructed an elevator of 30,000 bush. capacity at Wilkie, Sask.

J. Straiton, formerly G.T.R. agent at Goderich, Ont., has entered the Goderich Elevator and Transit Co.'s service.

It is reported that M. Orr, of Stoughton, Sask., is arranging to erect an elevator at Wainwright, Alta., in the spring.

The Northern Elevator Co.'s elevator at Glenboro, Man., with 3,000 bush. of wheat, was destroyed by fire recently.

W. and J. McLandress are reported to have purchased the elevator at West Lorne, Ont., formerly operated by Tolmie and Heilmann.

It is reported that arrangements have been completed for the construction of an elevator of 1,500,000 bush. at Port Arthur, Ont., at a cost of about $500,000.

fined $25 and costs, Dec. 2, for loading the car out of turn.

J. R. Boyle, M.P.P., in speaking before the Canadian Club at Edmonton, Alta., Dec. 7, on the grain trade of Canada, made special reference to the probability of the shipment of grain westward instead of eastward in the near future, and also dwelt on the advantage to be gained by the completion of the Hudson Bay route.

The preparations for the construction of the G.T. Pacific elevator at Fort William, Ont., were commenced recently, by the formal turning of the first sod by the Mayor. It was pointed out that, in connection with the construction, a channel of sufficient depth to float the largest lake vessel was to be cut, involving the excavation of 3,000,000 cubic yards of earth. The contract for the elevator excavation has been let to Seaman and Penniman, and for the pile-driving to J. Whalen.

Forwarders, Ltd., has been incorporated

GRAND TRUNK PACIFIC TERMINAL ELEVATOR CO.'S ELEVATOR AT TIFFIN, ONT.,

For full description see Railway and Marine World, Dec., 1908, page 895.

The wharf will be 300′ long and will be built of concrete resting upon piles.

All of the equipment will be driven by electric motors, which will be installed in small units in order to obtain the maximum efficiency. Complete electric lighting, signalling and telephoning systems will be put in. A dust collecting system will take the dust from the cleaning machines and from the floor sweeps in the lower portion of the working house. A system of fire service piping supplied by an electrically driven fire pump will be a part of the equipment, as a safeguard against the burning of cars in or near the track shed, or on vessels in the slip. A passenger elevator will be installed in the working house. All windows will be of wire glass in metal sashes and frames. All electric wiring of every kind will be done in conduit, and, in fact, throughout the work most careful attention will be paid to securing an elevator in which a fire cannot possibly occur, and which would not be greatly damaged if a fire should occur in its vicinity. Exceptional facilties will be provided for the handling of cars, not only by a heavy car puller inside of the elevator, but by careful and thorough provision for rapid moving of cars to and from the elevator on the tracks in connection therewith.

John S. Metcalf Co. of Chicago, Ill., and Midland, Ont., are the consulting engineers for the G.T.P. Terminal Elevator Co.

The Farmers' Elevator Co.'s elevator at Carlyle, Sask., and 8,000 bush. of grain, were destroyed by fire Dec. 8. The loss, which is covered by insurance, was estimated at $18,000.

The question of grain elevator accommodation at Vancouver and other ports on the Pacific coast is receiving considerable attention, in view of the probability that grain will be shipped westward in the near future.

The Canada Flour Mills Co, will construct an extensive grain handling plant at Fort William, Ont., provided that railway facilities can be arranged. It is said that a site has been selected at Westfort.

The Scottish Co-operative Wholesale Society, of London, Eng., which recently placed contracts for the erection of six elevators in Saskatchewan and Alberta, will, it is reported, award further similar contracts in preparation for next grain season.

Four elevators at Guernsey, Sask., work on which was started last fall, have been completed and are in operation. They are owned by the Western Elevator Co., the Lake of the Woods Milling Co., the Saskatchewan Elevator Co., and A. E. Little.

The C.P.R. was fined $500 and costs, at Stavely, Alta., Dec. 5, 1908, for a breach of the Manitoba Grain Act, by allotting a car for the shipment of grain out of turn. J. Hagerman, C.P.R. agent at Stavely, was

under the Dominion Companies Act, with a capital of $250,000 and office at Kingston, Ont., to construct, acquire and operate elevators, grain warehouses, etc., and to carry on a general grain business, and in connection therewith to own and operate steam and other vessels, wharves, docks, etc., and to carry on the business of general carriers. The provisional directors are: W. H. Comstock, G. I. Mallory, Brockville; G. Schmidt, Pembroke; W. C. Craig, Kingston; and M. E. Galvin, Detroit, Mich.

At the recent conference of the western grain growers with the Premiers of Manitoba, Saskatchewan and Alberta, in connection with Government ownership of elevators, proposals were submitted by the grain growers for consideration. These covered the provision by purchase or construction, or both, at each railway point where any considerable quantity of grain is marketed, elevator facilities and equipment for cleaning, weighing and loading grain, and that the whole system be operated by the Government direct, or through a commission. It was suggested that the capacity at each shipping point be approximately one-third of the quantity annually marketed there; that about 25% of the storage be at the disposal of buyers of street grain, and that two or more farmers be granted the privilege of jointly utilizing a bin. The conclusions, if any, which have been arrived at by the Premiers, have not been made

JAMES T. GARDNER

RAILWAY EQUIPMENT

615 Railway Exchange
CHICAGO, ILL.

Has on Hand at all times

First-Class Freight and Passenger Locomotives

Also

Contractor's Locomotives Cars, Rails, Etc.

Specifications with Prices on Application

60 YEARS' EXPERIENCE

PATENTS

TRADE MARKS
DESIGNS
COPYRIGHTS &c.

Anyone sending a sketch and description may quickly ascertain our opinion free whether an invention is probably patentable. Communications strictly confidential. HANDBOOK on Patents sent free. Oldest agency for securing patents.

Patents taken through Munn & Co. receive *special notice*, without charge, in the

Scientific American.

A handsomely illustrated weekly. Largest circulation of any scientific journal. Terms for Canada, $3.75 a year, postage prepaid. Sold by all newsdealers.

MUNN & Co. 361 Broadway, **New York**
Branch Office, 625 F St., Washington, D. C.

NIAGARA NAVIGATION CO., LTD.

Notice is hereby given that a dividend of four per cent. (being at the rate of eight per cent. for the year) has been declared upon the capital stock of this company, and the same will be payable on the 2nd January, 1909.

The transfer books will be closed from the 16th of December to the 31st of December, 1908, both days inclusive.

The annual meeting of the shareholders will be held on Tuesday, the 12th of January, 1909, at noon, at the office of Messrs. Osler & Hammond, 21 Jordan Street, Toronto.

By order of the Board,

B. W. Folger, Manager.

Toronto, Dec. 8th, 1908.

NOTICE is hereby given that application will be made by the Grand Trunk Pacific Railway Company to the Parliament of Canada, at its next session, for an Act authorizing a further issue by the Company, of bonds, or perpetual or terminable Debenture Stock or both, for such amounts as may be determined upon and fixed by such Act, and to apply the proceeds to the general purposes of the Company.

W. H. BIGGAR,
General Solicitor.
Grand Trunk Pacific Railway Company.

Dated at Montreal this 3rd day of Dec., 1908.

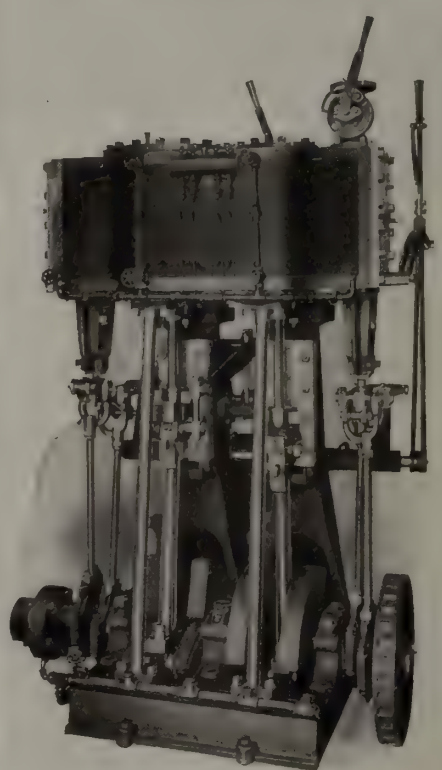
THE INTERNATIONAL MARINE SIGNAL CO.

OTTAWA, CANADA

MANUFACTURERS OF

Automatic Acetylene Gas Buoys, Beacons and Fog Signals.

Mariners describe our lighted buoys as "floating lighthouses."



DOTY ENGINE WORKS CO.

LIMITED

Goderich - Ontario

MARINE ENGINES
MARINE BOILERS

For Fresh and Salt Water Service

We Build Steel, Composite and Wood Hulls

WRITE FOR CATALOGUES AND ESTIMATES

public, but Premier Rutherford of Alberta is reported to have said, on his return to Edmonton, Dec. 3: "The whole proposition was talked over at considerable length and assurance was given that the matter would be given most serious consideration. The question is one of great concern to the grain growers, but I do not think they expected that the governments of any of the provinces would commit themselves to an undertaking without careful investigation."

A summary of the report prepared by C. C. Castle, Government Grain Warehouse Commissioner, on the number and capacity of all the elevators included in the Manitoba inspection district, shows that while there is a reduction of elevators in Manitoba, there is a large increase in Alberta and Saskatchewan. The transfer and eastern terminal elevators are this year included in the report for the first time, in accordance with the amendment to the Manitoba Grain Act, passed last session of the Dominion Parliament. The total interior elevator capacity west of the lakes is given as 42,812,400 bush., against 39,734,000 in 1907. The terminal elevator capacity at Fort William and Port Arthur is 18,852,700 bush., and mill elevators at Keewatin, 1,300,000 bush., making a grand total elevator capacity, west of the lakes, of 62,965,100 bush., against 58,482,300 in 1907. By provinces, the capac ty quoted is as follows: Manitoba, 678 elevators, 13 warehouses, 20,558,500 bush. capacity; Saskatchewan—607 elevators, 14 warehouses, 17,699,500 bush. capacity; Alberta—120 elevators, 14 warehouses, 4,386,400 bush. capacity; British Columbia, 3 elevators, 276,000 bush. capacity. Divided by railways: The C.P.R. has 949 elevators, 26 warehouses; C.N.R., 386 elevators, 12 warehouses; G.T.P.R., 39 elevators; G.N.R., 23 elevators; A.R. and I. Co., 11 elevators. The total increase of interior elevator capacity over 1907 is given as 3,088,400 bush., and of terminal elevator capacity, 1,394,000 bush. Transfer and terminal elevator capacity and storage east of the lakes, now in the Manitoba inspection division, is as follows: C.P.R., at Goderich, Owen Sound and Kingston, 2,296,000 bush.; G.T.R., at Collingwood, Depot Harbor, Meaford, Midland, Prescott and Tiffin, 7,449,000 bush.; Montreal, 2,581,000 bush.; Quebec, 500,000 bush.; St. John West, 1,000,000 bush.; St. John, 500,000 bush.; Halifax, 500,000 bush.

MARINE DEPARTMENT.

Atlantic and Pacific Ocean Marine.

The Elder Dempster Co.'s s.s. Bornu, which ran ashore off the Gaspe coast Dec. 3, was released on the following day without damage.

P. Owen, member of the firm of Farnworth and Jardine, Liverpool, Eng., who have considerable interests in the Canadian lumber trade, died there Dec. 7.

Capt. J. T. Gambell, of the Allan Line s.s. Grampian, was presented with a silver loving cup by the Sheffield Choir, on arriving at Liverpool, Eng., after the completion of their Canadian tour recently.

The s.s. Hector, under charter to the Dominion Iron and Steel Co., sailed from Sydney, N.S., Dec. 12, for Sydney, New South Wales, with 6,000 tons of steel rails, the first shipment of an order for 16,000 tons for the N.S.W. Government.

The transportation officials who met recently in St. John, N.B., for the discussion and adjustment of the winter rates and schedules, were dined on board the C.P.R. s.s. Empress of Ireland Dec. 9, and subsequently inspected the facilities at Sand Point.

The passenger lists of the various vessels leaving Canadian ports for Great Britain for Christmas were extremely heavy. The record number of passengers sailing from Canada on any one ship was taken by the C.P.R. s.s. Empress of Ireland, which sailed Dec. 11, the total carried being 1,721.

Regarding the proposed "all red" route, the President of the Board of Trade said in the British House of Commons recently, that the committee investigating the matter was considering an interim report, and it was unlikely that any statement would be made during that session.

The superiority of the Canadian route from the Orient to New York was for a second time proved recently, by the dispatch of two consignments from Yokohama, by Japanese vessel to U.S. port and by the U.S. route, and by C.P.R. vessel and rail route, respectively, to New York. The C.P.R. consignment left Yokohama two days after the Japanese one, and was landed in New York 12 hrs. ahead.

A press report states that W. Thomson and Co., managers of the Battle Steamship Line, owing to lack of remunerative freights, have laid up several of their vessels. The steamships Platea, Cunaxa, Trebia, Pydna and Mantinea, are reported to have been berthed for the present; the first at Rotterdam, and the others in England; and it is said that others will be temporarily withdrawn from service on their arrival at European ports.

The Halifax, N.S., Board of Trade has taken up the question of ocean freight rates, and alleges a discrimination by the Allan Line against that port in favor of St. John, N.B. The C.P.R., it is said, land Halifax freight at St. John, whence it is taken to Halifax by rail, at an extra charge of 60c. a ton. A recent revised freight tariff issued by the Allan Line, which lands freight at Halifax, raises the charge to Halifax by 60c. a ton, which, it is claimed by the Board of Trade, is a discrimination against Halifax.

The Shipping Federation of Canada in its statement as to employment at the Montreal harbor during the navigation season, states that during the 177 working days a total number of 116,850 men was employed, being an average of 669 as against 786 for the 1907 season. The decrease is attributed to the increased facilities in use at the port for loading and discharging vessels. July was the month in which employment reached its highest mark, and Sept. was the lowest, being due to the fog and smoke which tied up all shipping in the St. Lawrence for some time.

A recent press dispatch from Montreal regarding the prospects of the G.T.P. Ry. Co. inaugurating a steamship service in the near future, states that several propositions have been made by the Allan Steamship Line recently, and that an important contract is about to be signed. It is said that plans have been submitted to the G.T.P.R. of the wharfage accommodation owned or leased by the Allan Line at Montreal, Halifax and St. John, and that C. M. Hays will make a study of this question on the other side as well. The present plan under discussion leaves Portland, Me., out of the question as a winter port altogether, and it is considered most likely that the Allan Line will withdraw most of its steamers from there as soon as the Transcontinental Ry. begins to haul freight.

The White Star-Dominion Lines' s.s. Megantic was launched at Belfast, Ireland, Dec. 10. This is the second vessel launched by the International Mercantile Marine Co. for the Canadian route, which is to be inaugurated on the re-opening of the St. Lawrence navigation season. The Laurentic, which was launched in Sept., 1908, was fully described in our Oct., 1908, issue. The Megantic is a sister ship, and is similar in every respect, except in the propelling machinery, which consists of balanced reciprocating engines driving twin screws, whereas the Laurentic is provided with a combination of reciprocating engines and low pressure turbine, driving triple screws. Each method represents a distinct principle in marine propulsion, and the results will be watched with considerable interest.

Grain Shipments from the Dual Ports

F. E. Gibbs, Dominion Grain Inspector, has issued the following statement, showing shipments of grain from Fort William and Port Arthur elevators from Sept. 1 to Dec. 12, 1908 both inclusive:

	Canadian Vessels.				Foreign Vessels.			
	Wheat.	Oats.	Barley.	Flax.	Wheat.	Oats.	Barley.	Flax.
Owen Sound..	586,608.10	724,485.12	44,074.00	.....	.....	.....	.....	.....
Midland.....	563,374.10	108,122.32	.....	.....	.....	.....	.....	.....
Tiffin.....	6,062,178.30	954,802.26	174,862.26	.....	.....	.....	.....	.....
Depot Harb'r	892,573.20	161,983.12	36,165.43	.....	.....	.....	.....	.....
Collingwood..	740,075.20	51,453.08	.....	.....	.....	.....	.....	.....
Point Edw'd .	835,065.50	71,819.14	188,767.10	74,197.51	.....	.....	.....	.....
Meaford.....	654,434.30	57,771.26	40,579.34	.....	.....	.....	.....	.....
Goderich.....	3,686,814.10	1,043,541.28	21,774.08	81,733.49	.....	.....	.....	.....
Pt. Colborne .	186,094.10	.....	.....	.....	.....	.....	.....	.....
Thorold.....	343,844.00	.....	.....	.....	.....	.....	.....	.....
S. Ste. Marie.	.....	1,764.24	.....	.....	.....	.....	.....	.....
Kingston....	4,900,565.20	244,511.06	194,381.05	48,981.08	.....	.....	.....	.....
Prescott.....	6,113.10	.....	.....	103,001.17	.....	.....	.....	.....
Montreal.....	2,951,271.50	522,391.12	210,593.34	78,665.12	.....	.....	.....	.....
Port Huron..	.....	.....	.....	.....	933,829.00	.....	.....	.....
Buffalo.....	1,186,496.10	.....	.....	.....	10,891,893.40	2,010,553.18	539,665.34	131,334.03
Erie.....	.....	.....	.....	.....	531,287.30	.....	.....	.....
Chicago.....	.....	.....	.....	.....	61,098.50	.....	.....	.....
	23,595,508.40	3,942,647.30	911,198.16	386,579.25	12,418,109.00	2,010,553.18	539,665.34	131,334.03

	1908	Same Period, 1907.	
Wheat.....	36,013,617.40	20,545,859.20	Navigation opened April 14.
Oats.....	5,953,201.14	2,040,620.14	Navigation closed Dec. 12.
Barley.....	1,450,864.02	578,523.36	
Flax.....	517,913.28	317,493.41	
	43,935,596.00	23,482,497.00	

C.P.R. LANDS

THE CANADIAN PACIFIC RAILWAY COMPANY have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10 W., 4th Meridian(generally)	8.00 " "
Map No. 5—South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta—Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre.

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160	Acres at	$ 8.00	per acre,	cash payment	$191.70	first year's interest	$65.28	and nine instalments of	$160.00
"	"	9.00	"	"	215.70	"	"	"	73.46	"	"	180.00
"	"	10.00	"	"	239.70	"	"	"	81.62	"	"	200.00
"	"	11.00	"	"	263.60	"	"	"	89.78	"	"	220.00
"	"	12.00	"	"	287.60	"	"	"	97 96	"	"	240.00
"	"	13.00	"	"	311.55	"	"	"	106.10	"	"	260.00
"	"	14.00	"	"	335.60	"	"	"	114.32	"	"	280.00
"	"	15.00	"	"	359.50	"	"	"	122 44	"	"	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

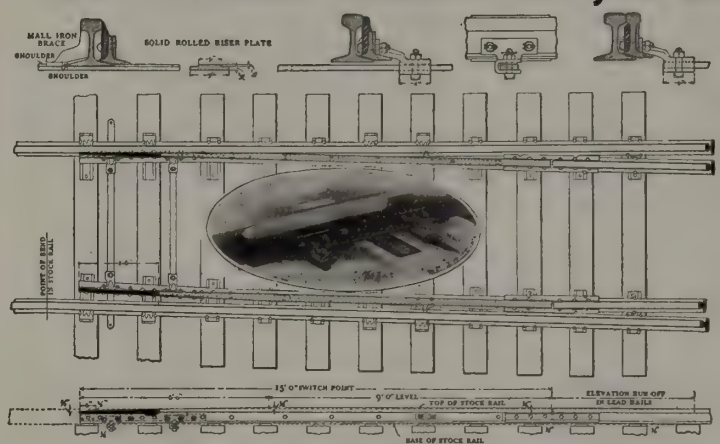
F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-settled districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

FOR HARD SERVICE, USE THE



It Will Save You Both Labor and Money

CORRESPONDENCE SOLICITED

RAMAPO MANGANESE POINTED SWITCH.- STYLE No. 12

MANUFACTURED BY

CANADIAN RAMAPO IRON WORKS, Limited

NIAGARA FALLS, ONT.

JAMES THOMSON, Pres. and Mang. Director. J. G. ALLAN, Vice-President. JAMES A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO.

LIMITED

MANUFACTURERS OF

CAST IRON PIPE

3 inches to 60 inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER

HAMILTON, ONT.

Established 1849

BRADSTREET'S

Capital and Surplus $1,500,000

OFFICES THROUGHOUT THE CIVILIZED WORLD

EXECUTIVE OFFICES

NOS. 346 and 348 BROADWAY, N.Y. CITY, U.S.A.

THE BRADSTREET COMPANY gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

CORRESPONDENCE INVITED

OFFICES IN CANADA:

Halifax, N.S.	Hamilton, Ont.	London, Ont.
Montreal, Que.	Ottawa, Ont.	Quebec, Que.
St. John, N.B.	Toronto, Ont.	Vancouver, B.C.
Calgary, Alta.		Winnipeg, Man

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

WILLIAM ABBOTT

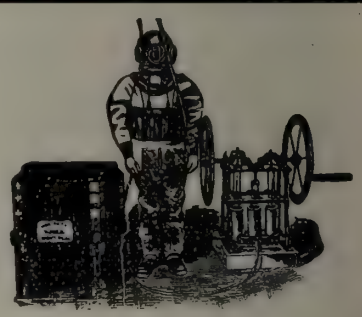
334 St. James Street

MONTREAL

SOLE AGENT IN CANADA FOR

"NOVO" "INTRA" CRUCIBLE STEEL

DRILLS, TOOLS, ETC.



JOHN DATE

MANUFACTURER OF

DIVING APPARATUS

FOR SALE OR HIRE

BRASS FOUNDER & COPPERSMITH

152 Craig St. West, MONTREAL

Referring to the projected additions and changes in the C.P.R. steamship service, the Fourth Vice-President of the C.P.R. is reported to have said in an interview in London, Eng., recently, that it is the company's intention to build a certain number of additional vessels for the Atlantic service, and that they will be at least 600 ft. long, with an average speed of 20 knots. As to the two vessels, the Empress of Japan and Empress of China, he said they may be transferred to the Australian route, but no definite arrangements have been made. He also stated that there was no intention of changing the present Pacific port, and no reason for doing so.

The subsidy agreement between the British Government and the C.P.R. for the conveyance of mails between Liverpool, Eng., and Hong Kong, China, for three years, expiring Apr. 6, 1911, provides for a service once in every three weeks during summer, and once every four weeks during winter. The period allowed for each trip is 818 hrs., when conveyance is by way of Quebec or Rimouski, and 853 hrs. when by way of Halifax or St. John. It is required that the masters, officers and three-fourths of the crews of vessels so employed on the Atlantic Ocean must be British subjects; but such provision is not made for vessels on the Pacific Ocean. Other provisions cover the power of the British Government to purchase or charter vessels engaged in the mail service, and prohibit the selling or hiring of them without the consent of the Admiralty and the Postmaster-General. The annual subsidy is £45,000.

Maritime Provinces and Newfoundland.

W. West has been appointed Government wharfinger at Victoria, N.S.

Capt. W. Watt, one of the old-time West Indies sea captains, died at Halifax, N.S., Dec. 11, aged 67.

The captain and crew of the U.S. schooner M. B. Stetson, which was wrecked off Newfoundland Dec. 3, arrived at Sydney, N.S., Dec. 15.

The U.S. bark Shawmut, from St. John, N.B., to City Island, N.Y., was wrecked off the Maine coast Dec. 1, and with her cargo, became a total loss.

The Whitman Fish Co.'s s.s. Inverness ran aground recently at Grand River, P.E.I. It is anticipated that she will be salved without any great damage.

Holliday Bros.' s.s. King Edward ran ashore at English Bay, Anticosti Island, recently, and was declared a total wreck. She was built at Hull, Eng., and was insured.

An attempt to defraud the underwriters is reported to have been unearthed in connection with the wreck of the schooner Sissie Bell at Whitehead, N.S. The captain of the schooner is said to have decamped to the U.S.

Wreckage and life belts, bearing the name s.s. Stanley, have been found along the west coast of Newfoundland. It was feared that the wrecking steamer of that name had met with disaster, but this turned out to be incorrect.

The U.S. barge No. 101, in tow of the steam tug John A. Hughes, foundered in the heavy seas off Seal Island, N.S., Dec. 3, the tug having a narrow escape. The crew of the barge, numbering seven, all of New York, were drowned.

The s.s. Valentia arrived in Halifax, N.S., Dec. 7, having in tow the Standard Oil Co.'s tank steamer Oriflamme, which had been picked up disabled, at sea, with her tail shaft broken. It is said that the vessel and cargo are valued at nearly £70,000.

The schooner Albertha ran ashore at Grand Manan, N.B., Dec. 9, and became a total loss. She was owned by T. J. Clarke, Halifax, N.S., and was built at La Have, N.S., in 1899. Her dimensions were: Length, 86.9 ft.; breadth, 24.2 ft.; depth, 9.5 ft.; 94 tons register.

The U.S. wooden steamboat Soo City, which sailed from the Great Lakes recently for southern waters, is presumed to have been wrecked in the Gulf of St. Lawrence. A quantity of wreckage bearing her name has been picked up at various points, and it is feared that both steamer and crew are lost.

The steam tug Serena E. is reported to have been purchased by the Partington Pulp and Paper Co., St. John, N.B. She was owned by Holly & Co., St. John, and was built at Liverpool, N.S., in 1899. Her dimensions are: Length, 54 ft.; breadth, 14 ft.; depth, 5.8 ft.; tonnage, 25 gross, 17 net; and has an engine of 8 n.h.p. driving a screw.

The Governor-General in Council has approved the Pilotage Commissioners' resolution for the district of Miramichi, N.B., providing that ships propelled wholly or in part by steam, employed in trading from port to port in the same province; or between any one or more of the provinces of Quebec, New Brunswick, Nova Scotia, or Prince Edward Island; or between ports in the said provinces and New York, or any U.S. port north thereof; or between ports in the said provinces and any port in Newfoundland, shall not be either wholly or partially exempted from the compulsory payment of pilotage dues.

Province of Quebec Marine.

The name of the steamboat North, no. 88,323, registered at Quebec, has been changed by order-in-council to Alcedo.

A portion of the Government wharf at Sorel collapsed recently. It was built about 5 years ago, and situated on the east side of the Richelieu River. The portion which collapsed was a continuation of a 500 ft. section which gave way some time ago.

The case of the Montreal Transportation Co. against the steamboat Norwalk came before the Montreal Admiralty Court Dec. 14, to decide a question of jurisdiction. The Norwalk, which is being sued for damages due to a collision in Lake St. Louis, resulting in the sinking of two barges loaded with grain was seized in the Welland Canal and proceedings instituted in the Toronto Admiralty Court. A motion by the plaintiff company to remove the case to Montreal, to which Justice Hodgins declined to accede, was followed by an application to the Exchequer Court, which transferred the case to the Quebec Admiralty Court. Justice Routhier finally referred the case to Montreal.

An important judgment, deciding a law point raised in Montreal for the first time, was rendered in the Admiralty Court there Dec. 14, in the case of the Richelieu and Ontario Navigation Co. against the steamboat Imperial, formerly Sovereign. This is a claim for damages on account of a collision between the Quebec and the Imperial. When the accident took place the company owning the Imperial was in liquidation, and, for that reason, permission was asked from the Superior Court by the R. & O.N. Co. to refer the proceedings to the Admiralty Court. The permission was granted, and the action taken accordingly. The defendants, however, contested this right of action in the Admiralty Court, and pleaded that the case should have been continued in the Superior Court, under the provisions of the Winding-up Act. The plaintiff demurred to this plea, but Justice Dunlop dismissed that demurrer and held that the position taken by the defendants was right.

Ontario and the Great Lakes.

The Government fishery cruiser Vigilant has been laid up at Toronto for the winter.

The Port Arthur Board of Trade has decided to press for the enlargement and deepening of the harbor to, at least, 25 ft.

The Niagara Navigation Co. has declared a dividend of 4% for the half-year, being at the rate of 8% for the year, payable Jan. 2.

The name of the steamboat Jos. B. Dewey, no. 122,344, registered at Toronto, has been changed, by order-in-council, to Maganetawan.

Capt. J. R. Maitland, of the steamboat Business, fell from a ladder while leaving his vessel at Kingston, Ont., recently, and was killed.

Capt. Foote, of the Northern Navigation Co.'s s.s. Huronic, will, it is said, take command of the company's s.s. Hamonic next season.

Notice was recently given that creditors' claims against the estate of the Lake Ontario Navigation Co., Ltd., in liquidation, had to be filed by Dec. 4.

The contract for the construction of the Rondeau breakwater and bridge has been awarded by the Public Works Department to W. Bermingham, Goderich.

The contract for section 7 of the Trent Valley canal, extending from Rice Lake to Healey's Falls, about 19 miles, has been awarded to the Randolph Macdonald Co., Toronto.

The Government barge Acetylene, while engaged in removing the buoys from the St. Lawrence Channel recently, sank through overloading. The buoys drifted away, but were recovered.

The Public Works Department has decided not to let a contract at present for an extension to the breakwater and bridge at Port Burwell, for which contracts were invited recently.

The Richelieu and Ontario Navigation Co. will, it is said, shortly place an order in England for a passenger steamboat of full canal size for operation on the north shore route of Lake Ontario.

The Owen Sound Board of Trade, towards the close of the lake navigation season, advised the various steamship companies operating on the lakes that free dockage was offered at that port for the winter.

W. H. Furtain, a retired lake captain, who died recently at Detroit, Mich., aged 81, was born at Amherstburg, Ont., and has been in the marine service since he was 11 years old, retiring in 1892. His first trip was from Amherstburg to Montreal, which occupied several weeks.

The construction of the wharf at Lakefield is progressing rapidly. The wharf is of concrete, and will be 518 ft. long. It is being built on three levels to accommodate various types of vessels. The heights and lengths being 1½ ft., above low water by 103 ft. long; 2½ ft. by 254 ft. long, and 4 ft. by 161 ft. long.

The Hamilton Steamboat Co. held its annual meeting Dec. 16, when a very successful season was reported. A half-yearly dividend of 5% was declared, making 10% for the year. The directors were re-elected as follows: President, Æ. Jarvis; Vice-President, A. G. Nicholls; Secretary, C. E. A. Goldman; General Manager, W. E. Bishop; other directors, A. Angstrom, A. Bruce, K.C., H. B. Whitton.

In our last issue, in referring to the recent burning of the s.s. Iroquois at Spanish Mills, we gave as the owners, the Huntsville, Lake of Bays and Lake Simcoe Navigation Co., of Huntsville, Ont., which was an error. That company's s.s. Iroquois does not operate on the route in question. The vessel which was destroyed was owned by T. C. Sims, Little Current, Ont., who holds a mail contract for the Manitoulin district.

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.

BRIDGES

TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

TURNBUCKLES

FORGINGS
OF ALL KINDS

CLEVIS NUTS

CLEVELAND CITY FORGE & IRON CO.
Cleveland, Ohio, U.S.A.

The "DILLON" is a Hinge-Stay fence made of extra quality wire, either all No. 9, or lighter if required.

"MONARCH" fence is made of No. 9 Hard wire throughout, and is of the regular straight-stay style.

ENQUIRY SOLICITED

The Owen Sound Wire Fence Co. LIMITED
OWEN SOUND, ONTARIO

THE LATROBE COUPLER

MADE ONLY IN STEEL

POSITIVE LOCK

POSITIVE LOCK SET

EFFECTIVE KNUCKLE THROWER

LATROBE STEEL AND COUPLER CO.
MAIN OFFICE: 1200 GIRARD B'D'G, PHILADELPHIA
Works: MELROSE PARK, ILL.
BRANCH OFFICE: 1720 OLD COLONY B'D'G, CHICAGO

New and Relaying RAILS

FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.

LOCOMOTIVES, CARS, AND OTHER EQUIPMENT.

John J. Gartshore
83 Front Street West - TORONTO

Referring to a paragraph in our last issue to the effect that it was reported that the Lake Ontario and Bay of Quinte Navigation Co. had let a contract for the construction of a steamboat, we are advised that the company has not let a contract, but that the report may refer to the owner of the s.s. Aletha, Mrs. A. Roys, which vessel was operated by Capt. Roys during the past season, under charter to the L.O. and B. of Q. N. Co.

The Knapp roller boat, which has been lying at Toronto for some years, was sold by judicial order recently, on the motion of the Turbine Steamship Co., which had obtained an award of $250 against the owner for damages sustained by the s.s. Turbinia. The roller boat was owned by M. Stonehouse, and, it is said, cost $125,000 to construct. The price realized was $595. The Polson Iron Works, Ltd., claimed $295 for fittings supplied.

H. C. Root and H. C. Busse, local manager and cashier respectively of the Great Lakes Towing Co., Sault Ste. Marie, Mich., were recently charged there with smuggling. The case arose out of the stranding of the s.s. Canadian at Drummond Island recently, while bound for Port Arthur, Ont., with general merchandise. The goods alleged to have been smuggled were thrown overboard, and salved by the crew of one of the Towing Co.'s lighters. The defendants were bound over to appear for trial.

H. Calderwood, of Toronto, recently visited Sault Ste. Marie for the purpose of advising the local Board of Trade regarding a site for a proposed dry dock. It is said that the probable site is west of the canal and near the power canal. The property is owned by the Government, and it is said that the natural flow of the St. Mary's Rapids would be all that is required to empty or fill the dock. The President of the Board of Trade is reported to have stated that financial arrangements for the scheme are completed.

The U.S. lake survey reports the levels of the great lakes, in feet above tide water, for Nov. as follows: Superior, 602.23; Michigan and Huron, 580.34; Erie, 571.69; Ontario, 245.92. Since the previous month there was a considerable fall in the levels, due to a continuance of the drought, as follows: Superior, 5½ ins.; Michigan and Huron, 6¼ ins.; Erie, 7½ ins.; Ontario, 6¼ ins.; while the anticipated fall during December is; Superior, 3½ ins.; Michigan and Huron, 4 ins.; Erie, 2 ins.; Ontario, 1½ ins. Compared with the average Nov. level for 10 years, Superior is 9¼ ins.; Michigan and Huron, 1¾ ins.; Erie, 8½ ins., and Ontario, 5 ins., lower.

The Inland Navigation Co., Hamilton, Ont., has placed a contract for the construction of a bulk freight steamer in Detroit, Mich. This is stated to be the first vessel to be constructed by a U.S. firm for Canadian interests, and it will be operated under the U.S. flag between Canadian and U.S. ports. A. B. Mackay, General Manager of the company, is reported to have said that little encouragement was offered to Canadian vessel owners, and he especially referred to the duties payable on repairs to Canadian vessels made in U.S. shipyards. Under the recent amendments to the Canada Shipping Act, the vessel will not be permitted to trade between Canadian ports, but may, of course, call at any one Canadian port on each trip. The dimensions of the new vessel are given as follows: Length, 500 ft. over all; keel, 480 ft.; beam, 56 ft.; depth, 30 ft. She will be used chiefly for the transportation of ore from the U.S. to Point Edward, Ont., for the Hamilton Steel and Iron Co.

A. E. Henschel, Chairman of a meeting of business men in New York recently, is reported to have said: "For years I predicted that the energetic efforts of our Canadian neighbors would succeed in providing the cheapest means of transportation between the great west and northwest and the Gulf of St. Lawrence. The withdrawal of the steamship service from the port of New York conclusively proves that Canada has walked off with the prize of furnishing such outlets to the sea. The Dominion is ably assisted in the diversion of traffic by New York's exorbitant wharfage and other terminal charges, which can only be eradicated by the action of the State Legislature. Such remedial legislation has met defeat year after year at Albany. Now, with the practical tying up of commerce between Buffalo and New York, it is time to use heroic remedies at the people's command, that will bring defiant railroad managers to terms. The Legislature should abolish in toto those great commerce annihilators, wharfage on vessels, exorbitant dock rentals, compulsory pilotage, grain elevating and storage and dockage on property at the port of New York, and thus eradicate the most serious evils which are inflicted upon New York's business prosperity."

C.P.R. S.S. PRINCESS CHARLOTTE, TO BE RUN BETWEEN VANCOUVER, B.C., AND SEATTLE, WASH.

For description see Aug., 1908, issue, page 603.

B.C. and Pacific Coast Marine.

The Vancouver Shipbuilding, Sealing and Trading Co., Ltd., is being wound up, with H. Lockwood, Vancouver, as liquidator.

The British Columbia Dredging Co., Ltd., is being voluntarily wound up. A. St. J. Whiting, Victoria, has been appointed liquidator.

Capts. A. Copp and C. Moore, Vancouver, have been appointed officers in the Fisheries Protection Service, each with the rank of master mariner.

The C.P.R. s.s. Glenfarg, in leaving Vancouver Dec. 7, struck on the Siwash Rock and sustained considerable damage. She returned to port and discharged her cargo.

The gas and bell buoy at Swiftsure Bank was reported to have disappeared Dec. 3, and no trace of it has been discovered. It is surmised that it was sunk in a collision.

The New Westminster steam tug Native has been overhauled and altered so as to accommodate passengers, and is now being operated between Prince Rupert and Port Essington daily excepting Sundays.

The Quamichan Mill Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $20,000, and power to own and operate steam and other vessels, and to carry on the general business of carriers by land and water.

The Glen Valley Logging Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $25,000, with power among other things to carry on the business of ship owners, carriers by land and sea, etc., and to own and operate steam and other vessels, wharves, docks, warehouses, etc., in connection therewith.

The Ship British Yeoman Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $24,000, to purchase or otherwise acquire the ship British Yeoman; to charter, hire and otherwise use and trade with same or any substituted vessel; to carry on the business of ship owner, and to act as general freighter.

The P. D. Hillis Logging Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $100,000, and power among other things to own and operate steam and other vessels, to carry passengers and merchandise, and to act as shipowners, wharfingers, barge owners, lightermen, and general carriers by land and water.

DOMINION BUREAU

ROBERT W. HUNT & COMPANY, ENGINEERS

BUREAU OF INSPECTION
TESTS AND CONSULTATION

CHEMICAL AND CEMENT LABORATORIES, MONTREAL

NORFOLK HOUSE, CANNON ST., LONDON

CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

E. L. DREWRY

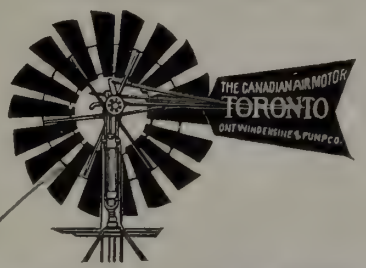
REDWOOD BREWERY
WINNIPEG, MANITOBA.

MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE,
EXTRA STOUT AND
REDWOOD LAGER.

ALSO THE.. GOLDEN KEY BRAND
ÆRATED WATERS.

POWER FOR PUMPING



THE
CANADIAN AIRMOTOR

IS THE MOST ECONOMICAL POWER

HALLADAY TANK FIXTURES
CURTIS PUMPS
OUTLET VALVES

Gasoline Engines ("The Stickney")
Wood and Steel Tanks
Tank Sub-Structures, etc.

ONTARIO WIND ENGINE AND PUMP CO., Limited
TORONTO

SHERIFFS
MANUFACTURING CO.

MILWAUKEE, WIS., U.S.A.
ESTABLISHED 1854

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited
MONTREAL, CANADA.

BARE AND INSULATED ELECTRIC WIRE
Electric Light Line Wire, Incandescent and Flexible Cords,
RAILWAY FEEDER AND TROLLEY WIRE
Americanite, Magnet, Office and Annunciator Wires,
Cables for Aerial and Underground Use.

CAR FITTINGS
For Electric and Steam Railway Equipment

Door Fixtures, Steel Steps, Couplers, Anti-Rattlers, Steel Gongs, Sash Springs, Fenders, Car Trimmings, Etc.

Wallace Supply Company
CHICAGO—NEW YORK

RAILWAY SPRINGS

ELLIPTIC
SEMI-ELLIPTIC
AND SPIRAL SPRINGS
OF EVERY DESCRIPTION

MANUFACTURED BY
B. J. Coghlin & Co., 432 St. Paul St., Montreal, Can.

FOR TICKET CASES AND COMMERCIAL FURNITURE

Of all descriptions to stock or special design, Apply to
The Canadian Office and School Furniture Co. Limited
Preston, Ontario

The B.C. Government has decided to construct a wharf at Prince Rupert, to be owned and operated by the Government. The first section to be built will be about 60 ft. long by 80 ft. deep, with a 20 ft. depth of water at low tide. Applications from steamship and other companies for permission to construct wharves there have been refused.

The Victoria Transportation Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $10,000, for the purpose of conveying passengers and goods in ships and boats between such places as the company may from time to time determine, for the buying and selling of steamboats and other ships and commodities, and for doing all such other things as are incidental or conducive to the attainment of the foregoing objects.

In response to questions relating to the transfer of the Esquimalt docks, etc., to the Canadian Government, the First Lord of the Admiralty said recently in the British House of Commons, it has been found that the transfer can only be effected by act of Parliament, and the terms will be embodied in a bill which it is hoped will be presented early next session. The fortress, works, docks, etc., have been maintained during the past two years by the Canadian Government.

The s.s. Powhatan, recently purchased at Hong Kong by the Mackenzie Steamship Co., arrived at Vancouver Dec. 8, 1908, where she will be overhauled and remodelled for the coast trade. The improvements include accommodation for 150 saloon passengers, dining saloon, and steerage accommodation for 250 passengers. She will be equipped with wireless telegraph apparatus. It is said that the price paid for her at Hong Kong was $55,000, and that a further $15,000 will be spent on her at Vancouver. She is to be re-named Rupert City. The Powhatan was built at Barrow-in-Furness, Eng., in 1886, and is equipped with engines having cylinders 18, 18, 38 and 60 ins. diar. by 42 ins. stroke; her dimensions are: Length, 310 ft.; breadth, 38.2 ft.; depth, 25.3 ft.; tonnage, 2,536 gross, 1,640 register.

Notices to Mariners.

The Department of Marine has issued the following notices:

No. 114. Nov. 25.—291. New Brunswick, Kennebecasis River, Reid Poirt, light established. 292. Newfoundland, west coast, Gulf of St. Lawrence, Rich Point, flashing light in operation.

No. 115. Nov. 26.—293. Quebec, Chaleur Bay, Little Bonaventure, light established. 294. Quebec, Gulf of St. Lawrence, Percé, intended light on wharf at north beach. 295. Quebec, River St. Lawrence, Goose Cape, intended change in character of light. 296. Quebec, River St. Lawrence, chart of Lake St. Peter issued.

No. 116. Nov. 30.—297. British Columbia, Fraser River, entrance to north arm, positions of lights and beacons.

No. 117. Dec. 1.—298. British Columbia, Brown passage, western entrance, Stenhouse shoal, position and color of gas and whistling buoy. 299. Japan, Tsugaru Strait, Yesan-Zaki light station, fog siren established.

No. 118. Dec. 2.—300. Ontario, St. Clair River, Chenal Ecarté, Walpole Island, range lights established. 301. Ontario, St. Clair River, Point Edward, shoal.

No. 119. Dec. 7.—302. Quebec, River St. Lawrence, Little Metis, new lighthouse, change in character of light. 303. Scotland, west coast, Firth of Clyde, Toward Point, character of fog signal altered.

No. 120. Dec. 9.—304. Quebec, Gulf of St. Lawrence, Magdalen Islands, Bird Rocks. tower increased in height. 305. Quebec, River St. Lawrence, Portneuf-en-bas, range lights established, position of main lighthouse.

No. 121. Dec. 11.—306. Quebec, Saguenay River, Rivière Valin, range lighthouses rebuilt.

No. 122. Dec. 14.—307. Nova Scotia, west coast, Yarmouth Sound, Hen and Chickens gas and bell buoy. 308. Nova Scotia, south coast, Sheet Harbor gas and whistling buoy, color of light. 309. Newfoundland, north end, Cape Bauld lighthouse, additional information. 310. Newfoundland, southwest coast, Cape Ray, permanent light.

No. 123. Dec. 15.—311. Quebec, Chaleur Bay, New Richmond wharf, light established. 312. Quebec, Chaleur Bay, St. Charles de Caplan, light established on wharf. 313. Quebec, Chaleur Bay, St. Godfroy, light established on wharf.

No. 124. Dec. 19.—314. Quebec, Richelieu River, Chambly, lights.

No. 125. Dec. 21.—315. British Columbia, Chatham Sound, Prince Rupert harbor, Fairview, change in character of buoy. 316. United States of America, Strait of Georgia, Patos Island light station, light changed.

Vessels Removed from the Register.

The following vessels have been removed from the Canadian register during Nov., 1908, for the reasons assigned: Steam—Alice, Pictou, N.S., 11 tons, unseaworthy; Constance, Hamilton, Ont., 1 ton, out of commission; Emma, Hamilton, Ont., 4 tons, out of commission; Fairy Queen, Hamilton, Ont., 1 ton, broken up; Glenrosa, Toronto, 43 tons, dismantled and burnt; Ida, Quebec, 7 tons, broken up; Lewis, Hamilton, Ont., 1 ton, out of existence; Lillie, Hamilton, Ont., 34 tons, out of existence; Messenger, Quebec, 18 tons, broken up; Ontario, Hamilton, Ont., 28 tons, broken up and burnt; Philadelphia, Sault Ste. Marie, Ont., 88 tons, stranded; R. Watts, Hamilton, Ont., 18 tons, out of commission; Raven, Vancouver, B.C., 17 tons, broken up. Sailing—Antelope, Hamilton, Ont., 180 tons, sold to the U.S.; Caribou, Victoria, 83 tons, stranded; Esme, Lunenburg, N.S., 5 tons, converted into a fishing boat; Ethel G., Arichat, N.S., 12 tons, lost at White Haven, N.S.; George L. Slipp, St. John, N.B., 98 tons, wrecked; Georgiana, Yarmouth, N.S., 90 tons, broken up; Ich dien, Lunenburg, N.S., 197 tons, burnt; Lebarge, Victoria, 63 tons, stranded; Lettie Dame, Chatham, N.B., 11 tons, burnt; May Flower, Lunenburg, N.S., 60 tons, stranded; Midge, Halifax, N.S., 3 tons, sold to U.S.; Minnie B., Lunenburg, N.S., 25 tons, transferred to Newfoundland; Morning Star, Chatham, N.B., 30 tons, wrecked; St. Michel, Quebec, 103 tons, broken up; Stella Maris, Quebec, 70 tons, broken up.

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING NOV., 1908.

Name.	No.	Where and When Built.	Engines, etc.	Length	B'dth.	Depth.	Gross tons.	Reg. tons.	Port of Registry.	Owners.
Alva W.....	116,319	Collingwood, Ont., 1908....	Screw 10 N.H.P.....	65.0	16.0	6.9	39	27	Amherstburg, Ont...	B. G. Westcott and F. S. Wright, Leamington, Ont.
Asawalgit....	126,321	Port Simpson, B.C., 1908..	" 1 "	32.4	9.2	3.3	16	11	Vancouver, B.C.....	F. G. Dudoward, Port Simpson, B.C.
Awahwanna 2.	122,347	Gravenhurst, Ont., 1908...	" 1 "	44.0	12.3	4.5	50	41	Toronto.....	F. Mills, Beaumaris, Ont.
Clovelly.....	126,232	Vancouver, B.C., 1908....	" 1 "	37.0	9.3	3.8	7	5	Victoria, B.C.....	L. A. Hayman, Kelowna, B.C.
Craigflower...	126,233	Victoria, B.C., 1908.....	Paddle 2 "	65.0	12.3	2.8	21	12	"	J. J. Sloan, Port Essington, B.C.
Creston.....	126,231	Nelson, B.C., 1908.....	" 1 "	35.4	8.9	2.7	5	3	"	G. W. Hale, Nelson, B.C.
Hattie Berry..	121,955	Collingwood, Ont., 1908....	Screw 10 "	66.0	15.0	7.3	42	29	Port Stanley, Ont....	W. Berry, Port Stanley, Ont.
Herbert M....	126,261	Hollow Lake, Ont., 1908...	" 6 "	51.0	12.1	4.3	44	27	Toronto.....	C. Mickle, Gravenhurst, Ont.
J. A. Mumford	117,167	Spencer's Is., N.S., 1903...	" 40 "	80.5	20.2	9.4	115	9	Windsor, N.S.....	Gypsum Packet Co., Ltd., Windsor, N.S.
Jack C.....	126,263	Fesserton, Ont., 1907.....	" 3 "	43.0	10.0	4.0	19	13	Toronto.....	W. W. Carter, Fesserton, Ont.
Lithia.....	126,322	N. Vancouver, B.C., 1908..	" 2 "	45.7	11.2	4.1	19	13	Vancouver, B.C.....	A. E. Brown, Vancouver, B.C.
Lottie and Marguerite	126,341	Allendale, N.S, 1908.....	" 8 "	62.9	14.4	6.0	32	22	Barrington, N.S.....	C. A. Goreham, M.O., Woods Harbour, N.S.
Marvis.....	126,220	Vancouver, B.C., 1908....	" 22 "	56.6	17.6	7.7	69	47	Vancouver, B.C.....	A. J. Hendry, M.O., Vancouver, B.C.
Owen.....	116,318	Detroit, Mich., 1881, 1908..	" 13 "	69.6	16.5	8.4	49	36	Amherstburg, Ont...	F. J. Trotter, Amherstburg, Ont.
Ralph C.....	126,264	Fesserton, Ont., 1908.....	" 3 "	32.0	8.6	4.0	12	7	Toronto.....	W. W. Carter, Fesserton, Ont.
Verda Belle...	121,956	Port Stanley, Ont., 1908..	" 4 "	55.5	13.6	6.4	24	23	Port Stanley, Ont....	J. R. and H. L. Moore, and W. S. Stanton, Port Stanley, Ont., J.O.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING NOV., 1908.

Name.	No.	Where and When Built.	Rig.	Length	B'dth.	Depth.	Reg. tons.	Port of Registry	Owners.
Lime Light.....	126,065	Souris, P.E.I., 1908.....	Schr.	94.0	26.0	9.2	155	Charlottet'n,P.E.I..	T. Kickham, Souris West, P.E.I.
M. L. Nickerson.	122,240	Cen.Woods Harb.,N.S.1908	Sloop	29.8	12.0	5.0	10	Barrington, N.S...	J. E. Nickerson, Central Woods Harbour, P.E.I.
Marie St.Laurent	125,999	Isle-aux-Coudres,Q., 1908..	Schr.	52.3	15.8	5.9	31	Quebec.....	J. and M. Harvey, Isle-aux-Coudres, Que.
S. T. Co. No. 3..	126,281	G.Salmon River,N.B.,1908.	"	175.3	38.5	12.6	623	St. John, N.B.....	R. Connely, Great Salmon River, N.B.
Tallahassee.....	111,800	Cheticamp, N.S., 1908.....	"	34.5	10.0	5.0	12	Pt.Hawkesb'y,N S.	S. Belfountaine, Cheticamp, N.S.
Watauga.....	126,115	Lunenburg, N.S., 1908.....	"	101.2	25.3	10.4	99	Lunenburg, N.S...	E. Backman, M.O., Lunenburg, N.S.
Winnie Hazel....	126,133	Port Dufferin, N.S., 1908..	"	66.5	20.9	8.1	68	Halifax, N.S.....	H. Verge, M.O., Sober Island, N.S.

CRUCIBLE SAW AND SHEET STEEL

MADE BY

JESSOP STEEL CO.

Washington, Pa., U.S.A.

TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools

JESSOP'S "ARK" HIGH SPEED AIR HARDENING STEEL

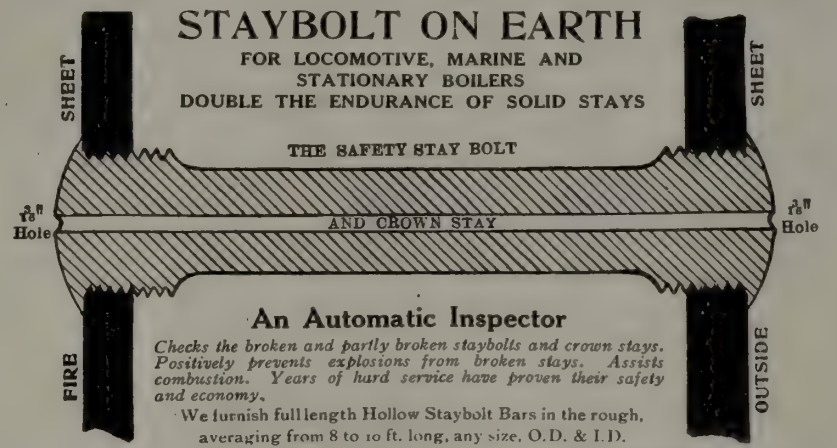
is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings

WILLIAM JESSOP & SONS, LTD., SHEFFIELD, ENG.

Chas. L. Bailey, Agent, 80 Bay Street, Toronto, Ontario

THE MOST ECONOMICAL AND SAFEST STAYBOLT ON EARTH

FOR LOCOMOTIVE, MARINE AND STATIONARY BOILERS
DOUBLE THE ENDURANCE OF SOLID STAYS



An Automatic Inspector

Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO

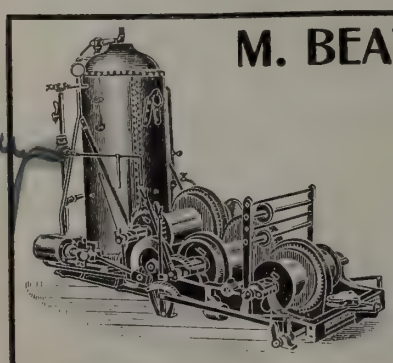
WIRE ROPE "ACME" BRAND GREENING

Highest grade of hoisting rope made. Extra tensile strength for heavy work.

Use Greening's Rope Grease for Lubrication

THE B. GREENING WIRE CO., Limited

HAMILTON, ONT. *MONTREAL, QUE.*



M. BEATTY & SONS, LIMITED WELLAND ONTARIO

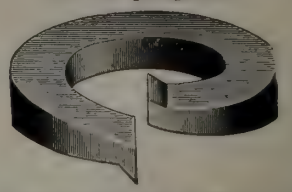
DREDGES, DITCHERS
STEAM SHOVELS
DERRICKS

SUBMARINE ROCK DRILLING MACHINERY

Hoisting Engines, Centrifugal Pumps for Water and Sand, Stone Derricks, Clam-Shell Buckets, Steel Skips, Coal and Concrete Tubs and other Contractors' Machinery.

THE POSITIVE LOCK WASHER

Is the BEST Nut LOCK for all purposes



WE ALSO MAKE PLAIN COILS AND TAIL NUT LOCKS

The Positive Lock Washer Co.
Sole Mfrs., Newark, N.J.
F. H. HOPKINS & CO., Agents, MONTREAL

UNIFORM CAPS

For officials and employes of Railway, Steamship, Express, Telegraph and other companies, Yacht Clubs, Etc.
Helmets and Uniform Caps for Police, Firemen, Bands, Societies, Etc.
Embroidery in Gold and Silver Bullion.

W. H. CODDINGTON
HAMILTON - - ONTARIO

NOTICE.—The Guelph and Goderich Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the branch line of its railway which it has been authorized to construct by section 7 of chapter 81 of the Statutes of Canada of 1904, and for other purposes.

A. H. MACDONALD,
Secretary.

Dated at Guelph, the 1st December, 1908.

NOTICE.—The Tillsonburg, Lake Erie and Pacific Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the extension of its railway which it has been authorized to construct by section 2 of chapter 105 of the Statutes of Canada of 1902, and for other purposes.

GEORGE A. WALKER,
Secretary.

Dated at Toronto, the 1st December, 1908.

NOTICE.—The Walkerton and Lucknow Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railway which it has been authorized to construct by section 8 of chapter 138 of the Statutes of Canada of 1904, and for other purposes.

GEORGE A. WALKER,
Secretary.

Dated at Toronto, the 1st December, 1908.

NOTICE.—The Ottawa, Northern and Western Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the extensions and branches of its railway which it has been authorized to construct by section 11 of chapter 87 of the Statutes of Canada of 1894, and for other purposes.

H. C. OSWALD,
Secretary.

Dated at Montreal, the 1st December, 1908.

SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie canals during 1908:

ARTICLES.			CANADIAN CANAL	U.S. CANAL	TOTAL
Copper	Eastbound	Net tons	9,261	92,474	101,735
Grain	"	Bushels	20,583,581	22,869,602	43,453,183
Building stone	"	Net tons	.....	1,019	1,019
Flour	"	Barrels	1,935,412	3,767,473	5,702,885
Iron ore	"	Net tons	7,375,690	17,251,898	24,627,588
Pig iron	"	"	.....	18,962	18,962
Lumber	"	M. ft. B.M.	30,248	423,513	453,761
Wheat	"	Bushels	57,910,082	48,131,791	106,041,873
General merchandise	"	Net tons	29,864	80,374	110,238
Passengers	"	Number	14,708	12,325	27,033
Coal, hard	Westbound	Net tons	361,057	1,023,686	1,384,743
Coal, soft	"	"	2,023,154	6,494,563	8,517,717
Flour	"	Barrels	1,470	20	1,490
Grain	"	Bushels	4,700	700	5,400
Manufactured iron	"	Net tons	126,832	143,514	270,346
Iron ore	"	"	22,752	.....	22,752
Salt	"	Barrels	98,713	448,510	547,223
General merchandise	"	Net tons	330,257	402,406	732,663
Passengers	"	Number	15,500	10,754	26,254
Vessel passages		Number	5,290	9,891	15,181
Registered tonnage		Net	9,604,231	21,487,499	31,091,730
Freight—Eastbound		Net tons	9,854,919	20,525,839	30,380,758
" Westbound		"	2,878,341	8,131,458	11,009,799
Total freight		"	12,733,260	28,657,297	41,390,557

COMPARATIVE STATEMENT FOR THE SEASONS OF 1907 AND 1908.

ITEMS.		1907	1908
Vessels—			
Steamers	Number	17,245	12,553
Sailing	"	2,303	1,355
Unregistered	"	889	1,273
Total	"	20,437	15,181
Lockages	"	14,020	10,685
Tonnage, Registered	Net	44,087,974	31,091,730
" Freight	"	58,217,214	41,390,557
Passengers	Number	62,758	53,287
Coal, hard	Net tons	1,506,668	1,384,743
" soft	"	9,893,427	8,517,717
Flour	Barrels	6,524,770	5,704,375
Wheat	Bushels	98,135,775	106,041,873
Grain	"	43,463,338	43,458,583
Manufactured and pig iron	Net tons	307,941	289,308
Salt	Barrels	460,802	547,223
Copper	Net tons	89,959	101,735
Iron ore	"	39,594,944	24,650,340
Lumber	M. ft. B. M.	649,320	453,761
Building stone	Net tons	898	1,019
General merchandise	"	1,022,654	842,901

The U.S. canal was opened April 27, and closed Dec. 13, 1908; season, 231 days.
The Canadian canal was opened April 21, and closed Dec. 15, 1908; season, 239 days.

Coasting Regulations for Foreign Vessels.

The following order-in-council was passed Dec. 17: Whereas by an order-in-council dated Jan. 13, 1908, it is provided that certain orders-in-council by which ships and vessels of certain foreign countries had been admitted to the coasting trade of Canada are repealed, on, from and after Jan. 1, 1909. And whereas applications have been made to allow the ships and vessels of certain foreign countries to participate in such coasting trade to a limited extent and for a temporary period, pending the acquisition of suitable British ships, to which class of vessels under the provisions of the order the coasting trade would on and after the said date be confined; therefore the Governor General in Council is pleased to order that the said order-in-council of Jan. 13, 1908, shall be and the same is hereby revoked and the following provisions substituted for the provisions therein contained.

All orders-in-council admitting ships or vessels of any foreign country to the coasting trade of Canada shall be and the same are hereby revoked on, from and after Jan. 1, 1909; and thereafter such ships and vessels shall be subject to the provisions of secs. 952 to 957 of the Canada Shipping Act, both inclusive; provided that steamships of not less than 1,500 tons gross each, of the following countries, namely, Italy, Germany, The Netherlands, Sweden, Norway, Austro-Hungary, Denmark, Belgium, the Argentine Republic and Japan, shall be admitted to the coasting trade of Canada in the carrying of goods and passengers coastwise between any port in Nova Scotia and any port in Quebec, and vice versa, on the same terms and conditions as are applicable to Canadian vessels, until Dec. 31, 1911.

The Welland Canal was officially closed for traffic Dec. 15, though vessels were reported as passing through some days later.

During Sept. and Oct., 1908, 12 workers were killed in the course of their employment in Canadian navigation, and 6 were injured. Of the fatalities, 9 were due to drowning, and one each to being struck by a wharf engine, to a fall, and to machinery. Of the non-fatal accidents, 3 were due to falling material, and one each to machinery, to flying material, and to a fall.

The Department of Marine has issued separate pamphlets recording the tide tables for 1909 for the eastern and western coasts of Canada, respectively. The tables in the former case cover the River and Gulf of St. Lawrence, the Bay of Fundy, Northumberland and Cabot Straits; and in the latter, the Fuca Strait, Strait of Georgia, and the northern coast, with data for slack water in the navigable passes and narrows. The information is arranged and classified by Dr. W. Bell Dawson, M.I.C.E., Engineer in charge of the Tidal and Current Survey.

Northern Navigation Co.'s S.S. Hamonic.

In our April and June, 1908, issue, we gave pretty full particulars of the vessel which is being built for the Northern Navigation Co. of Ontario, and which was launched recently, and named the Hamonic. The company has supplied a more extended description, from which the following extracts are taken:

Her dimensions are: Length over all, 365 ft.; length between perpendiculars, 341 ft.; extreme breadth, 50 ft.; moulded depth, 27 ft.; gross tonnage, 5,000 tons. She is being constructed with strict regard to the rules of the Bureau Veritas and the Great Lakes Register, and under the inspection of the last-named corporation. Her rating will therefore be the highest possible in the lake service.

The hull is moulded with remarkably fine lines forward and a clean run aft, having in view a speed commensurate with the power of her engines, easily sufficient to enable her to keep pace with her sister ship Huronic in her weekly trip from Sarnia to Port Arthur, Fort William, Duluth and return. It is being built on the channel system, with extra heavy frames and steel plates, tested at the mills, strong enough to pass the most rigid requirements in chemical, ductile and tensile qualities. The bottom is double, and fitted with 14 compartments that will hold 1,500 tons of water ballast. The hull itself is divided by watertight bulkheads into nine compartments. To prevent rolling, she is fitted with bilge-keelsons. Steel bulkheads running up to the spar deck completely separate the freight spaces from the part of the ship occupied by the passengers and crew.

The engines are quadruple expansion, having a total of 6,200 indicated h.p., fitted with a counterbalancing system to prevent vibration. Steam is to be furnished by six single-ended Scotch boilers of 250 lbs. pressure to the square inch, with forced draft. Bunker capacity will be provided for 500 tons of coal. The propelling machinery and boilers are placed very far aft, but the funnel will stand well amidship, between the two masts, so that the view in profile is well proportioned and pleasing. This disposition of the power plant is made with reference first to the comfort of passengers, and next to the best arrangement of freight space. The other machinery is placed forward of the engines and in various parts of the ship, as best will serve their purposes. She will be supplied with steam steering gear, capstans and windlasses, operating patent bow and kedge anchors.

As electricity will enter largely into the decoration of the ship she will be brilliantly illuminated. Current will be furnished by generators installed in duplicate. There is a complete artificial ice and refrigerating plant, and a wireless telegraph installation. The fire apparatus and life-saving equipment are ample, and up to the very strictest regulations and requirements of the Canadian and U.S. governments.

Seven gangways are provided on each side, five for freight, one for first-class passengers, and one for second-class passengers and supplies. The five gangways leading to the freight space on the main deck are so arranged that each gangway serves two hatches, which open into the ship's five cargo holds. The latest design of hoisting machinery for the handling of package freight will be installed. Her cargo capacity is about 3,000 tons of package freight, or 100,000 bushels of wheat, below the main deck. She will be fitted with elevator hatches to enable her to receive grain if desirable. She is being given ample refrigerated hold-space to provide for the increasing tonnage of perishable freight.

She will have roomy accommodation for

THE CANADIAN BRIDGE CO., LIMITED

WALKERVILLE, ONTARIO

MANUFACTURERS OF

LOCOMOTIVE TURNTABLES ROOFS STEEL BUILDINGS

Railway and Highway BRIDGES

STRUCTURAL IRON WORK OF ALL DESCRIPTIONS

LIMA LOCOMOTIVES

The C. & O. R.R. are now using nine 150-ton SHAY GEARED Locomotives, for heavy freight work. We build SHAY LOCOMOTIVES in 16 sizes, 13-150 tons. Any gauge.

CATALOG "V"

THE LIMA LOCOMOTIVE & MACHINE CO., 108 Third St., LIMA, OHIO

THE CLIFTON HOTEL

NIAGARA FALLS, CANADA.

Rates $4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

THE ONLY HOTEL THAT COMMANDS AN UNRIVALLED VIEW OF BOTH FALLS

HOW TO REACH THE CLIFTON HOTEL

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes.

Arriving on Michigan Central Rd., Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make CANADA plain in the address.

JOHN S. METCALF CO.

ENGINEERS AND CONTRACTORS FOR

GRAIN ELEVATORS ONLY

CONCRETE——STEEL——WOOD

Plans and Specifications our Specialty

MIDLAND, ONTARIO CHICAGO, ILL.

OCEAN STEAMSHIP OFFICES

AMERICAN LINE

Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.

Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE

New York—London
Sailing from New York Saturdays.

WHITE STAR—DOMINION LINE

Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Docks
(Bristol and Antwerp)

RED STAR LINE

New York—Antwerp—Paris
Sailing from New York Wednesdays.

WHITE STAR LINE

New York—Liverpool—Queenstown—
Sailing from New York Saturdays.

N.Y.—Plymouth—Cherbourg—Southampton
Sailing from New York Wednesdays.

Boston—Queenstown—Liverpool
Regular Departures

NEW YORK AND BOSTON MEDITERRANEAN SERVICE

Azores—Gibraltar—Naples—Genoa

Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured.

H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO,
41 KING ST. EAST, TORONTO.

400 first-class and 75 second-class passengers, as well as for officers and crew numbering 110 more altogether. There are five decks, namely, the main, spar, promenade, shade and bridge decks, the first three being of steel construction. On the awning deck there is ample open space forward and a wide promenade entirely around the ship. Seven trips around the deck constitute a mile. On the shade deck additional promenading and lounging space is provided, and that part forward of the bridge and over the drawing-room will give opportunity for observation to passengers while running the rivers or passing other interesting portions of the route.

The coloring throughout the ship is in one inclusive scheme of mahogany, soft green, old gold, ivory, grey and pure white. The distribution and effects vary in different rooms and departments, but the plan is consistent. As passengers enter by the first-class gangway, they will pass through a large vestibule with panels of plain steel done in ivory and rubbed smooth. From the vestibule a spacious hall and rotunda is entered. From the centre the grand stairway leads with easy ascent to the cabin above, all beautifully finished, tastefully decorated, airy and well lighted. This stairway, hall and rotunda are of French-Gothic design, carried out in dark finished quarter-sawn oak, and adorned with panels bearing fleur-de-lis ornaments in old gold. Carved oak pilasters with old gold capitals support a cornice and ceiling of panelled oak, relieved with old gold ornaments. A marble base eight inches high extends around both hall and rotunda, and the floor is laid with interlocking rubber tiles of a form and color corresponding with the rest.

The baggage rooms are at either side of the great stairway, so that passengers may have easy access to their belongings at any time. At the top the stairway opens upon a handsome lobby extending all the way across the ship, and having a width of some 35 ft. The walls and ceiling here are in the Flemish manner, toned in a grey-green and relieved in the panels, pilasters and cornice, with broad effects and delicate traceries in dull gold. At the forward end are the offices of the purser and steward, and aft are two screened spaces containing desks, with writing materials, for general use. Settees with cushioned upholstery in dull green leather stand along the walls, and comfortable arm-chairs are disposed about the floor. The staircase and well leading from the lobby to the grand saloon on the deck will have heavily carved newels and balusters touched with dull and burnished antique gold. The lighting of the lobby will be from 25 incandescents in the ceiling, and four-light newel candelabra carved and touched with old gold. The floor will be laid in rubber tiling finished with a six-inch marble base. From both sides of the lobby, corridors lead forward and aft, in lines that sweep to the curves of the ship's hull. That leading forward enlarges at its farther end into a large room, invitingly furnished, and called "the lounge." The corridors are finished in Colonial style, with panels in old ivory tones, and mouldings and cornices enriched with ornaments heightened with gold.

The deck will be almost entirely given over to berth accommodation. Three rows of staterooms on either side open off the corridors, so arranged that each stateroom is a roomy apartment. Each stateroom is independently lighted and ventilated from the outside, and the corridors as well are amply supplied with light and fresh air. The outside tier of staterooms is provided with double lower and single upper berths, and have extra large plate glass ports opening through the sides of the ship. Communicating doors open into adjoining rooms, so that they may be used "en suite." The inner tiers of rooms have single lower and upper berths, but these as well as all others are unusually wide and long. All staterooms are electric-lighted, fitted with electric bells, and supplied with running hot and cold water, the best quality of spring and hair mattresses, linens, rugs and napery. The decoration is in ivory white, corresponding with that of the corridors. The floor coverings are of the finest quality and of the company's special standard design, corresponding with those in the corridors.

The lounge at the forward end of the corridor has particularly attractive features, such as a carved fireplace, with cozy seats built in on either side, and a large circular table in the centre of the room surrounded by soft upholstered chairs, covered in rose velour. This room is finished in the Colonial style, carried on from the corridors. The wall and ceiling panels are in ivory finish. It is lighted from the ceiling by golden incandescents. A soft deep rose color carpet of a special design covers the floor. From the corridor opening off the after end of the lobby more staterooms are reached, and it terminates on either side with baths, barber shop and lavatories, all finished in quarter-sawn white oak with tiled floors, and fitted with porcelain fixtures.

From the lobby a broad stairway leads to the grand saloon on the promenade deck above. As it is expected this deck will form the principal rendezvous for passengers, the designer has been given opportunity for a free display of the decorator's art. Ascending the stairway, one is confronted by a large mirror and console, carving, paintings and panelling. This room, occupying the entire width of the cabin, is of imposing proportions. The style of decoration is Elizabethan. The native woodwork is of solid Mexican mahogany, spaced out in very attractive panels. At the forward end of the room, on both port and starboard sides, are staircases leading up to the observation room. These stairs, which have been specially treated by handsome carving, form principal features of the apartment. At the after end of the room are glass-panelled doors leading to the main dining-room. Directly next to these doors is the news-stand. On the port and starboard sides are doors leading out to the promenade. At the sides of these doors are niches with soft-cushioned divans, upholstered in dark green velvet, in harmonious effect with the mahogany woodwork. From the middle of the ceiling a dome, 16 by 22 ft., rises to the upper deck, forming a crown to the room, and giving it a feeling of loftiness and freedom. The dome is supported by carved grotesque heads and brackets, alternated by panel transoms with fine art glass, shedding a soft light over the whole. The frame of the dome is in panelled mahogany, enhanced with ornamental mouldings, burnished in gold. The most attractive features in the decoration are the lunette panels in the forward and after ends of the dome. These are painted in allegorical figures on a gold ground, and set in richly carved heavy gold frames. The floors are spread with carpets in green tones, and of a special design. The saloon is lighted by carved gold incandescents studded in each panel of the ceiling. Directly in the centre a heavily carved lantern is suspended by carved projected arms, all finished in antique burnished gold.

Off the forward end of the apartment opens a spacious corridor panelled in solid mahogany of a design in keeping with the grand saloon. A number of large and comfortable outside staterooms are located here. Still forward of these are eight parlor rooms, four on either side. They are treated in four different styles; two Colonial parlors finished in enamel and mahogany, decorated in shades of rich yellow, to match carpet; two Marie Antoinette parlors, finished in maple, decorated in shades of old rose, to match carpet; two Empire parlors finished in mahogany, decorated in shades of green, to match carpet; and two l'art nouveau parlors finished in oak, decorated in blue tones, to match carpet. Arabian lace curtains hang from gold cornices over the windows. The furnishings consist of brass beds, dainty mirrors, soft-cushioned divans, and small tables and chairs. Each parlor has a private bath attached, finished in white enamel, with tiled floors and porcelain fixtures.

At the forward end of the corridor on this deck is the drawing-room—a spacious apartment, terminating in a circular front, with large plate windows overlooking the bow deck, affording excellent opportunities for observation. The entire room and furnishings are in the style Louis XVI. The walls are mahogany, with panels in tapestry to correspond with the green lined upholstery of the furniture. The ceiling decorations are enriched with gold, and the cozy corners have divans built in.

At the after end of the saloon is the dining-room. The double entrances, of plate glass, small-panelled doors, are separated by a heavily constructed console supported by carved figures and surmounted by a large bevelled mirror. This room occupies the full width of the ship, and extends 80 ft. of its length. It is designed in the style of the French renaissance, with blending colors, and a prevailing spirit of warmth and light. All the woodwork is in select solid mahogany. The walls of the forward and after ends are in panelled recesses, and the carved sideboards, silver cabinets, and mirrors are kept in uniformity with the surroundings. The sides of the room are panelled alternate with broad plate glass windows, 38 by 32 inches in size. These windows being high above the water afford the traveller a good outlook. They are draped with heavy silk curtains in soft green tones, in harmony with the furnishings. The tables and revolving chairs are mahogany. The chair seats are upholstered in soft green velvet. The table covers correspond in color with the furnishings, and are woven with broad gold arabesque ornamentation. From the centre of the room a spacious dome rises to the top of the upper deck-house, supported by carved columns with capitals. The dome is panelled and has richly ornamented mouldings, finished and glazed in old ivory. The panels are decorated in tones of silver grey with tracery borders in gold. Art glass transoms at the base of the dome shed light into the centre of the room. At either end of the dome are lunette panels adorned with mural paintings, in heavily carved frames, finished in gold. The floors are laid in parquetry, upon which are spread runways of soft deep crimson carpets. The lighting of this room consists of single gold incandescents spaced so as to throw their rays down evenly upon the tables.

Back of the dining saloon are located the serving rooms, pantry, galley, chill-rooms, wineroom, storeroom, crew's and officers' mess rooms, and second-class dining-room. Here are found electric dish-washers and egg boilers, charcoal grills, steam vegetable cookers and stock kettles, bake ovens, dish warmers, carving table, etc. The chillrooms are artificially refrigerated by the ship's own ice-producing machinery. The dining-room and its attendant service rooms are located aft to prevent the odors penetrating the rest of the ship, but in addition ample ventilation

has been provided in the galley and serving rooms to free them from odors, and at the same time keep them cool for those who undertake the labor of ministering to a large passenger list

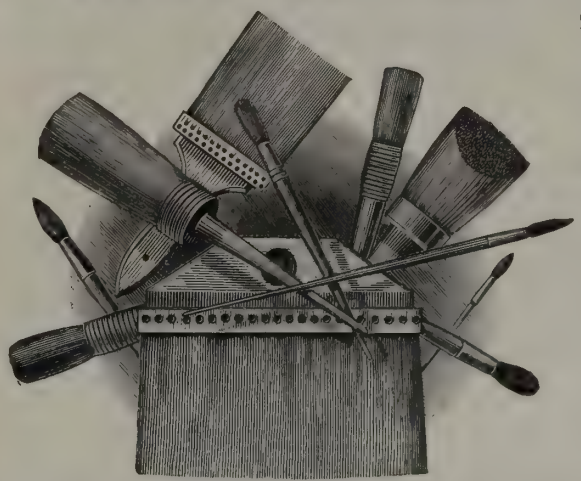
Still aft of this, and reached from the outside promenade, is the smoking-room, removed from other parts of the ship. It is designed and finished in German style. The walls are in white ash, finished in wax and brought out in dark mission color. Soft, luxuriously upholstered divans in red leather extend around the entire room. The furniture consists of tables and upholstered chairs of design and color in keeping with the surroundings. Through the centre of the ceiling a dome rises, providing both light and ventilation. The decorations of this room consist of panels in dull metal ground, with the ornamentation painted and picked out in strong coloring, in German design. The dome has art glass transoms. The floor is laid in parquetry, over which soft oriental rugs are strewn. The room is brilliantly lighted by incandescents suspended from the dome and ceiling.

WOLFE BRUSH COMPANY

JOHN H. HULTS, PRESIDENT

Successors to
WOLFE, WALKER & CO., LTD.

General Offices and Factory:
South 15th and Bingham Streets
Retail Store, 505 Liberty Street
PITTSBURG, PA.



Manufacturers of Superior
Brushes
Especially Designed For
Rail Roads

Delaware & Hudson
RAIL AND STEAMER LINES
Shortest, Quickest and
Best Rail Line between
MONTREAL AND NEW YORK

Trains leave Montreal 8.45, 10.55 a.m., and 7.40 p.m. Steamers through Lake Champlain the Magnificent and Lake George the Beautiful, which connect with trains to Albany via Saratoga Springs.

D. I. ROBERTS, Gen. Can. Pass. Agent.
W. H. HENRY, Can. Pass. Agent,
286 St. James Street, Montreal, P.Q.
A. A. HEARD, Gen. Pass. Agent,
Albany, New York.

THE JOHN McDOUGALL CALEDONIAN IRON WORKS CO.
MONTREAL, P.Q. LIMITED

BOILERS
Return Tubular, McDougall Water Tube, etc.
TANKS
Water Tanks, Penstocks, Filters.
MACHINERY
Complete Power Plants designed and installed.

Sole Manufacturers in Canada for Worthington Turbine Pumps and Doble Impulse Water Wheels.

DISTRICT SALES OFFICES

MONTREAL—82 Sovereign Bank Building.
WINNIPEG—251 Notre Dame Avenue.
NELSON—Josephine Street.
TORONTO—810 Traders Bank Building.
VANCOUVER—416 Seymour Street.
NEW GLASGOW, N.S.—Telephone Bldg.

STEEL, PEECH & TOZER,
LIMITED,
SHEFFIELD, ENGLAND.
STEEL AXLES, TYRES, AND SPRING STEEL.

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada.

SOLE AGENTS:
James Hutton & Co., Montreal.

IMPERIAL BANK
OF CANADA

CAPITAL AUTHORIZED - -	$10,000,000.00.
CAPITAL PAID UP - -	5,000,000.00.
REST - - - - -	5,000,000.00.

HEAD OFFICE - - TORONTO

AGENTS—London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.

Sterling exchange bought and sold. Letters of credit issued available in any part of the world.

SAVINGS DEPARTMENT—Interest allowed on deposits at current rate from date of deposit.

A general Banking business transacted.

Branches throughout the Dominion of Canada

BUSINESS CHANCES IN NEW TOWNS

Would you make a business investment in a prosperous new territory, if you were sure of success?

There are countless openings at the present time for men with limited capital in the new towns in the Dakotas, Montana, Idaho and Washington, along the PACIFIC COAST EXTENSION of the

CHICAGO
MILWAUKEE & ST. PAUL
RAILWAY

This new line is now open as far west as Butte, Montana. Within the next year the entire line will be completed and in operation to Seattle and Tacoma, Washington.

Investigate the openings. The persons who locate in this new country to engage in commercial or other lines, while its development is in its infancy, will be the well-to-do people of the future in this land of unlimited possibilities.

F. A. MILLER,
General Passenger Agent,
Chicago

DESCRIPTIVE LITERATURE FREE

A. J. TAYLOR,
Canadian Passenger Agent,
8 King St. East, Toronto

Anti-Rail Creepers

Made under Laas & Sponenburg, Canadian patents Nos. 97586, 97268, 97269. Shipments made from Walkerville, Ontario.

Belle City Malleable Iron Co.
RACINE, WIS.

Returning to the saloon and ascending the stairs at either side of it, one enters the observation room upon the shade deck, which is decorated in the style "l'art nouveau," panelled in quarter-sawn oak, and finished in forest green. Soft divans upholstered in golden brown velvet extend around the forward and after ends. Above the divans the walls are panelled in tapestry. In the centre and between the divans at the forward end a piano is placed. The entire side walls are composed of large plate glass windows, giving an unobstructed view over the water. At the after end of the room is an opening with an oriel bay window, looking down into the saloon. From the centre of the ceiling a skylight rises, for ventilation. The sashes are glazed with rich stained glass of style and color in keeping with the decorations. The skylight is supported by columns crowned with heavily carved capitals, and studded with incandescents. The ceiling panels are in shades of ivory relieved by ornaments in green and purple lines. The floor is laid in suitable material, in harmony with the color and design of the room, and of such a nature that it can be readily converted into a ballroom if required. Exits are provided to the large open deck, where promenading may be indulged in at will.

Forward of the observation room are quarters for deck officers. The captain's quarters come first, and comprise an ice and chartroom, stateroom and bath. Forward of this is the pilot house, and above it the bridge, fitted with engine, telegraph, telephone, binnacle, and other appliances required for the navigation and handling of the ship.

The second-class passenger quarters are on the after part of the spar deck, and completely separated from other parts of the ship. The sleeping rooms are plain but neatly finished, and are so arranged that they will accommodate small or large families, or parties of men or women. Ample toilet arrangements and promenading space have been provided for exercise, and an inside stairway leads to the second-class dining-room above.

The crew's quarters are located in sections of the ship most convenient to their several duties. They are well heated and ventilated, and thoroughly comfortable.

The Corinthian-Malin Head Collision.

In the matter of the investigation into the causes which led to a collision between the Allan Co.'s s.s. Corinthian, Capt. W. Dunlop, and the Head Line Co.'s s.s. Malin Head, Capt. Campbell, near Grosse Isle, River St. Lawrence, on Sept. 13, 1908, at or about 6.25 a.m., whereby serious damage was caused to both vessels, it being necessary to beach the Malin Head at St. Lawrence Point to prevent her from sinking; Commander Spain, R.N., Dominion Wreck Commissioner, has delivered the following judgment:

The Court, having very carefully enquired into all the circumstances attending the above-mentioned shipping casualty, and having carefully reviewed all the evidence which it was possible to obtain (some of which was very contradictory) from the officers and crews of both vessels, and other parties, finds as follows: Both the steamships, Corinthian and Malin Head, were well found in all the requirements of the Board of Trade, in regard to boats, life-saving apparatus, etc., etc.; the officers and pilots of both vessels held proper certificates; both ships had the necessary seamen on the look-out, and the necessary officers on the respective bridges.

It appears that the vessels sighted each other in the River St. Lawrence off Grosse Isle when they were distant approximately a mile and a half, and the lookout man from the Malin Head reported a steamer (which turned out to be the Corinthian) right ahead, and in his evidence says, "that she was end-on, or very nearly so, when he first sighted her"; the master, mate, pilot, and quartermaster of the Malin Head all verify this statement of the lookout. This being the case, the Malin Head's helm was ported one point, afterwards being put hard aport. There were no further orders given, either to the deck or the engine-room from this vessel. The Court has found grave difficulty in establishing correctly how far on the bow, if at all, the Malin Head was first sighted by those on board the Corinthian. The evidence of her lookout man is, that he reported the Malin Head right ahead; this verifies the lookout man of that vessel. The quartermaster and the lookout man of the Corinthian under cross-examination only admit that it is possible the Malin Head might have been a quarter to half a point on the starboard bow of their vessel. The captain, first and third officers, and pilot of the Corinthian consider that the Malin Head might have been anything from half a point to a point on the starboard bow, when she was first sighted.

The officers of the Malin Head gave evidence that if the two vessels had been allowed to continue the courses they were on, when first sighted, there would have been an end-on collision, whereas, the officers of the Corinthian state, that if the vessels had both continued their courses they would have passed clear of each other. The pilot of the Corinthian, however, thought it necessary to starboard a quarter of a point, which shows some doubt on his part in regard to the vessels passing clear. After the pilot gave this order to starboard, the captain immediately ordered more starboard helm, which, in the opinion of the Court, was not correct. The engines of the Corinthian were not reversed soon enough, and if her helm had been put hard a starboard, with the engines going astern, the vessels probably would have cleared.

The Court considers that the two vessels in question were meeting end-on, or nearly end-on, so as to involve risk of collision, and that article 18, of the International Regulations for preventing collisions at sea, governs the case. The Court is aware that the "port helm" rule should always be given the most careful attention, but the question for consideration is, whether the one vessel proceeding in one direction met the other vessel proceeding in another direction, so that if both ships had continued on their respective courses, they would have passed so near to each other as to involve risk of collision. It was contended by the officers of the Corinthian that no such risk was involved, and if the vessels had continued on their respective courses, they would have passed starboard to starboard and clear of each other; on the other hand, the officers of the Malin Head disagree with this, and state, as before mentioned, that if the vessels had continued on their respective courses as they were when they first sighted each other, an end-on collision would have resulted, and the Court, from all the evidence adduced, takes this view of the case, more especially, taking into consideration, that although the Corinthian officers thought the vessels were clear, her helm was starboarded. The duties therefore, which are imposed upon all steamers, under the existing rules, which require vessels meeting on courses parallel, and so close together as to render collision probable, to alter their courses to starboard and pass port to port, should have been carried out in this case. In the opinion of the Court, there was no peculiar or unusual circumstance in the case now under consideration, and in the absence of such, the rule requires each vessel to port her helm, and the officers of the vessel that do not carry out this rule are in the wrong.

The Court therefore considers that the master and pilot of the steamship Corinthian are to blame for the accident, severely censures Capt. William Dunlop, and fines pilot A. Santerre, who was in charge of the ship at the time of the disaster, $100, to be paid in four monthly instalments of $25 each. The master, pilot and officers of the Malin Head are exonerated from blame.

This judgment was concurred in by Capt. W. H. Logan, and pilot R. Baquet, who sat as assessors.

Among the Express Companies.

The Canadian Northern Ex. Co. has opened offices at Cardinal and Clanwilliam, Man.

The Canadian Ex. Co. reports the number of deer shipped by it out of the hunting country of Ontario during the open season, Nov. 1 to 15, inclusive, as 2,348, weighing 264,308 lbs.

The Board of Railway Commissioners passed an order Nov. 28, extending until June 1, 1909, the time for the approval of the Canadian and Dominion Ex. Cos.' contracts, tolls, by-laws, etc.

The Board of Railway Commissioners passed an order Nov. 30, approving the Pacific Ex. Co.'s contract forms, and extending to June 1, 1909, the time within which they may be used.

The Board of Railway Commissioners passed an order Nov. 30, extending until June 1, 1909, the time within which the National and American Ex. Cos.' contracts, by-laws, etc., may continue in use.

F. Barnett, agent Canadian Ex. Co., Albert, N.B., was found guilty of keeping for delivery intoxicating liquors, in contravention of the Scott Act, and was fined $50 and costs, or, in

Coaches
All Classes
Parlor
Combination
Baggage
Mail
Express
Private
Show Cars
For Sale

HOTCHKISS, BLUE & CO.
RAILWAY EQUIPMENT
241 RAILWAY EXCHANGE
CHICAGO

RE-BUILT AND SPECIAL CARS TO MEET ANY REQUIREMENTS

Locomotives
Steam
Shovels
Freight
Box
Flat
Gondola
Dump
Refrigerator
Cars
For Sale

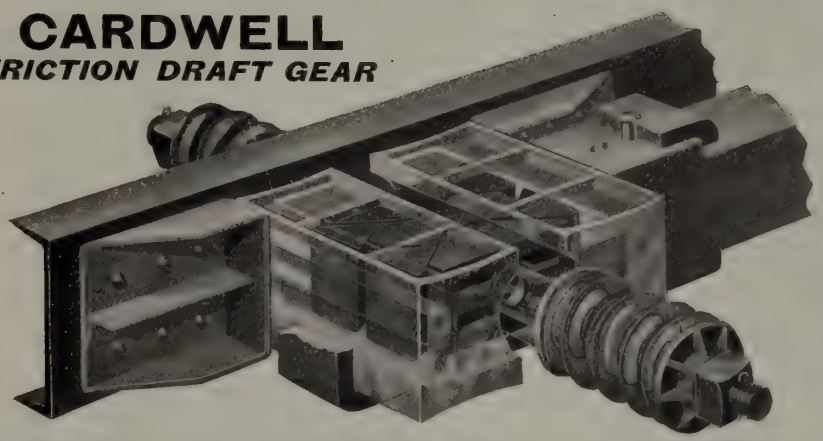
default, 85 days imprisonment. It is said he will appeal.

The Board of Railway Commissioners passed an order Nov. 28, approving the Maritime Ex. Co.'s forms MX 27 and 70, and permitting the same to be used until June 1, 1909, subject to the conditions of order of Dec. 19, 1907.

The Board of Railway Commissioners will, on Jan. 7, take up the matter of the mode by which the express companies operating throughout Canada shall be brought within its jurisdiction as provided by the bill passed last session of the Dominion Parliament.

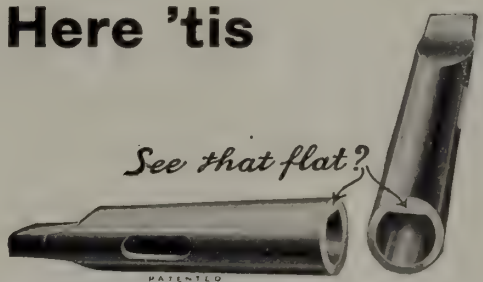
The Board of Railway Commissioners passed an order Nov. 28, directing that the contracts, conditions, by-laws, etc., of the United States and the Great Northern Ex. Cos. may continue to be used and shall have effect until June 1, 1909, subject to the terms and conditions contained in order dated Nov. 22, 1907. A similar order was passed the same day in reference to the National and American Ex. Cos.

CARDWELL
FRICTION DRAFT GEAR



Furnishes greatest protection to cars and locomotives.
CARDWELL MFG. COMPANY, CHICAGO, ILL.
Manufacturers of CARDWELL ROCKER SIDE BEARINGS.

Here 'tis

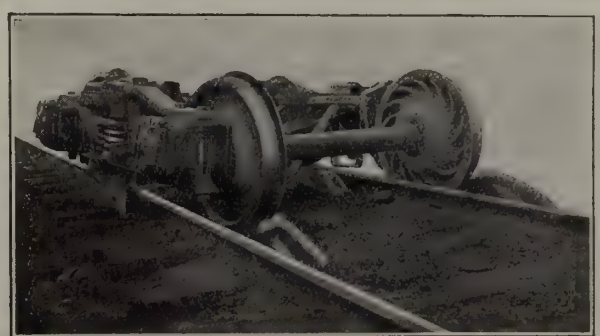


The "USE-EM-UP" Drill Socket

Grind a flat on those drills with twisted tangs and "USE-EM-UP"

AMERICAN SPECIALTY CO., CHICAGO
All makes of drills furnished to fit it

The Alexander Car Replacer



60,000 PAIRS IN USE.

Manufactured at **Montreal, Que.**, and **Scranton, Pa.**, of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY
F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

THIS APPEAL IS TO YOU!

The Hospital for Sick Children

REMEMBER That Every Sick Child in Ontario Whose Parents Cannot Afford to Pay for Treatment is Treated Free.

SICK BUT NOT NEGLECTED.

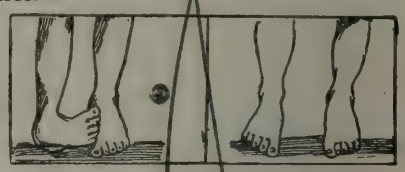
The Hospital is not a local institution, but provincial. The sick child from any place in Ontario, who can't pay, has the same privileges as the child living in Toronto.

The Hospital had last year in its beds and cots 1,245 patients—368 of these were from 241 places outside of Toronto. Seventy-five per cent. were children of poor people who could not afford to pay.

This Charity appeals to fathers and mothers of Ontario for funds to maintain the hundreds of sick children that it nurses every year.

Since its foundation the Institution has treated 14,458 children. 10,800 of these were unable to pay and were treated free.

HAPPY WITH HER DOLL.


BEFORE. AFTER.

There were 51 cases of club feet treated last year.

If you know of any child in your neighborhood who is sick, or has any deformity, send the parent's name to Secretary.

"THIS IS YOUR BOOK."

The Hospital's Cry is not for Itself, but for the Children, as your Dollars go not to the Hospital but to the Children.

Please Send Contributions to J. Ross Robertson, Chairman, or to Douglas Davidson, Sec.-Treas., The Hospital for Sick Children, College St., Toronto.

W. H. Burr, whose appointment as Traffic Manager of the Dominion and Western Ex. Companies, was announced in our Dec., 1908, issue, was born at Bloomington, Ill., Jan., 1864, and entered transportation service Oct., 1882, as clerk to W. S. Stout, then Superintendent of the Dominion Ex. Co. at Winnipeg, who had just brought that company into active operation. On the commencement of the business in Eastern Canada, in 1884, he was transferred to Toronto, and appointed Auditor in 1885. In 1895 he organized the Money Order Department, which has been under his supervision ever since; and since the inauguration of the Western Ex. Co. in 1895, operating over the Minneapolis, St. Paul and Sault Ste. Marie Ry. and other lines in the U.S., he has also acted as Auditor of that company. In Nov., 1906, he was appointed Chairman of the Express Traffic Association.

Telegraph and Cable Matters.

On the installation of the necessary instruments, the Temiskaming and Northern Ontario Ry. telegraph line to Englehart, Ont., will be put in operation.

The Marconi wireless telegraph operators were brought from their stations on the lower St. Lawrence to Quebec, Dec. 1, and the stations closed for the winter.

It is reported that the C.P.R. telegraph department has installed a 40-wire switchboard at Moose Jaw, Sask., to provide for the operation of a dual system of telegraphy and telephony.

The Kingston and Pembroke Ry. telegraphers have applied for the appointment of a conciliation board under the Lemieux Act, to enquire into their complaints. They have named J. G. O'Donoghue, Toronto, as their representative.

It is reported that a U.S. Company is about to erect a wireless telegraph station at Prince Rupert, B.C., and that if the necessary arrangements can be made construction will be commenced at once. This proposal means an additional station to the one to be erected there by the Dominion Government during this year.

C.P.R. telegraph offices have been opened at: Alberta,—Hillcrest and Sheppard; B.C., Haney; Manitoba,—Basswood and Hazelridge; Ontario,—Coldwater Jct.; Saskatchewan,—Aylesbury, Elbow, Guernsey, Southey, Welwyn, and Wilkie. The name of Peart, Ont., has been changed to Ambo.

Press reports from Winnipeg recently stated that J. W. Baker, one of the Winnipeg Board of Control, and formerly in the C.P.R. Telegraph Department, had been offered the position of Superintendent G.T.P.R. Telegraphs. We are officially advised that the report is without foundation and that no such appointment is contemplated.

R. N. Vyvyan, Engineer Marconi Wireless Telegraph Co., who built the Glace Bay station, is reported to have said in an interview at Liverpool, Eng., recently, that the company is at present transmitting an average of about 5,000 words a day, and expects shortly to deal with 30,000 or 40,000 words daily, and to extend its service throughout Canada, instead of confining its operations to Montreal only.

The Board of Railway Commissioners passed the following order 5679 Nov. 25: In the matter of the oral application of the G.T. Pacific Telegraph Co., made this day by its solicitor, D'Arcy Tate, for the approval of the tolls to be charged by the company for messages to be transmitted over that portion of its line in Ontario along the route of the G.T. Pacific Ry. between Westfort and Lake Superior Jct. Upon the recommendation of the Chief Traffic Officer of the Board, it is ordered that the tolls submitted, namely, the day toll of 25 cents for messages of 10 words or less, and 2 cents for each additional word, and the night toll of 25 cents for messages of 10 words or less, and 1 cent for each additional word, be temporarily approved; and that the company be authorized to charge and collect the tolls hereby approved until, unless otherwise ordered, the Board shall dispose of the question of telegraph tolls generally.

The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Supplies, &c.

Accident Insurance
Canadian Ry. Accident Ins. Co.....Ottawa, Ont.

Aerated Waters
E. L. Drewry.....Winnipeg.

Air Brakes and Fittings
Canada Foundry Co.....Toronto.
Canadian Westinghouse Co.....Hamilton, Ont.

Ales
E. L. Drewry.....Winnipeg.

Alloys
Goldschmidt Thermit Co.....Toronto.

Angle Bars
Hamilton Steel & Iron Co.....Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.

Anti Rail Creepers
Belle City Malleable Iron Co.....Racine, Wis.

Automobiles
Polson Iron Works, Ltd.....Toronto.

Axes
James Smart Mfg. Co.....Brockville, Ont.

Axe Steel
Montreal Steel Works.....Montreal.

Axles
James Hutton & Co.....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Beacons
International Marine Signal Co.....Ottawa.

Bearings, Side
Cardwell Mfg. Co.....Chicago, Ill.
Chicago Railway Equipment Co.....Chicago, Ill.
Dominion Car and Foundry Co.....Montreal.

Blankets and Bedding
The Hudson's Bay Co.....

Blasting Powder
Standard Explosives Limited.....Montreal.

Boilers
Babcock & Wilcox (Ltd.).....Montreal.
Canada Foundry Co.....Toronto.
Jno.McDougall,Caledonian IronWorks Co.Montreal
Polson Iron Works.....Toronto.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Portable
Canada Foundry Co.....Toronto.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Stationary and Marine
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd.....Amherst N.S.

Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.

Boilers, Steam
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Water Tube
Babcock & Wilcox (Ltd.).....Montreal.
Jno.McDougall Caledonian IronWorks Co.Montreal
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Tubes
Jas. W. Pyke & Co.....Montreal.

Bolsters
Dominion Car and Foundry Co.....Montreal.

Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.

Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Box Car Loaders
Mussens Limited.....Montreal.

Brake Beams
Chicago Railway Equipment Co.....Chicago, Ill.
Dominion Car and Foundry Co.....Montreal.

Brake Shoes
American Brake Shoe & F'dry Co..Mahwah, N.J.
Canadian Iron and Foundry Co.....Montreal.
N. J. Holden Co., Ltd.....Montreal.

Brass and Copper Cloth
The B. Greening Co.....Hamilton, Ont.

Bridge Numbers
Acton Burrows Limited.....Toronto.

Bridges
Canada Foundry Co.....Toronto.
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Buckets, Coal, Ore and Concrete
Canadian Fairbanks Co., Ltd.....Montreal.

Bumping Posts
McCord & Co.....Chicago, Ill.

Buoy Lighting
Safety Car Heating and Lighting Co..New York.

Buoys
International Marine Signal Co.....Ottawa.

Cables, Electric and Feeder
E. F. Phillips Electrical Works, Ltd.....Montreal.
The Wire and Cable Co.....Montreal.

Caps
W. H. Coddington.....Hamilton, Ont.

Car Castings
American Brake Shoe & F'dry Co..Mahwah, N.J.
Canadian Iron and Foundry Co.....Montreal.

Car Cleaner
Modoc Soap Co.....Philadelphia, Pa.

Car Closets
Duner Co.....Chicago, Ill.

Car Curtains and Fixtures
N. J. Holden Co., Ltd.....Montreal.

Car Fittings
Wallace Supply Co.....Chicago, Ill.

Car Heating
Canadian Gold Car Heating & Light'g Co.Montreal.
Safety Car Heating and Lighting Co...New York.

Car Lighting
Canadian Cold Car Heating & Light'g Co.Montreal.
Safety Car Heating and Lighting Co...New York.

Car Movers
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Car Replacers
Alexander Car Replacer Mfg. Co....Scranton, Pa.
N. J. Holden Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.

Car Wash Brushes
Wolfe Brush Co.....Pi tsburg, Pa.

Cars
American Car and Equipment Co....Chicago, Ill.
Canada Car Co. (Ltd.).....Montreal.
Canadian Fairbanks Co. Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Dominion Car and Foundry Co.....Montreal.
J. T. Gardner.....Chicago, Ill.
Hart-Otis Car Co. (Ltd.).....Montreal.
Hotchkiss, Blue & Co.....Chicago, Ill.
Ottawa Car Co., Ltd.....Ottawa.
Preston Car and Coach Co.. Ltd...Preston, Ont.
Rhodes, Curry & Co.....Amherst, N.S.

Car Windows
O. M. Edwards.....Syracuse, N.Y.

Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
Standard Steel Works Co.....Philadelphia, Pa.

Castings, Brass
Canadian Bronze Co.....Montreal.
Canadian Iron and Foundry Co.....Montreal.
Kerr Engine Co.....Walkerville Ont.

REAMERS ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

THE HIRAM L. PIPER COMPANY, LIMITED

MANUFACTURERS MONTREAL 17 to 23 NORMAND ST.

RAILWAY Lamps, Signals and Supplies.
MARINE Lamps, Search Lights and Supplies.
ELECTRIC Reflectors for Store Lighting.

SECOND-HAND EQUIPMENT

ALL CLASSES REBUILT

FREIGHT AND PASSENGER

CAR REPAIRS

AMERICAN CAR & EQUIPMENT CO., 1538 Monadnock, Chicago, Ill.

MALLEABLE IRON CASTINGS

of Superior Quality

CALT MALLEABLE IRON CO., LIMITED CALT, ONT.

THE CANADIAN BRONZE COMPANY, LTD.

BRASS WEARING PARTS FOR LOCOMOTIVES.
JOURNAL BEARINGS FOR FREIGHT AND PASSENGER SERVICE.
BABBITTS MISCELLANEOUS BRASS CASTINGS FOR RAILROADS.

Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

"PERFECTOL" Sold By The *Perfect* CAR CLEANER

THE MODOC SOAP CO. OF OHIO

HENRY ROEVER, President and Manager. Philadelphia Office—228 North Fourth Street, Philadelphia, Pa.

DUNER CAR CLOSET

ENAMELED IRON WET OR DRY CLOSET

DUNER CO. 116 SO. CLINTON ST., CHICAGO

THE PRESTON CAR & COACH CO.

PRESTON, ONT. Limited

—MANUFACTURERS OF—

Steam and Electric Railway Cars

For Neatness and Quality in

PRINTING

—WE HEAD THE LIST—

THE HUNTER ROSE CO., Limited

12-14 Sheppard St. - - - - - - Toronto

Ticket Agts. ILLINOIS CENTRAL — CENTRAL MISSISSIPPI VALLEY ROUTE — RAILROAD Please Note

Where **ILLINOIS CENTRAL RAILROAD COMPANY** has through car service both Coach and Sleeper and Free Chair Cars,

Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California,

New Orleans Route to the Pacific Coast
Mardi Gras, Feb. 22-23

Tourist rates to Arizona, Mexico, and California, liberal stopover privileges. Rates via New Orleans as low as via any other route.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Passenger Agent
305 ELLICOTT SQUARE, BUFFALO, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

MAIL JOB PRESS TORONTO

TRANSPORTATION PRINTING

FOR STREET PAVING MATERIAL

SCORIA BLOCKS are the cleanest, most noiseless and, durability considered, the cheapest yet discovered. And the supply is unlimited.

FOR ALL INFORMATION ADDRESS

W. H. KNOWLTON

Aberdeen Building, Toronto,
or Merchants Bank Building, Montreal

THE PARRY SOUND LUMBER CO.

Limited

13-15 TRADERS BANK BLDG., TORONTO

MANUFACTURERS OF

PINE, HEMLOCK, LUMBER, BRIDGE TIMBER
RAILWAY TIES, TELEGRAPH POLES,
LATH, SHINGLES, BOX SHOOKS

WOOD PATTERNS

—ALL KINDS—

High Grade. Right Prices. Prompt Delivery.

THE HAMILTON PATTERN WORKS

HAMILTON, ONT.

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS' MACHINERY, address

THE ROBERTSON MACHINERY CO.

WELLAND, ONT. Limited

Castings, Iron
Canada Car Co., Ltd.....Montreal.
Canadian Iron and Foundry Co.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Castings, Iron and Steel
American Brake Shoe & F'dry Co—Mahwah, N.J.

Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.

Castings, Steel
Canadian Iron and Foundry Co.....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry & Co.....Amherst N.S.

Cast-Steel Hammers
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cast Steel Track Tools
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cast Steel Wrenches
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cement Machinery
Jas. W. Pyke & Co.....Montreal.

Chains
B. J. Coghlin & Co.....Montreal.

Charcoal Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.

Clevis Nuts
Cleveland City Forge & Iron Co....Cleveland, O.

Coal Haulage Ropes
The B. Greening Co.....Hamilton, Ont.

Compressors, Air
Canadian Rand Co.....Montreal.

Concrete Mixers and Rock Crushers
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Construction
Cleve-Mor Engin'ing & Cons'tion Co.Cleveland, O.

Contractors' Machinery and Plant
American Car and Equipment Co....Chicago, Ill.
American Hoist and Derrick Co...St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Canadian Fairbanks Co., Ltd.....Montreal.
J. T. Gardner.....Chicago, Ill
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Toronto Pressed Steel Co.....Toronto.

Contractors' Supplies
F. H. Hopkins & Co.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Conveyors, Coal and Ash
Babcock & Wilcox (Ltd.).....Montreal.

Copying Presses
James Smart Mfg. Co.....Brockville, Ont.

Corrugated Furnaces
Continental Iron Works.....Brooklyn, N.Y.

Counter Dusters
Wolfe Brush Co.....Pitttburg, Pa.

Couplers, Car and Locomotive
Acme Railway Equipment Co..Philadelphia, Pa.
Dominion Car and Foundry Co.....Montreal.
Latrobe Steel & Coupler Co....Philadelphia, Pa.
McConway & Torley Co.....Pittsburg, Pa.
National Malleable Castings Co..Cleveland, Ohio.
Taylor & Arnold.....Montreal.
Washburn Steel Castings & Coupler Co., ...Minneapolis, Minn.

Cranes
Canadian Fairbanks Co., Ltd.....Montreal.

Cranes, Electric
Babcock & Wilcox.....Montreal.
Canada Foundry Co.....Toronto.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.

Cranes, Locomotive
American Hoist and Derrick Co....St. Paul, Minn.

Cross Arms, Top Pins and Side Blocks
Canadian General Electric Co.....Toronto.

Cross Arm Braces
Canadian General Electric Co.....Toronto.
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Crossing Gates
The N. L. Piper Railway Supply Co.....Toronto.

Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Culvert Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co..Hamilton.

Cuts
Acton Burrows Limited.....Toronto.

Derailing Devices
Hayes Track Appliance Co.....Geneva, N.Y.

Derrick Ropes
Dominion Wire Rope Co.....Montreal.
The B. Greening Co.....Hamilton, Ont.

Derricks
American Hoist and Derrick Co....St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Miller Bros. & Toms.....Montreal.
Mussens Limited.....Montreal.

Dies
Butterfield & Co.....Rock Island Que.

Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.

Doors (Ex-Platform Trap)
O. M. Edwards.....Syracuse, N.Y.

Door Signs
Acton Burrows Limited.....Toronto.

Draft Gear
Cardwell Mfg. Co.....Chicago, Ill.
Farlow Draft Gear Co.....Baltimore, Md.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.

Dredges
M. Beatty & Sons.....Welland, Ont.

Drills
W. Abbott .....Montreal.

Drills, Air
Canadian Rand Co.....Montreal.

Drill Sockets
American Specialty Co.....Chicago, Ill.

Dry Goods
The Hudson's Bay Co.....

Dump Cars (Contractors')
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Dust Guards
Harrison Dust Guard Co.....Chicago, Ill.

Dynamo and Electric Castings
American Brake Shoe & F'dry Co..Mahwah, N.J.

Economizers
Babcock & Wilcox (Ltd.).....Montreal.

Electric Car Route Signs
Acton Burrows Limited.....Toronto.

Electric Ry. Brake Shoes
American Brake Shoe & F'dry Co..Mahwah, N.J.

Electrical Fuses
Standard Explosives Limited.....Montreal.

Enameled Iron Signs
Acton Burrows Limited.....Toronto.

Engineering
Cleve-Mor Engin'ing & Cons'tion Co.Cleveland, O.

Engines, Automatic
Robb Engineering Co., Limited....Amherst, N.S.

Engines, Corliss
Robb Engineering Co., Limited....Amherst, N.S.

Engines, Gasolene
Canadian Fairbanks Co.....Montreal.
Ontario Wind Engine and Pump Co.....Toronto.

Engines, Hoisting
American Hoist and Derrick Co...St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Canadian Fairbanks Co., Ltd.....Montreal.
Robertson Mfg. Co.....Welland, Ont.

Engines, Stationary and Marine
Polson Iron Works.....Toronto.
Robb Engineering Co., Limited....Amherst, N.S.

Explosives
Standard Explosives Limited.....Montreal.

Express Office Signs
Acton Burrows Limited.....Toronto.

Feedwater Heaters
Robb Engineering Co., Limited....Amherst, N.S.

Fencing
Canada Foundry Co.....Toronto.
McGregor Banwell Fence Co....Walkerville, Ont.
Owen Sound Wire Fence Co..Owen Sound, Ont.

Fire Brick
Mussens Limited.....Montreal.

Flags
The Hudson's Bay Co.....

Flour
The Hudson's Bay Co.....

Fog Signals
International Marine Signal Co.....Ottawa.

Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co....Cleveland, O.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton, Ont.
Standard Steel Works Co.....Philadelphia, Pa.

Foundry Appliances
Goldschmidt Thermit Co.....Toronto.

Frogs
Canadian Ramapo Iron Wks, Ltd..Niagara Fs, Ont.

Fuse Batteries
Standard Explosives Limited.....Montreal.

Fuse Detonators
Standard Explosives Limited.....Montreal.

Gaskets
McCord & Co.....Chicago, Ill.

Gas Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co..Hamilton.

Gates
Canada Foundry Co.....Toronto.
McGregor Banwell Fence Co....Walkerville, Ont.
Owen Sound Wire Fence Co...Owen Sound, Ont.

Glue Brushes
Wolfe Brush Co.....Pittsburg, Pa.

Grain Elevators
John S. Metcalfe Co.....Chicago, Ill.

Groceries
The Hudson's Bay Company.....

Hammers
James Smart Mfg. Co.....Brockville, Ont.

Handcars
Canadian Fairbanks Co., Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel C .....Toronto.

Hardware
The Hudson's Bay Co.....
Rice Lewis & Son.....Toronto.

Hats
W. H. Coddington .....Hamilton, Ont.

Headlights
The N. L. Piper Railway Supply Co....Toronto.
Pyle National Electric Headlight Co..Chicago, Ill.

Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.

Hoisting Machinery
American Hoist and Derrick Co...St. Paul, Minn.
Brown Hoisting Machinery Co...Cleveland, Ohio.
Canadian Fairbanks Co., Ltd.....Montreal.

Hoists, Electric
American Hoist and Derrick Co....St. Paul, Minn.

Hoists (Pneumatic)
Taylor & Arnold.....Montreal.

Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.

Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.

Hydrants
Canadian Fairbanks Co., Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Illustrations
Acton Burrows Limited.....Toronto.

Inspections
R W. Hunt & Co.....Montreal.

Interlocking Plant and Signals
Montreal Steel Works.....Montreal.
Saxby and Farmer Ltd.....Montreal.

Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton, Ont.

Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton, Ont.

Iron Signs
Acton Burrows Limited.....Toronto.

Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.

Jacks
Canadian Fairbanks Co., Ltd.....Montreal.
H and E Lifting Jack Co.....Waterville, Que.
F. H. Hopkins & Co., Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.

Japans
McCaskill, Dougall & Co.....Montreal.

Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.

Journal Boxes
N. J. Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Kalsomine Brushes
Wolfe Brush Co.....Pittsburg, Pa.

Lager Beer, &c.
E. L. Drewry.....Winnipeg.

Lamps, Incandescent
Canadian Westinghouse Co.....Hamilton, Ont.

Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Railway Supply Co....Toronto.

Launches
Polson Iron Works.....Toronto.

Lights, Contractors' and Wrecking
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Locomotive Cranes
American Hoist and Derrick Co...St. Paul, Minn.

Locomotive Driver Brake Shoe
American Brake & Shoe F'dry Co..Mahwah, N.J.
Canadian Iron and Foundry Co.....Montreal.

Locomotive Gauges
Taylor & Arnold.....Montreal.

Locomotive Lagging and Covering
Taylor & Arnold.....Montreal.

Locomotive Pop Valves
Taylor & Arnold.....Montreal.

Locomotives (Compressed Air)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.
Montreal Locomotive Works (Ltd.)....Montreal.
H. K. Porter Co.....Pittsburg, Pa.

Locomotives (Geared)
Lima Locomotive Co.....Lima, O.

Locomotives (Electric)
Burnham, Williams & Co.....Philadelphia, Pa.
Canada Foundry Co.....Toronto.
Montreal Locomotive Works (Ltd.).....Montreal.

Locomotives (Logging)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.
H. K. Porter Co.....Pittsburg, Pa.

Locomotives (Rack)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.
Montreal Locomotive Works (Ltd.).....Montreal.

Locomotives (Steam)
American Car and Equipment Co.....Chicago, Ill.
Burnham, Williams & Co.....Philadelphia, Pa.
Canada Foundry Co.....Toronto.
Canadian Fairbanks Co., Ltd.....Montreal.
Canadian Locomotive Co.....Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hotchkiss, Blue & Co.....Chicago, Ill.
Lima Locomotive Co.....Lima, O.
Montreal Locomotive Works (Ltd.).....Montreal.
H. K. Porter Co.....Pittsburg, Pa.
Vulcan Iron Works.....Wilkesbarre, Pa.

Locomotive Staybolts
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.
Flannery Bolt Co.....Pittsburg, Pa.

Lubricators
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.

Lumber
Parry Sound Lumber Co.....Toronto.

Machine Tools
W. Abbott.....Montreal.

Machinery, Marine
Sheriffs Mfg. Co.....Milwaukee, Wis.

Machinery, Power
Jno. McDougall Caledonian Iron Works Co. Montreal

Machinery Special
Miller Bros. & Toms.....Montreal.

Machinery, Transmission
Miller Bros. & Toms.....Montreal.

Machinery, Wood and Iron Working
Canadian Fairbanks Co., Ltd.....Montreal.

Manganese Steel Castings
Montreal Steel Works.....Montreal.

Manhole Frames and Covers
American Brake Shoe & F'dry Co...Mahwah, N.J.
Canadian Iron and Foundry Co.....Montreal.

Marine Repairs
Goldschmidt Thermit Co.....Toronto.

Marine Supplies
Rice Lewis & Son.....Toronto.

Measuring Tapes
Lufkin Rule Co.....Saginaw, Mich.

Metals
Goldschmidt Thermit Co.....Toronto.

Milepost Numbers
Acton Burrows Limited.....Toronto.

Milling Cutters
W. Abbott.....Montreal.

Motors
Canadian Fairbanks Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Nickel
The Orford Copper Co.....New York.

Nickel for Nickel Steel
The Orford Copper Co.....New York.

Numbers
Acton Burrows Limited.....Toronto.

Nut Locks
Positive Lock Washer Co.....Newark, N.J.

Nuts, Square and Hexagon
Canada Foundry Co.....Toronto.
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Oakum
The Hudson's Bay Company.....

Office Fittings
Canadian Office & School Furniture Co. Preston, Ont.

Office Signs
Acton Burrows Limited.....Toronto.

Oil Tanks
S. F. Bowser & Co., Limited.....Toronto.

Oils
Galena Signal Oil Co..Franklin, Pa., and Toronto.

Packing
Canadian Fairbanks Co., Ltd.....Montreal.
The N. L. Piper Railway Supply Co.....Toronto.

Paint Brushes
Wolfe Brush Co.....Pittsburg, Pa.

Painters' Dusters
Wolfe Brush Co.....Pittsburg, Pa.

Painters' Scrubs
Wolfe Brush Co.....Pittsburg, Pa.

Painters' Wall Brushes
Wolfe Brush Co.....Pittsburg, Pa.

Patterns
Hamilton Pattern Works.....Hamilton, Ont.

Pinch Bars
The N. L. Piper Railway Supply Co.....Toronto.

Pipe Stocks
Butterfield & Co.....Rock Island, Que.

Platforms, Steel
Standard Coupler Co.....New York City.

Ploughs, Contractors'
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Pneumatic Tools
N. J. Holden Co., Ltd.....Montreal.

Porter
E. L. Drewry.....Winnipeg.

Portable Boilers
Babcock & Wilcox (Ltd.).....Montreal.

Printing
The Hunter-Rose Co.....Toronto.
The Mail Job Printing Company.....Toronto.

Propeller Wheels
Sheriffs Mfg. Co.....Milwaukee, Wis.

Pumps
S. F. Bowser & Co., Limited.....Toronto.
Canadian Fairbanks Co.....Montreal.
Canada Foundry Co.....Toronto.
Ontario Wind Engine and Pump Co....Toronto.
James Smart Mfg. Co.....Brockville, Ont.

Pumps (Centrifugal)
M. Beatty & Sons.....Welland, Ont.

Rail Benders, Roller
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

Rails (new)
Dominion Iron & Steel Co.....Sydney, N.S.
Drummond, McCall & Co.....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co.....Montreal.

Rails (for relaying)
F. H. Hopkins & Co.....Montreal.
J. J. Gartshore.....Toronto.
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.

Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada.....Montreal.

Railway Pile Drivers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Railway Supplies
Canadian Fairbanks Co.....Montreal.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Railway Supply Co....Toronto.
Rice Lewis & Son.....Toronto.

Ranges
Stearnes Steel Range Co.....Chicago, Ill.

Reamers
W. Abbott.....Montreal.
Butterfield & Co.....Rock Island, Que.

Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Rolled Wheels
Standard Steel Works Co.....Philadelphia, Pa.

Roof Trusses
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Co.....

Rotary Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.

Sash Balances
O. M. Edwards.....Syracuse, N.Y.

Sash Locks
O. M. Edwards.....Syracuse, N.Y.

Saw Steel
Montreal Steel Works.....Montreal.

Scales
Canadian Fairbanks Co., Ltd.....Montreal.

Scoria Blocks
W. H. Knowlton.....Toronto.

Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

BABCOCK & WILCOX
LIMITED

PATENT WATER-TUBE BOILERS
(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes, MONTREAL

BRANCH—TRADERS BANK BUILDING, TORONTO

The Purchasing Agents' Guide—Continued.

Screw Plates
Butterfield & Co. ..... Rock Island, Que.

Screws, Coach and Lag
Montreal Rolling Mills Co. ..... Montreal.
Toronto Bolt and Forging Co. ..... Toronto.

Semaphore Arms
Acton Burrows Limited ..... Toronto.

Semaphores
The N. L. Piper Railway Supply Co. ..... Toronto.
Saxby and Farmer Ltd. ..... Montreal.

Sewer Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co. . Hamilton.

Shade Rollers
O. M. Edwards ..... Syracuse, N.Y.

Shafting, Hollow
Falls Hollow Staybolt Co. . Cuyahoga Falls, Ohio.

Shaking Grates
Babcock & Wilcox (Ltd.). ..... Montreal.

Ship Lamps
The Hiram L. Piper Co. ..... Montreal.
The N. L. Piper Railway Supply Co. ..... Toronto.

Ships
Polson Iron Works ..... Toronto.

Shops
The Hudson's Bay Co. .....

Signal House Numbers
Acton Burrows Limited ..... Toronto.

Signals
The Hiram L. Piper Co. ..... Montreal.
N. L. Piper Railway Supply Co. ..... Toronto.
Saxby and Farmer, Limited. ..... Montreal.

Signs
Acton Burrows Limited ..... Toronto.

Skylights
A. Edgcumbe Rendle ..... Montreal.

Slack Adjusters
Chicago Railway Equipment Co. ..... Chicago, Ill.

Sledges
James Smart Mfg. Co. ..... Brockville, Ont.

Snow Ploughs
Crossen Car Mfg. Co. ..... Cobourg, Ont.
Rhodes, Curry & Co. ..... Amherst, N.S.

Speedicut High Speed Steel
Montreal Steel Works ..... Montreal.

Spikes, Railway, Ship or Pressed
Hamilton Steel and Iron Co., Ltd. . Hamilton, Ont.
F. H. Hopkins & Co. ..... Montreal.
Montreal Rolling Mills Co. ..... Montreal.
Toronto Bolt and Forging Co. ..... Toronto.

Spreader Cars
F. H. Hopkins & Co. ..... Montreal.

Spring Dampeners
McCord & Co. ..... Chicago, Ill.

Springs
B. J. Coghlin ..... Montreal.
F. H. Hopkins & Co. ..... Montreal.
Montreal Steel Works ..... Montreal.
Standard Steel Works Co. ..... Philadelphia, Pa.

Station Name Signs
Acton Burrows Limited ..... Toronto.

Station Seats
James Smart Mfg. Co. ..... Brockville, Ont.

Staybolts, Flexible
Flannery Bolt Co. ..... Pittsburg, Pa.

Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co. . Cuyahoga Falls, Ohio.

Staybolt Iron
Taylor & Arnold ..... Montreal.

Staybolt Taps
Butterfield & C ..... Rock Island, Que.

Steam Couplers
Safety Car Heating and Lighting Co. . . New York.

Steam Shovels
M. Beatty & Sons ..... Welland, Ont.
Canadian Fairbanks Co., Ltd. ..... Montreal.
F. H. Hopkins & Co. ..... Montreal.
Hotchkiss, Blue & Co. ..... Chicago, Ill.
Mussens Limited ..... Montreal.

Steamships
Polson Iron Works ..... Toronto.

Steamship Signs
Acton Burrows Limited ..... Toronto.

Steam Steering Engines for Tugs
Sheriffs Mfg. Co. ..... Milwaukee, Wis.

Steel
W. Abbott ..... Montreal.
Wm. Jessop & Sons. ..... Sheffield, Eng.

Steel Buildings
Canada Foundry Co. ..... Toronto.
Canadian Bridge Co. ..... Walkerville, Ont.
Dominion Bridge Co. ..... Montreal.

Steel, Fire Box
Taylor & Arnold ..... Montreal.

Steel for Springs
James Hutton & Co. ..... Montreal.

Steel, Nickel, for Nickel
The Orford Copper Co. ..... New York.

Steel Plates
Jas. W. Pyke & Co. ..... Montreal.

Steel Rolling Doors
Mussens Limited ..... Montreal.

Steel, Tool
W. Jessop & Sons ..... Sheffield, Eng.
Montreal Steel Works ..... Montreal.

Steel Tyres
James Hutton & Co. ..... Montreal.
Jas. W. Pyke & Co. ..... Montreal.

Stokers, Mechanical
Babcock & Wilcox (Ltd.). ..... Montreal.

Stoves
James Smart Mfg. Co. ..... Brockville, Ont.

Structural Metal Work
Canada Foundry Co. ..... Toronto.
Canadian Bridge Co. ..... Walkerville, Ont.
Dominion Bridge Co. ..... Montreal.
Montreal Locomotive Works (Ltd.). ..... Montreal.
Jas. W. Pyke & Co. ..... Montreal.

Superheaters
Babcock & Wilcox (Ltd.). ..... Montreal.

Switches
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.
Hayes Track Appliance Co. ..... Geneva, N.Y.
Montreal Steel Works ..... Montreal.

Switch Lamps
The N. L. Piper Railway Supply Co. ..... Toronto.

Switch Ropes
The B. Greening Co. ..... Hamilton, Ont.
F. H. Hopkins & Co. ..... Montreal.

Switch Stands
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.
Hayes Track Appliance Co. ..... Geneva, N. Y.

Switch Targets
Acton Burrows Limited ..... Toronto.

Tanks and Tank Fixtures
Canadian Fairbanks Co. ..... Montreal.
Canada Foundry Co. ..... Toronto.
Jno. McDougall Caledonian Iron Works Co. Montreal
Ontario Wind Engine and Pump Co. ..... Toronto.

Taps
Butterfield & Co. ..... Rock Island, Que.
A. B. Jardine & Co. ..... Hespeler, Ont.

Telegraph and Telephone Office Signs
Acton Burrows Limited ..... Toronto.

Thermit
Goldschmidt Thermit Co. ..... Toronto.

Ticket Cases
Canadian Office and School Furniture Co. . Preston.

Tie Plates
B. J. Coghlin & Co. ..... Montreal.
Montreal Rolling Mills Co. ..... Montreal.

Ties
Parry Sound Lumber Co. ..... Toronto.

Tires
Standard Steel Works Co. ..... Philadelphia, Pa.

Tools and Supplies
Canadian Fairbanks Co., Ltd. ..... Montreal.
James Smart Mfg. Co. ..... Brockville, Ont.
A. B. Jardine & Co. ..... Hespeler, Ont.

Track Equipment
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.

Track Jacks
Canadian Fairbanks Co. ..... Montreal.
H. and E. Lifting Jack Co. ..... Waterville, Que.
F. H. Hopkins & Co. ..... Montreal.
Montreal Steel Works ..... Montreal.
Mussens Limited ..... Montreal.
A. O. Norton ..... Coaticook, Que.

Tracklaying Lorries
Crossen Car Mfg. Co. ..... Cobourg, Ont.
F. H. Hopkins & Co. ..... Montreal.

Tracklaying Machinery
F. H. Hopkins & Co. ..... Montreal.

Track Tools
B. J. Coghlin & Co. ..... Montreal.
F. H. Hopkins & Co. ..... Montreal.
Montreal Steel Works ..... Montreal.
Mussens Limited ..... Montreal.

Tramway Equipment
J. J. Gartshore ..... Toronto.

Trap Doors
O. M. Edwards ..... Syracuse, N.Y.

Trucks
James Smart Mfg. Co. ..... Brockville Ont.

Trucks (Electric Car)
Burnham, Williams & Co. ..... Philadelphia, Pa.
Montreal Steel Works ..... Montreal.

Trucks (Railroad and Warehouse)
Toronto Pressed Steel Co. ..... Toronto.

Turnbuckles
Cleveland City Forge and Iron Co. . Cleveland, O.
Montreal Steel Works ..... Montreal.

Turntables
Canada Foundry Co. ..... Toronto.
Canadian Bridge Co. ..... Walkerville Ont.
Dominion Bridge Co. ..... Montreal.

Turntable Motors
Taylor & Arnold ..... Montreal.

Uniform Caps
W. H. Coddington ..... Hamilton, Ont.

Valves, Brass Gate
Kerr Engine Co. ..... Walkerville, Ont.

Valves, Brass Globe
Kerr Engine Co. ..... Walkerville, Ont.

Valves, Iron and Brass
Canada Foundry Co. ..... Toronto.
Canadian Fairbanks Co. ..... Montreal.

Valves, Iron Gate
Kerr Engine Co. ..... Walkerville, Ont.

Varnish Brushes
Wolfe Brush Co. ..... Pittsburg, Pa.

Varnishes
McCaskill, Dougall & Co. ..... Montreal.

Vessels
Polson Iron Works ..... Toronto.

Washers
Montreal Rolling Mills Co. ..... Montreal.

Waste
B. J. Coghlin & Co. ..... Montreal.
N. L. Piper Railway Supply Co. ..... Toronto.

Water Pipe (Cast Iron)
Gartshore Thompson Pipe & F'dry Co. . Hamilton.

Water Softeners
Babcock & Wilcox (Ltd.) ..... Montreal.

Weather Strips
O. M. Edwards ..... Syracuse, N.Y.

Welding
Goldschmidt Thermit Co. ..... Toronto.

Wheelbarrows
F. H. Hopkins & Co. ..... Montreal.
Toronto Pressed Steel Co. ..... Toronto.

Wheels, Car
Canada Car Co., Limited ..... Montreal.
Canadian Iron and Foundry Co. ..... Montreal.
Jas. W. Pyke & Co. ..... Montreal.
Rhodes, Curry & Co. ..... Amherst, N.S.
Standard Steel Works Co. ..... Philadelphia, Pa.

Wheels, Locomotive
Canadian Iron and Foundry Co. ..... Montreal.

Wheels, rolled, solid forged
Standard Steel Works Co. ..... Philadelphia, Pa.

Wheels, steel tired
Standard Steel Works Co. ..... Philadelphia, Pa.

White Wash Brushes
Wolfe Brush Co. ..... Pittsburg, Pa.

Windmills
Ontario Wind Engine and Pump Co. ..... Toronto.

Window Fixtures
O. M. Edwards ..... Syracuse, N.Y.

Windows, Fireproof
A. Edgcumbe Rendle ..... Montreal.

Wire and Wire Rope
Dominion Wire Rope Co. ..... Montreal.
The B. Greening Co. ..... Hamilton, Ont.
Mussens Limited ..... Montreal.
The Wire and Cable Co ..... Montreal.

Wire Cloth
The B. Greening Co. ..... Hamilton, Ont.

Wire, Copper
E. F. Phillips Electrical Works, Ltd. ..... Montreal.
The Wire and Cable Co ..... Montreal.

Wire, Electric
Canadian General Electric Co. ..... Toronto.
E. F. Phillips Electrical Works, Ltd. ..... Montreal.
The Wire and Cable Co ..... Montreal.

Wire, Insulated Copper
Canadian General Electric Co. ..... Toronto.
E. F. Phillips Electrical Works, Ltd. ..... Montreal.
The Wire and Cable Co ..... Montreal.

Wire Rope Clips
American Hoist and Derrick Co. ..... St. Paul, Minn.

Wire, Telegraph and Telephone
E. F. Phillips Electrical Works, Ltd. ..... Montreal.
The Wire and Cable Co. ..... Montreal.

Wire, Transmission and Trolley
The Wire and Cable Co ..... Montreal.

Wrecking Cranes
Mussens Limited ..... Montreal.

Yachts
Polson Iron Works ..... Toronto.

DOMINION CAR & FOUNDRY CO.
LIMITED

FREIGHT CARS
(ALL-STEEL AND COMPOSITE)

CAR TRUCKS STEEL UNDERFRAMES
FORGINGS OF ALL KINDS

SIMPLEX
Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works — MONTREAL WEST

P.O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.

The Railway and Marine WORLD

With which are incorporated The Western World and
The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 214.
New Series, No. 132.

TORONTO, CANADA, FEBRUARY, 1909

For Subscription Rates, See Page 117.

WIRES AND CABLES

For Telephone, Telegraph, Electric Railway and Power Purposes

THE WIRE AND CABLE COMPANY

MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA

A PURELY CANADIAN COMPANY

JOHN EMO, General Manager — H. W. PEARSON, Secretary-Treasurer — D. MURPHY, President

AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

RENDLE'S GLAZING IMPROVED SKYLIGHT CONSTRUCTION

"Paradigm," "Duxbac" Brands. "Diablo" Asbestos Windows.

A. EDGCUMBE RENDLE, 260 ST. JAMES STREET, MONTREAL. Works—LONDON, ONTARIO

MUSSENS LIMITED

RAILWAY, MINING AND CONTRACTORS' SUPPLIES

SEE ADVT. PAGE 82

LUFKIN MEASURING TAPES

MADE IN CANADA, AND THE BEST IN THE WORLD.

SEND FOR CATALOG.

THE LUFKIN RULE CO. OF CANADA, LTD. WINDSOR, ONT.

HOTEL CADILLAC

Michigan Avenue and Washington Boulevard
DETROIT, MICHIGAN

RATES - - { $3.50 to $8, AMERICAN PLAN
$2 to $6, EUROPEAN PLAN

SINGLE MEALS $1.

SWART BROTHERS, Proprietors

ENAMELLED IRON SIGNS

For Steam and Electric Railways, Steamship, Express, Telegraph, Telephone and General Advertising Purposes. For Prices, etc., address

ACTON BURROWS LIMITED - 157 BAY ST.
TORONTO

THE WAUGH DRAFT GEAR

FRICTION SPRING CUSHION
200,000 lbs.—600,000 lbs. Capacity
MADE IN CANADA

Send for Catalog and Particulars

Waugh Draft Gear Co. - - Chicago, Ill.

STEARNES STEEL RANGE COMPANY

FIFTH AVENUE AND LAKE STREET
Chicago, Ill.

THE OTTAWA CAR CO. Limited

BUILDERS OF
Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.
Office and Works: SLATER ST., OTTAWA.

Additional safety and economy in

TRACK MAINTENANCE

has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints after ten years' service, having a record of over 50,000 miles in use—the extent of which is evidence of their excellence

The Rail Joint Co. of Canada

See Page 106

THE DOUGALL VARNISH CO. LTD.
SUCCESSORS TO McCASKILL, DOUGALL & COMPANY
RAILWAY VARNISHES, JAPANS AND ENAMELS MONTREAL
MEDALS AWARDED

TOWER AND CLIMAX COUPLERS
ADDRESS THE MANUFACTURERS,
Ralph T. Hatch, Sales Agent, 710 Canadian Express Building, Montreal, Que.

Westinghouse Friction Draft Gear

Experience has demonstrated that while the compressive strains, developed in coupling and buffing when making up trains in the yard, are serious enough, it is the tensile strains developed on the road, due to unequal braking power on light and loaded cars releasing at low speeds, also when passing through "sags," over "hog backs" and from other causes, that give the most serious kind of trouble, causing couplers and knuckles to be broken. Westinghouse Friction Draft Gear permits a movement of the drawbar 2¼" in either direction, but requires a force of 150,000 to 175,000 pounds to complete the stroke. It combines a friction resistance with a spring pressure that dissipates the effects of the heaviest strains or blows. When fully compressed the reactive force is less than 7,000 pounds.

Ask for Draft Gear Catalogue.

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO

439 Pender Street
VANCOUVER

For particulars address nearest office
HAMILTON

922-923 Union Bank Bldg.
WINNIPEG

232 St. James Street
MONTREAL

158 Granville Street
HALIFAX

THE CLEVE-MOR ENGINEERING AND CONSTRUCTION COMPANY

ENGINEERS

CONSULTING DESIGNING
CONSTRUCTING OPERATING

411 TO 417 CITIZENS BUILDING
CLEVELAND, OHIO, U.S.A.

REPORTS on all kinds of engineering propositions. Advice on the design, construction and operation of properties; valuations; superintendence.

Design and construction of steam and electric railroads, electric lighting and power systems, steam and gas power plants, hydro-electric plants, water works, sanitary sewerage and drainage systems, buildings, foundations and concrete work generally.

The reorganization and operation of broken-down properties undertaken, also the organization and financing of new propositions that are meritorious.

We make a specialty of doing preliminary work in preparing, in all detail, electric and steam railway propositions for proper presentation for financial requirements.

EVERYBODY IS GOING into heavier cars and equipment, and of course heavier Dinkeys. Come along. We are ready for you. All sizes in stock.

VULCAN IRON WORKS

WILKES-BARRE, PA., U.S.A.

Canadian Representatives - - MUSSENS LIMITED, MONTREAL

See Purchasing Agents' Guide on page 153

See Alphabetical Index to Advertisements on page 117

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 214.
New Series, No. 132.

TORONTO, CANADA, FEBRUARY, 1909.

For Subscription Rates, See page 117.

Entered as second-class matter, March 5, 1908, at the Post Office at Buffalo, N.Y., under the act of Congress of March 3, 1879.

Commutation Fares from Brampton.

In our last issue we gave in full the judgment delivered by J. P. Mabee, Chief Railway Commissioner, on Nov. 23, concurred in by Commissioner S. J. McLean, dismissing the application of F. W. Wegenast against the G.T.R., alleging discrimination against the town of Brampton, Ont., as compared with the town of Oakville, in the matter of commutation tickets and applying to the Board for relief. Commissioner Mills gave the following dissenting judgment Dec. 24:

The G.T.R. Co. admits that it has been, and is now, discriminating against Brampton as compared with Oakville in the matter of commutation tickets. Discrimination in tolls or rates against any person, commodity, or locality, is prima facie unjust, and should be disallowed by the Board, unless facts are stated and reasons given which are sufficient to prove that, under the special circumstances and conditions of any case in question, the difference in treatment "does not amount to an undue preference or an unjust discrimination" (Railway Act, sec. 77).

In every case of a lower toll given to one person, commodity, or locality than is given to another person, commodity, or locality, "under substantially similar circumstances and conditions," "the burden of proving that such lower toll or difference in treatment does not amount to an undue preference or unjust discrimination, shall lie on the company" (Railway Act, sec. 77).

A great deal of so-called evidence was given in this case; but very little of it bore even remotely upon the point at issue, viz., whether or not the admitted discrimination against Brampton as compared with Oakville in the matter of commutation tickets is just and reasonable. The railway company made an effort to justify the discrimination; but its failure to do so was, in my opinion, most signal and complete. The only witness called in defence was G. T. Bell, the company's General Passenger and Ticket Agent, who went at length into an explanation of the reasons why the company had issued commutation tickets to Brampton and other places for a number of years, and why it had ceased to do so, especially in the case of Brampton. M. K. Cowan, counsel for the railway company, stated that the commutation tickets were withdrawn from Brampton because "they had not been taken advantage of"; and Mr. Bell testified that they were withdrawn on account of a demand, backed by a threat, from the business men of the town, because so many Brampton people were availing themselves of the commutation tickets to purchase goods in Toronto. Note Mr. Bell's evidence on this point. Question by Mr. Fullerton: "When you were giving commutation tickets to Brampton, the traffic got so large that it alarmed the Brampton merchants, and they, as you said, put a pistol to your head?" Answer by Mr. Bell: "It got enough for them to get excited"; but, he adds, "it was not the class of traffic the rate was put in to cultivate. It was people doing business and living in Brampton, and coming in daily to the city." Further—question by Mr. Cowan: "Is it possible to bring up a suburban service between here and Brampton by commutation tickets?" Answer by Mr. Bell: "I cannot believe it possible in the

P 182

W. G. ANNABLE,
General Passenger Agent C.P.R. Atlantic Steamship Lines.

conditions existing." Thus the company is represented as withdrawing the commutation tickets from Brampton at the dictation of the business men of the town, because so many people were going "daily to the city," and at the same time justifying the withdrawal on the ground that it was then, and is now, impossible to develop a reasonably profitable suburban traffic between the town and the city,—traffic of the kind which the company desires; but no evidence is given to prove that the admitted discrimination against Brampton is not unjust or unreasonable.

Mr. Bell stated that, after making an experiment with commutation tickets, the company had withdrawn them from certain places, including Brampton, and had decided to continue them at Oakville, because "some people in Oakville, during this experimental stage, had bought homes in the country that they might have to sacrifice if the cheap rates were withdrawn"; but, further on, he stated that he could not tell how many people living at Oakville were doing business in Toronto when the company decided to continue the tickets to Oakville and withdraw them from Brampton. He was, he said, "just stating the general principle"; but he gave no evidence as to how many then had or now have vested interests in Oakville, neither the number of the people nor the extent of their interests; nor any evidence as to the amount of property which might be sacrificed, especially in view of the fact that there is now an electric line between Oakville and Toronto; nor anything which would be called evidence as to whether or not there were and are similar vested interests in Brampton, from which town there is no competing electric line to Toronto. The population of Brampton is nearly double that of Oakville; the two towns are practically the same distance from Toronto. Mr. Bell's evidence proves that there was a very considerable amount—to the merchants of Brampton, an alarming amount—of daily traffic between Toronto and Brampton when the commutation tickets were withdrawn; and the evidence of other witnesses examined at the hearing tends to show, without actually proving, that, with commutation tickets such as those sold to the people of Oakville, the G.T.R.'s suburban traffic between Brampton and Toronto would be much greater than that on the G.T.R. between Oakville and Toronto.

I would not at present be disposed to order the issue of any class of tickets which would reduce the company's revenue, but it was not urged that commutation tickets such as those asked for by Brampton would result in a reduction of revenue. The regular return trip ticket from Brampton to Toronto costs $1.10; and a 55-trip commutation ticket, good for one month, costs $7.15. The former is purchased only by people who must, or think they must, travel; and the latter (the cheaper ticket) appeals, not only to those who must do a certain amount of travelling, but also to the much larger number of people who need not travel, but will do so for a consideration—an inducement offered in the way of rate reduction, combined with the possibility of a greater variety of goods and better bargains in buying and selling; but no one can avail himself of the benefit, or supposed benefit, of the cheaper ticket until he has paid the company $7.15, which is sure income to the company whether the purchaser makes the whole or only a small proportion of the trips within the month covered by the ticket; and so for each succeeding month. Hence it seems almost certain that the use of commutation tickets such as the above on ordinary trains, without any additional ex-

Galena-Signal Oil Company,

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY.

GALENA RAILWAY SAFETY OIL

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

Please write to home office for further particulars.

CHARLES MILLER,

PRESIDENT.

pense for equipment or service, would pay the company better than the use of the ordinary return trip ticket; and I think this is true wherever the traffic may be—from surrounding towns and villages to Montreal, Quebec, Toronto, Hamilton, London, Ottawa, Kingston, or any other important business centre. I express no opinion as to whether the issue of such commutation tickets, under approved conditions, would benefit the country as a whole; but I am satisfied that it would increase the revenue of the railway companies.

In his evidence regarding the withdrawal of commutation tickets from certain places, Mr. Bell said: "We took the view that it was right to continue to use commutation rates where the ordinary train service made it possible for people to live in the country and come into the city and do their business and go back again at reasonable rates." Now, this is precisely the condition of things at Brampton. It was clearly proved at the hearing that the present train service on the G.T.R. at Brampton is adequate, satisfactory, quite equal to that furnished at Oakville, and the Brampton Council and Board of Trade specifically stated that their application was for commutation tickets to be used on the ordinary trains running between Toronto and Brampton—that and nothing more; so, on Mr. Bell's own evidence, it would appear that Brampton should have commutation tickets. Hence, to sum up, I would say that, as I understand the case, the facts are as follows: Complaint was made to the Board by the applicant and other interested parties, alleging that the G.T.R. was discriminating in tolls, or fares, against Brampton, as compared with Oakville. At the hearing of the complaint, the railway company admitted that it was discriminating against Brampton, but not unjustly so—maintaining that the discrimination complained of and admitted was just, fair, and reasonable. The railway company completely failed to justify the said discrimination—not having given any evidence which, by the utmost stretch of imagination, could be said to prove that the difference in treatment of Brampton as compared with Oakville, is either just, fair, or reasonable. Therefore my judgment is that the Board is under obligation to take such action as may be necessary to remove the discrimination either by ordering the restoration of commutation tickets to the town of Brampton, or by simply directing the railway company to cease and desist from further discrimination against Brampton as compared with Oakville, in the matter of commutation tickets.

At a meeting of Brampton residents, Jan. 15, it was decided to ask for a re-hearing of the application.

EDITOR'S NOTE.—Commissioner Mills is in error in saying that there is an electric railway between Oakville and Toronto. The Hamilton Radial Ry. Co. runs from Hamilton to Oakville, but no further. The Toronto and York Radial Ry. has a line from Toronto to Port Credit, but there is no electric road between Port Credit and Oakville.

During Nov., 1908, 56 railway employes were killed and 36 injured while engaged on Canadian railways. Of the fatalities, 18 were due to explosions of dynamite, 16 to being run over, 6 to collisions, 5 to derailments, 3 to falling material, 2 each to falls, to explosions of boilers, and to being caught between cars, and one each to being struck by a passing object and to being struck by a locomotive. Of the non-fatal accidents 8 were due to collisions, 6 to derailments, 5 each to being caught between cars, to falls, and to explosions of dynamite, 2 each to being run over and to falling material, and one each to a flying object, to machinery and to escaping steam.

Minneapolis, St. Paul, and S.S. Marie Ry.

Following are extracts from the report of this subsidiary company of the C.P.R. for the year ended June 30:

	1907-08	1906-07
Gross earnings	$11,509,857.32	$12,892,079.03
Operating expenses	7,115,964.91	7,433,548.79
Net earnings	$ 4,393,892.41	$ 5,458,530.24
Income from other sources	669,111.99	52,076.86
Total net earnings	$ 5,063,004.40	$ 5,510,607.10
Fixed charges, taxes, etc.	3,062,135.29	2,901,921.32
Surplus income	$ 2,000,869.11	$ 2,608,685.78

The gross earnings show a decrease of $1,382,211.71, the net earnings $1,064,637.83, and the surplus income $607,816.67. The decrease of $1,382,211.71 in gross earnings is the combined result of a short grain crop, reduced rates and general business depression. The operating expenses decreased $317,583.88. The expenses are somewhat increased, compared with previous years, on account of depreciation charges made in accordance with the revised classification of operating expenses issued by the Interstate Commerce Commission. This new classification makes detailed comparisons of operating expenses with previous years impracticable. Total net earnings decreased but $447,602.70, some $551,000.00 of profits from the sale of real estate having been carried to income account. The percentage of expenses to earnings is 61 8-10%, compared with 57 6-10% the previous year.

On account of the financial stringency during the early months of the year, and the consequent inability to provide funds from the sale of securities, the line from Brooten to Duluth will not be completed until 1909. Fifty miles of track were laid during the autumn of 1907, and an additional 50 miles have already been laid this year. Funds for this extension and for the acquirement and improvement of suitable terminals at Duluth have been provided from the sale of bonds and of $4,200,000.00 of increased capital stock, referred to in the last report.

The usual policy of improving the property by the construction of additional side tracks, the enlargement of stations, shops and other buildings, has been continued. The motive power is in first-class condition. In short, the condition of both roadbed, buildings and equipment has not only been maintained, but largely improved. Owing to more favorable crop prospects, business conditions in the Northwest are much improved, and therefore, reasonable hope is entertained for a much better showing for the current year.

The mileage owned and operated is 629.76 east, and 1,643.62 west of Minneapolis, with 15.91 miles of spur lines, making a total of 2,289.29 miles against 2,262.88 miles at June 30, 1907. In addition to this the company has trackage facilities over 19.17 miles of terminal property in Minneapolis, St. Paul and Sault Ste. Marie. One hundred miles of track laid on the Duluth line is not included in the foregoing figures.

EARNINGS AND EXPENSES.

Freight	$ 7,828,851.60	
Passenger	2,681,221.84	
Mail	317,504.13	
Excess baggage	33,659.88	
Miscellaneous revenue.	11,105.58	
Operation other than transportation	141,871.90	
Total operating revenue		$11,014,214.93
Outside operations:		
Express	$179,505.03	
Sleeping cars, dining cars and hotels	158,006.99	
Car service and equipment rentals	158,130.37	
		495,642.39
Total gross earnings		$11,509,857.32
Maintenance of way and structures	$1,330,856.15	
Maintenance of equipment	1,361,625.06	
Traffic expenses	235,675.36	
Transportation expenses	3,988,799.34	
General expenses	199,009.00	
		7,115,964.91
Net earnings from operation		$ 4,393,892.41
Interest, discount and exchange	$127,509.54	
Interest and dividends on bonds and stocks owned.	11,026.50	
Profit from sale of real estate	530,575.95	
		669,111.99
Total income		$ 5,063,004.40
Interest on bonds	$ 2,144,640.00	
Interest on equipment notes	89,550.00	
Taxes	696,907.70	
Rental of terminals	131,037.59	
		$ 3,062,135.29
Net surplus for year		$ 2,000,869.11

BALANCE SHEET, JUNE 30, 1908

Cost of road, acquired lines, extensions and equipment		$80,057,853.73
Advances for equipment, terminals, etc.		2,699,841.84
Real estate		668,061.71
Stocks & bonds owned		4,083,190.56
Materials and supplies		1,258,686.68
Due from—		
Foreign roads	$ 273,570.09	
Agents and conduc'rs	366,489.97	
U.S. Post Office Department	73,583.25	
Bills and accounts receivable	348,811.00	
Cash — Minneapolis, St. Paul, New York and London	1,640,754.67	
Total cash and current assets		2,703,208.98
Other accounts		7,501.72
*Advance account—Betterment and Improvement Fund		204,525.26
		$91,682,870.48
Capital stock—		
Common	$16,800,000.00	
Preferred	8,400,000.00	
		$25,200,000.00
Funded debt—		
First mortgage M. & P. Ry. bonds, 4%	$ 306,000.00	
First mortgage M. S. S.M.& At.Ry.bonds, 4%	8,204,000.00	
First mortgage M., St. P. & S. S. M. Ry. consolidated bonds, 4%	43,285,000.00	
Second mortgage M. St. P. & S. S. M. Ry. bonds, 4%	3,500,000.00	
		55,295,000.00
Bills payable—		
Equipm't trust notes		1,743,000.00
Interest accrued on bonds due July 1	$1,001,785.00	
Interest accrued on equipment, notes due July 1	43,575.00	
Accrued taxes not yet due	222,680.08	
		1,268,040.08
Current liabilities—		
Vouchers	$ 842,804.54	
Pay rolls	452,600.10	
		1,295,404.64
Dividends due and unpaid		1,765.00
Insurance fund		16 505.88
Equipment replacement		210,947.91
Income account		6,652,206.97
		$91,682,870.48

*The Directors, at a meeting held Aug. 24, appropriated $250,000.00 from the Income account as of June 30, to take care of these advances for betterments.

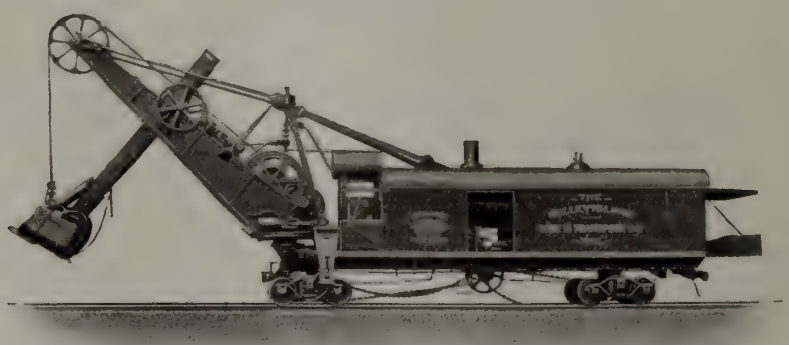
TRAFFIC AND MILEAGE STATISTICS.

TRAIN MILEAGE—	1907	1908
Freight trains...(miles)	3,163,625	2,773,120
Passenger trains "	2,141,827	2,472,902
Mixed trains.... "	304,604	352,059
Non-revenue trains "	162,906	76,182
Total train mileage "	5,772,962	5,674,263
CAR MILEAGE—		
Freight—		
Loaded cars north or east	30,921,517	27,968,616
Loaded cars south or west	39,643,428	34,355,368
Empty cars north or east	13,414,052	12,889,277
Empty cars south or west	5,521,145	7,408,352

LOCOMOTIVES

Pacific Type Passenger Locomotive built for the Intercolonial Railway. Total weight of engine, 194,500 pounds. Weight on driving wheels, 132,000 pounds; diameter of driving wheels, 72 inches. Boiler pressure, 200 pounds. Maximum tractive power, 29,200 pounds.

STEAM SHOVELS



A high-class and powerful machine, absolutely reliable under all conditions of service.

MONTREAL LOCOMOTIVE WORKS, LTD.

BANK OF OTTAWA BUILDING, MONTREAL, CANADA.

Total freight car mileage	89,500,142	82,621,613
Passenger coaches, mail and express cars—		
North or east	6,165,507	7,039,426
South or west	6,209,618	7,070,605
Total passenger car mileage	12,375,125	14,110,031
FREIGHT TRAFFIC—		
Tons of revenue freight carried	4,954,177	4,439,186
Tons of non-revenue freight carried	953,624	613,200
Total tons freight carried	5,907,801	5,052,386
Tons of revenue freight carried one mile	1,158,634,051	961,934,837
Tons of non-revenue freight carried one mile	168,836,776	117,516,583
Total tons freight carried one mile	1,327,470,827	1,079,451,420
Tons of revenue freight carried one mile per mile of road	518,985	417,523
Tons of non-revenue freight carried one mile per mile of road	75,627	51,007
Total tons (all classes) freight carried one mile per mile of road	594,612	468,530
Average distance haul of one ton revenue freight, miles	233.87	216.69
Average distance haul of one ton freight (all classes)	224.70	213 65
Average amount received per ton for revenue freight	$1.92	$1.76
Average amount received per ton per mile revenue freight	8.20 mills	8.14 mills
Freight earnings per mile of road	$4,270.13	$3,402.89
Freight earnings per train mile	$2.74	$2.51
Average number of freight cars in train	25.81	26.44
Average number of loaded cars in train	20.35	19.94
Average number of tons revenue freight per train (entire line)	334.07	307.80
Average number of tons of non-revenue freight per train (entire line)	48.68	37.60
Average number of tons of all classes freight per train (entire line)	382 75	345.40
Average number of tons revenue freight per train (main line)	384.53	343.92
Average no. of tons revenue freight per train (branch lines)	202.40	119.46
Average no. of tons revenue freight in each loaded car	16 42	15.43
Average no. of tons of non-revenue freight in each loaded car	2.39	1.89
Average no. of tons (all classes) freight in each loaded car	18.81	17.32
PASSENGER TRAFFIC—		
No. of passengers carried earning revenue	1,336,078	1,606,991
No. of passengers carried one mile	116,461,222	128,293,907
No of passengers carried one mile per mile of road	52,166	55,685
Average distance carried (miles)	87.17	79.83
Average amount received for each passenger	$1.99	$1.67
Average rate per passenger mile (cents)	2.28	2.09
Passenger earnings per mile of road	$1,467.86	$1,466.67
Passenger earnings per train mile	$1.34	$1.20
Average no. of passenger cars per train	5.06	4.99
Average no. of passengers per train	48	45
MISCELLANEOUS—		
Gross earnings per mile of road	$5,774.73	$4,995.79
Operating expenses per mile of road	3,329.70	3,088.64
Net earnings per mile of road	$2,445.03	$1,907.15
Average mileage operated during the year	2,232.50	2,303.91

The expenditure charged for construction and equipment was as follows:

Thief River Falls line	$ 391.39
Egeland line	12,994.31
Flaxton extension	26,202.02
Garrison extension	127,714.64
Superior line	2,219,311.67
A. B. & N. W. Ry.	1,087.49
Terminal property, St. Paul, Minneapolis and other points	46,849.84
Betterment to main line	115,357.86
New equipment	13,119.52
Equipment transferred to replacement account from previous year	53,797.22
	$ 2,616,825.96

The expenditures charged to capital account for betterment to main line during the year amounted to $115,357.86.

EXPENDITURES CHARGED TO FUND APPROPRIATED FOR ADDITIONS AND BETTERMENTS.

Right-of-way	$ 469.55
Side tracks	95,090.34
Buildings	34,614.22
Fuel and water stations	39,715.04
Shops, engine houses and turntables	50,235.53
Crossing signs and cattle guards	5,083.30
Grade reductions (Minnesota division)	405,059.50
Filling bridges	47,354.29
Widening and ballasting	43,695.92
Bridges and culverts	44,817.96
Telegraph line	3,105.59
Fencing	27,850.91
Highway grading	2,023.29
Rails and fastenings—difference between 60-lb., 72-lb. and 80-lb. rails re-laid	7,609.45
	$ 806,724.89
Balance at credit of fund, June 30, '07	$ 252,199.63
Appropriated from income account	350,000.00
Balance advanced for which no appropriation has yet been made from surplus income	204,525.26
	$ 806,724.89

The amount spent on additions to equipment was $13,119.52 and on equipment replacement, $210,947.91. The rolling stock owned at June 30 comprised: 252 locomotives, 200 passenger cars, 12,916 freight cars, and 177 miscellaneous.

C.P.R. Roundhouse at Sutherland.

The roundhouse and shops which the C.P.R. has constructed at Sutherland, a suburb of Saskatoon, Sask., have been fully completed and are in use. They are situated in an angle southwest of the main line into Saskatoon. The building consists of a roundhouse completed for 10 locomotives, but arranged for four additional stalls. The petty store building is at the eastern end, and the machine shop and boiler house at the western end. On the track leading to the turntable to the roundhouse are the coal pockets, sand house, ashpit, etc. The machine shop is 87 by 72 ft., and the boiler shop 48 ft. 4 in. by 65 ft. 4 in., outside measurements. There are two tracks with pits in the machine shop. The contractor was the J. McDiarmid Co., Winnipeg.

The engine and boiler house is equipped with a battery of boilers to drive a large engine, the other equipment including a 300 h.p. heater, boiler feed pump, vacuum pump, and a Northey duplex washout pump. The driving pulley on the main shaft in the engine room has a diameter of 6 ft. 4 in., with a face of 2 ft., and the dimensions of the pulleys on the main shaft are: to shaper, 24¾ in. diameter by 8 in. face; to lathe, 25⅜ in. diameter by 6½ in. face; to drill, 39 in. diameter by 8½ in. face; to lathe, 18 in. diameter by 18 in. face; to driving wheel lathe, 30 in. diameter by 12 in. face. The speed of the main shaft is 130 revolutions per minute. The shaper countershaft, on which are fast and loose pulleys 16 in. diameter by 4 in. face, has a speed of 200 revolutions a minute, while the pulleys on the countershaft connecting with the shaper are respectively 10⅛ in., 8⅜ in., 6⅝ in., and 4⅜ in. diameter by 2⅛ in. face; while those on the shaper are 16 in., 14 in., 12 in., and 10 in. diameter respectively by 3¼ in. face. The first lathe countershaft, on which are fast and loose pulleys 11¾ in diameter, 3 1/10 in. face, is driven at a speed of 280 revolutions per minute, while the pulleys on the countershaft connecting with the lathe are respectively 8⅝ in., 6 13/16 in., 5 1/6 in., and 3¼ in. diameter. The drill countershaft, on which are fast and loose pulleys 13⅞ in. diameter by 4¼ in. face, has a speed of 365 revolutions per minute, the pulleys on the countershaft being respectively 14 in., 11¾ in., 9½ in., and 7 in. diameter by 3¼ in. face. The countershaft for lathe no. 2, on which are fast and loose pulleys 18 in. diameter by 9 in. face, has a speed of 130 revolutions a minute, while the countershaft for the driving wheel lathe, fast and loose pulleys 29¼ in. diameter by 6 in. face, has a speed of 135 revolutions a minute.

Victorian Railways, Australia.

The report of the Victorian Railways Commissioners for the year ended June 30, 1908, shows the following financial results:

Gross revenue	$18,849,745
Working expenses (including payment into railway accident and fire insurance fund)	11,124,318
Net revenue	$ 7,725,427
Less deficit, St. Kilda and Brighton Electric St. Ry.	19,101
Total net revenue	$ 7,706,326
Special expenditures and charges completing the liquidation of extraordinary liabilities taken over by the Commissioners, July 1, 1903	229,008
Balance	$ 7,477,318
Interest charges and expenses	7,220,946
Surplus credited to consolidated revenue	$ 256,372

In view of the completion of the liquidation of the extraordinary liabilities taken over by the Commissioners July 1, 1903, a comparison of the results for the five years from that date, with those of the previous five years will be of interest:

	1908	1903
Gross revenue	$90,974,521	$76,167,484
Working expenses	48,835,532	45,554,907
Net revenue	$42,138,989	$30,622,577
Special expenditures and charges in liquidation of extraordinary liabilities	3,398,715	781,706
Balance	$38,740,274	$29,840,872
Interest charges and expenses	36,095,984	35,688,837
Surplus	$2,644,290	.....
Deficit	.....	$5,847,965
Traffic train mileage	48,007,400	52,429,079
No. of passengers carried	324,149,961	262,105,154
Tons of freight carried	16,942,845	14,445,830
Tons of live stock carried	1,521,265	1,241 705
Percentage of working expenses to gross revenue	53.68	59.80

The report shows the financial figures in sterling, but for the convenience of local comparison, these have been converted into dollars. The total mileage of track operated during the year was 4,316.76, made up as follows: Main tracks, 5′ 3″ gauge, 3,641.14 miles; 2′ 6″ gauge, 81.60 miles; electric street railway, 5′ 3″ gauge, 5.13 miles; sidings, 5′ 3″ gauge, 583.12 miles; 2′ 6″ gauge, 4.94 miles; electric street railway, 5′ 3″ gauge, 0.83 mile.

The Victorian Railways were placed under the control of the present Commissioners July 1, 1903, and Thos. Tait, until then Manager of Transportation C.P.R., Montreal, was appointed Chairman. The success which has been achieved, as shown by the present report, is, without doubt, due in a great measure to the energy and experience which Mr. Tait has introduced into the management.

At the Central Railway and Engineering Club's monthly meeting in Toronto Jan. 20, the newly elected President, C. A. Jefferis, occupied the chair. A. E. Nourse read a paper on reinforced concrete construction. On behalf of the club Acton Burrows presented the retiring President, W. R. McRae, Master Mechanic Toronto Ry., with a handsome gold watch chain emblem.

KINNEAR STEEL ROLLING DOORS

THE BEST DOORS FOR

FREIGHT SHEDS, ROUNDHOUSES, CAR BARNS, ELEVATORS, WAREHOUSES, ETC., ETC.

Fireproof, Durable, Strong, Compact, Easy to Operate
Also Made in Wood if Desired

MUSSENS LIMITED

MONTREAL TORONTO COBALT WINNIPEG VANCOUVER

Train Dispatching by Telephone.

By W. W. Ryder, Superintendent of Telegraph, Chicago, Burlington and Quincy Rd.

Electric interurban roads early recognized the desirability of the telephone and they have extended their use of it until it is now recognized by them as the standard method of operation. Steam roads, however, with their ultra-conservatism, were loath to part with the long-established telegraph, and it is only recently that the use of the telephone for this purpose has been attempted on a sufficiently large scale to secure a fair demonstration of its possibilities. The immediate incentive for these experiments was the near approach of the date for the enforcement of the Federal nine-hour law, coupled with the well-defined shortage of telegraph operators that had existed for two or three years.

The first experiment on the Burlington of handling trains exclusively by telephone was begun Dec. 11, 1907, on the main line between Aurora and Mendota, 46 miles, and 11 offices. The result was so satisfactory that the construction of another circuit from Aurora to Galesburg, 125 miles, with 16 offices, was immediately authorized to handle the dispatching between Mendota and Galesburg. This circuit was completed Jan. 24 and has been in use regularly since that date. On Mar. 1 the third telephone circuit was completed, from Clyde, the end of the Chicago terminals, to Aurora, 28 miles, with 15 offices. These three circuits are all on double track. On Mar. 19, the first installation on single track was completed between Aurora and Savanna, 106 miles, with 23 offices.

Up to this time, while many who personally investigated the matter were willing to concede its efficiency as applied to double-track operation, they were very sceptical as to what would be the result on single track. In this distrust, they overlooked the fact that in our method of double-track operation, the irregularity of reverse movements in reality made the requirements on such lines more exacting than on single track, where opposing movements were perforce the regular method of operation. The results of this last installation were even more marked than on double track, and I am convinced that the handling of trains by telephone is not only much more satisfactory, but is really safer as well, and this opinion is shared by all who have personally looked into the matter.

We use two 210-lb. copper wires and have made the installation as complete and perfect as we know how. With the present market price of copper, the telephone circuit costs approximately $100 a mile and the station equipment about $50 a station. This is more expensive than the telegraph circuit, and the maintenance will be a little more difficult and the cost a little higher, but the results have proven so absolutely satisfactory we feel the additional expense is fully warranted. Our arrangement makes the circuit entirely self-contained, that is, the signalling and talking is all done on the same pair of wires. The signalling is done by semi-automatic selectors that enable the dispatcher merely by the depression of a couple of buttons in connection with a series of synchronous clocks to ring at will vibrating bells in one or more offices on the circuit. This is a much less laborious method of calling, and we also find a very great saving in time, the operators responding very much more quickly than is the practice with the telegraph. In the local offices we put a 4-in. vibrating bell, one large enough to be heard at a considerable distance, and when this bell lets go without any preliminary warning, the one thought of the operator is to shut it off and so he immediately answers the call. More often than otherwise the operators to avoid the annoyance of the signal bell forestall the dispatcher's call and report trains as soon as they pass.

In handling orders, the same general methods are observed as with the telegraph, any figures or names of stations occurring in the order being spelled out letter by letter, both in the giving of the order and all of the repetitions, and the name of the conductor on a "31" order is spelled out as well.

The use of the telephone is so quick in every way and so much more flexible, the dispatcher is enabled to get far more detailed information of just exactly what each train is doing, even, when occasion requires, talking directly with the conductor or engineer personally, and is thus brought just so much nearer the actual details of train movement. Only a personal investigation of the scheme can show how valuable is this information. There has also been a marked improvement in the work of the men on these telephone circuits, due to the fact that the conversations between the dispatcher and the operators or other employes are of a much more personal character than obtains with the telegraph, resulting in much closer co-operation. It is even possible to save considerable time in the actual putting out of orders. The dispatcher copies the orders in his order book as he talks it off, thus gauging, or rather reducing, his speed of conversation to his ability to write it down, as well as the ability of the operators to do so. Then when the operators repeat the order, they talk it off as fast as they can or much faster than is possible by telegraph.

The change in method in every case was made without a hitch and without any opposition worth mentioning. I had an idea that while possibly the dispatchers themselves might not openly oppose the change, their support might be of a passive character, but in this I was agreeably disappointed. The first circuit had not been in operation a week before a little spirit of jealousy was evidenced, directed against the dispatchers on the telephone circuit, it being so clearly evident they had the "snap" of the office. Soon all the dispatchers in Aurora office were desirous that we give them the same facilities, and now that all have been taken care of, there is not one out of the 12 that would willingly go back to the old method.

It is far easier to train telephone operators than to secure telegraphers. There is hardly a town anywhere on the line in which there are not young men who, by reason of their frequently being around the depot, are more or less familiar with the railroad game, and who with a very little training would be perfectly competent to sit in as telephone operators. There is much to be gained by making use of men in their own home towns, or who have grown up along the line. Our telegraph service was at its best when this condition existed to a considerable extent, and discipline has lessened in proportion as we have been compelled to import telegraph talent. This increased use of the telephone has also opened an avenue whereby we can offer better employment to those unfortunately injured in our service few of whom in the past have been able to learn telegraphy. Another item worthy of consideration is the broadened field from which we can make dispatchers. In the past, the first requisite for a dispatcher was an ability to telegraph, and with the character and ability of telegraphers in general dropping as fast as it has during the past two or three years, we certainly can but expect difficulty in the future in getting satisfactory talent, even if this difficulty has not been greatly evidenced in the past. I maintain that a good, bright, young freight conductor, who has been actually carrying out the train orders, would make a better dispatcher himself and be better able to assist in getting other trains over the road than is the telegraph dispatcher, who, in spite of his occasional trips on freight trains, is a theorist after all.

The establishment of telephone circuits enables us to close unimportant offices wholly or a portion of the time, as a telephone instrument can be placed where the train conductors can readily get in touch with the dispatcher. Another important feature in the use of the telephone is the fact that it works even better in bad weather than in good—just the reverse of the telegraph—and if there is ever a time when good service is needed, it is when the weather is wet and foggy. There is no exasperating interference with the dispatcher's efforts by reason of the relay in some way office being out of adjustment and the inattentive operator making no effort to see whether this is the case or not. The telephone is always in proper adjustment and because of the lowered static capacity of the circuits, works as if charmed.

With the telephone it is possible to arrange apparatus, for instance, in the superintendent's office, so that he can at any time listen to the actual work of the dispatchers and operators and thus check up any tendency to slackness. This has not always been possible in the past, as not all superintendents were telegraphers.

The improvement in the handling of train dispatching by telephone having been so clearly demonstrated, we have decided to attempt to handle other messages in like manner and in a short time all business for the way offices on certain portions of our line (both main and branches) will be handled by telephone, this to include Western Union Telegraph business as well. At junction points, where branch telegraph lines are to be worked, and at certain wire test offices, it may be necessary to maintain telegraph service, but at all other points all classes of business will be handled by telephone.

The field for substituting the telephone for the telegraph daily opens up before us almost faster than we can comprehend it, and the results we are obtaining from our experiments are a constant but very agreeable surprise. For instance, only about a month ago it seemed next to impossible to get satisfactory telephone service on single-wire branch lines without completing the metallic circuit, and this the volume of business did not warrant. But within the last few days we have made successful substitution on two branch lines, one 18 miles long with three offices, and the other 49 miles long with 10 offices. These branch wires have been so arranged that while not connected permanently with the main line, they can be connected at the will of the dispatcher or the way office operator, the signalling on the branch being done by means of ordinary bridged bells.

The unqualified success of our experiments with the telephone as a substitute for the telegraph, and the rapidity with which other roads are extending the work, convinces me that the next few months will make a great change in method of handling trains all over the country, one that will greatly benefit the service.

The foregoing paper was read at the last convention of the Association of Railway Telegraph Superintendents in Montreal.

Railways using the telephone system for dispatching, either already in operation, or authorized, are:

Illinois Central Rd	2,536	miles.
Chicago, Burlington and Quincy Rd	746	"
Chicago and Northwestern Ry	478	"
Chicago, Rock Island and Pacific Ry	333	"
Michigan Central Rd	259	"
Chicago, Milwaukee and St. Paul Rd	223	"
Great Northern Ry	202	"
Northern Pacific Ry	109	"
Baltimore and Ohio Rd	105	"
New York Central Rd	95	"
Lake Shore and Michigan Southern Rd	88	"
Delaware, Lackawanna and Western Rd	62	"
Wheeling and Lake Erie Rd	60	"
Canadian Pacific Ry	49	"
Pennsylvania Rd. (East)	225	"
Lake Erie, Alliance and Wheeling Rd	104	"
Tota	5,674	miles.

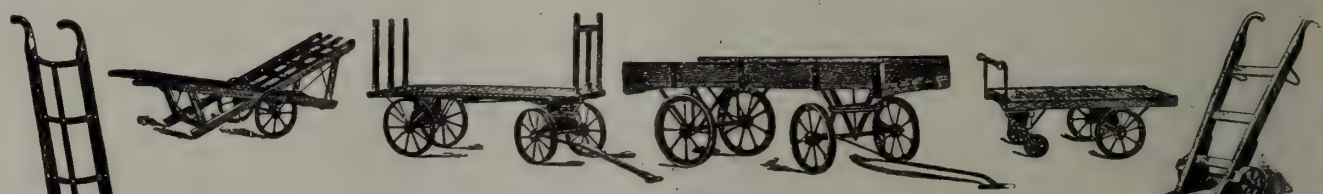
Since the foregoing table was prepared, the system has been extended to a further mileage, details of which are not yet to hand.

FAIRBANKS TRUCKS

THE NEW EXTENSION NOSE TRUCK
THE EXTENSION FOLDS BACK WHEN NOT NEEDED

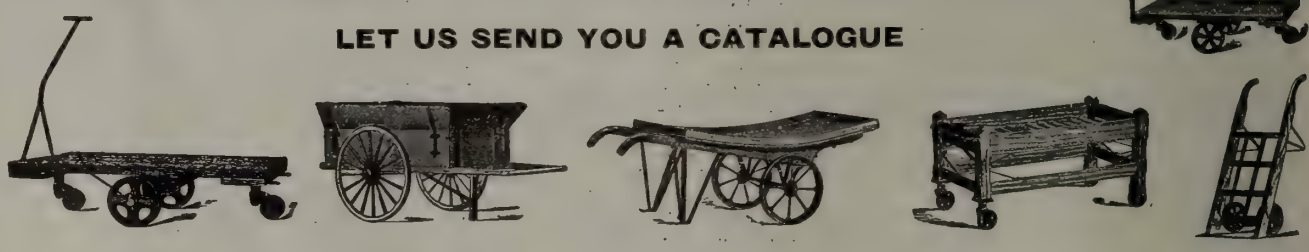
TRUCKS OF ALL KINDS FOR FREIGHT STATIONS - WAREHOUSES - PASSENGER AND EXPRESS STATIONS

STRONG - DURABLE - LIGHT



A TRUCK FOR EVERY PURPOSE

LET US SEND YOU A CATALOGUE



The Canadian Fairbanks Company Limited

MONTREAL

TORONTO ST. JOHN, N.B. WINNIPEG CALGARY VANCOUVER

Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this. Complete copies of any of the orders summarized below, or of others previously passed by the Commission, will be furnished for 25 cents, cash to accompany requests for copies in all cases.

5801. Dec. 10.—Authorizing E. Raymond to construct a crossing over C.P.R. in Chatham tp., Que.

5802. Dec. 10.—Authorizing North-West Ranching and Packing Co. to construct two highways across Calgary and Edmonton Ry. in the w. ½ sec. 16, tp. 15, r. 27, w. 4th. m., Alta.

5803. Dec. 10.—Dismissing application of C.N.Q.R. for leave to construct a spur line to Argenteuil Lumber Co.'s Mills, Morin's Flats, Que.

5804. Dec. 10.—Authorizing Hamilton, Waterloo and Guelph Ry. to take certain G.T.R. lands in Hamilton, Ont.

5805. Dec. 10.—Authorizing Rochester tp., Essex, Ont., to erect wires across C.P.R. at Belle River, Ont.

5806. Dec. 10.—Authorizing Creelman Telephone Co. to erect wires across C.P.R. in Saskatchewan.

5807, 5808. Dec. 10.—Authorizing the Saskatchewan Government Telephones to place wires across C.P.R. near Wauchope, Sask.

5809. Dec. 10.—Authorizing Mallorytown Independent Telephone Co. to place wires across G.T.R. at Mallorytown, Ont.

5810. Dec. 10.—Authorizing C.P.R. to open for traffic the portions of its second track between mileages 31.6 to 31.63, 106.0 to 106.2, 112.6 to 124.7, 71.9 to 89.9, 124.7 to 130.3, and 140.8 to 148.0, Fort William section.

5811. Dec. 10.—Authorizing Manitoba Government Telephones to place wires across C.N.R. to J. Bray's residence, Portage la Prairie, Man.

5812. Dec. 10.—Authorizing Mallorytown Independent Telephone Corporation to place wires across G.T.R. at Yonge Mills village, Ont.

5813. Dec. 10.—Authorizing Barrie & Angus Telephone Co. to place wires across C.P.R. at Utopia station, Ont.

5814. Dec. 10.—Authorizing Consumers' Gas Co. to lay a main under C.P.R. on Elizabeth St., West Toronto, Ont.

5815. Dec. 10.—Authorizing Adams River Lumber Co. to lay telephone wires across C.P.R. near Shuswap station, B.C.

5816. Dec. 10.—Authorizing the Bell Telephone Co. to place wires across G.T.R. at St. Agnes, Que.

5817. Dec. 10.—Authorizing Bell Telephone Co. to place wires across C.P.R. near St. Mary's, Ont.

5819. Dec. 12.—Authorizing the British Columbia Telephone Co. to place wires across C.P.R. at Duncan, B.C.

5820. Dec. 11.—Authorizing Andover and Perth Electric Light Commissioners to place wires across C.P.R. near Perth, N.B.

5821. Dec. 11.—Authorizing the Falkirk Telephone Association to place wires across G.T.R. at Ailsa Craig, Ont.

5822. Dec. 11.—Authorizing the British Columbia Telephone Co. to place wires across C.P.R. at Hammond station, B.C.

5823. Dec. 11.—Authorizing Bell Telephone Co. to place wires across Central Ont. Ry. near Trenton, Ont.

5824. Dec. 11.—Authorizing Princeton and Drumbo Telephone Co. to place wires across G.T.R. near Bright, Ont

5825. Dec. 11.—Authorizing G.T.R. to open for traffic its new second track from North Parkdale, Toronto, to St. Clair Ave., West Toronto.

5826. Dec. 7.—Dismissing application of Mannville Board of Trade, for order directing C.N.R. to construct a crossing west of the station joining Main St., Mannville, Alta.

5827, 5828. Dec. 11.—Authorizing the Andover and Perth Electric Light Commissioners to place wires across C.P.R. in Andover, N.B.

5829. Dec. 11.—Authorizing Princeton & Drumbo Telephone Co. to place wires across G.T.R. near Gobles, Ont.

5830. Dec. 11.—Authorizing the Bell Telephone Co. to place wires across Central Ont. Ry. near Trenton, Ont.

5831. Dec. 14.—Extending till Jan. 15, 1909, time for installation of interlocking plant at crossing of the C.N.Q.R. with the C.P.R. east of Lorette, Que.

5832. Dec. 14.—Authorizing Montreal St. Ry. to operate trains over crossing of Chateauguay and Northern Ry. at Maisonneuve, without being brought to a stop; the C. & N.R. trains to be prepared to come to a stop 75 ft. on the east and west sides of the semaphore and the blade of the semaphore to the west to be painted red.

5833. Dec. 14.—Approving location of the V.V.& E. Ry. & Nav. Co. from the west line of tp. 26 to east line of sec. 15, tp. 16, New Westminster district, B.C.

5834. Dec. 14.—Authorizing C.P.R. to construct a spur line to Graves Bigwood Co.'s premises, Parry Sound district, Ont.

5835. Dec. 14.—Authorizing C.N.O.R. to purchase a portion of Norrow's lot no. 139, and to construct a suitable crossing on lot 140, con. A, Foley tp., Ont.; and to fence its right-of-way.

5836. Dec. 23.—Authorizing Saskatchewan Government Telephones to carry wires across C.N.R. tracks at Disley, Sask.

5837. Dec. 14.—Approving Standard Passenger Tariff C.R.C. B2 of Chatham, Wallaceburg and Lake Erie Ry. between Chatham and Erie Beach, Ont., showing a basis of 3c. a mile.

5838. Dec. 14.—Dismissing application of C.N.O.R. for authority to construct its line across the Montreal-Ottawa Road, Cumberland tp., Ont., and across Cameron St., near Cumberland station grounds, mileage 42 west from Hawkesbury, Ont.

5839. Dec. 14.—Dismissing application of A. LaForest, Megantic, Que., for authority to lay a sewer pipe under C.P.R. in Levis, Que.

5840. Dec. 15.—Approving by-law 24 of New Brunswick and Prince Edward Island Ry., authorizing J. Wood, President, to prepare and issue tariffs of tolls for traffic.

5841. Dec. 15.—Authorizing the C.N.O.R. and the C.P.R. Cos. to operate trains over the crossing on lot 12, con. 2, Cleland tp., Ont., near Elbow Creek, without being brought to a stop.

5842. Dec. 15.—Granting leave to Brantford and Hamilton Elec. Ry. to operate cars over G.T.R. crossing in Brantford, Ont., without being brought to a stop.

5843, 5844. Dec. 15.—Authorizing Bell Telephone Co. to place wires across G.T.R. near Tottenham and Novar stations, Ont.

5845. Dec. 14.—Dismissing application of J. Malkin & Sons, Sprucedale, Ont., complaining of discrimination by the G.T.R. in rates on tan bark from Sprucedale to Berlin, as compared with rates from Burk's Falls and Sundridge to Berlin and London, Ont.

5846. Dec. 17.—Authorizing Bell Telephone Co. to place wires across the tracks of the G.T.R. 1¼ miles north of Alvinston station, Ont.

5847. Dec. 1.—Directing that all proceedings by V.V. & E. Ry. & Nav. Co. under orders 3505, 4578, and 5494, in retaking of lands for diversion of River road, Delta, B.C., be stayed until further consideration by the Board, the company to be at liberty to proceed with construction without prejudice to the rights of the land owners and at the company's peril.

5848. Dec. 15.—Authorizing Chatham, Wallaceburg and Lake Erie Ry. to construct its railway across certain highways in Raleigh and Harwich tps., Ont., subject to certain conditions.

5849. Dec. 11.—Authorizing the Bell Telephone Co. to place wires across Central Ont. Ry. near Trenton, Ont.

5850-5854. Dec. 15.—Authorizing the Toronto and Niagara Power Co. to place wires across G.T.R. at Davenport road, York County, Brant House, Burlington, and Burlington Beach, Ont.; across C.P.R. near Weston road, York County, and across G.T.R. near Weston road, York County, Ont.

5855. Dec. 15.—Authorizing the C.N.O.R. to construct its railway across certain highways in North Plantagenet tp., Ont.

5856. Dec. 15.—Approving by-law of Esquimalt and Nanaimo Ry. authorizing L. D. Chetham, Victoria, B.C., to prepare and issue tariffs of tolls to be charged for traffic.

5857. Dec. 7.—Dismissing application of Government of Alberta for leave to place wires across C.P.R. at Lethbridge, Alta.

5858. Dec. 17.—Authorizing the Bell Telephone Co. to place wires across C.P.R. at Holland Centre, Ont.

5859. Dec. 17.—Authorizing the Bell Telephone Co. to place wires across G.T.R. tracks near Alvinston station, Ont.

5860. Dec. 17.—Authorizing the Bell Telephone Co. to place wires across C.P.R. near Holland Centre, Ont.

5861. Dec. 16.—Authorizing Toronto and Niagara Power Co. to place wires across Pere Marquette Ry. at Welland, Ont.

5862. Dec. 16.—Dismissing application of town of Lindsay, Ont., to lay sewer pipe under G.T.R.

5863. Dec. 14.—Authorizing town of Buckingham, Que., to lay water pipe under C.P.R.

5864. Dec. 1.—Authorizing Toronto and Niagara Power Co. to place wires across Toronto Suburban Ry. at Bathurst St., Toronto.

5865. Dec. 16.—Dismissing application of Buffalo, Niagara and Toronto Ry. for authority to construct a branch line between St. Davids and St. Catharines, Ont.

5866, 5867. Dec. 16.—Authorizing C.N.O.R to construct its railway across the highway between Clarence and Cumberland tps., and across certain highways in West Hawkesbury and Alfred tp., and the town of L'Orignal, Prescott Co., Ont.

5868. Dec. 16.—Dismissing application of Buffalo, Niagara & Toronto Ry. for approval of plan and profile showing location of line between Niagara-on-the-Lake and Welland, Ont.

5869. Dec. 16.—Authorizing C.N.O.R. to construct its railway across the highway on lot 20, con. 2, York tp., Ont.

5870. Dec. 18.—Authorizing Lake Erie and Detroit River Ry. and the G.T.R. to operate trains over the crossing of the two roads in Chatham, Ont., permitting the L.E. & D.R.R. to dispense with the north distant signal at the crossing, and directing the L.E. & D.R.R. to trim off trees that partially obstruct view of the south distant signal on its line.

5871-2. Dec. 18.—Authorizing Manitoba Government Telephones to place wires across C.P.R. at Carter Ave., Elmwood, and near Harding.

WIRE ROPE

FOR HOISTING, HAULAGE
TOWING, GUYS, MOORING
TRANSMISSION OF POWER
GRAIN SHOVELS, ETC.

FOR DERRICKS, CRANES
WRECKING, ELEVATORS
BRIDGES, DREDGES
ETC.

The above cuts illustrate our "Ordinary," "Kilindo" and "Durable" makes of wire rope. We manufacture wire ropes for all requirements and also manufacture special ropes to suit any requirements.
All sizes and lengths of "Ordinary"— Kilindo" "Langs Lay"—"Durable" Wire Ropes in stock—ready for immediate shipment.

The Dominion WIRE ROPE Co., Limited, Montreal

"MARION" STEAM SHOVELS

have demonstrated time and again that they are the best for all classes of service.

ALL CAPACITIES ALL STYLES

"INDUSTRIAL" COALING AND WRECKING CRANES

Electric Locomotive Cranes Special Design Cranes

In Capacities from

FIVE TO ONE HUNDRED TONS

FOR USE ABOUT

Manufacturing Plants Railroad Yards Coal Yards Power Plants
Coaling Stations Quarries, etc.

WE SOLICIT YOUR MOST CAREFUL INVESTIGATION

F. H. Hopkins & Co SUCCESSORS LATE JAMES COOPER **Montreal**

5873. Dec. 18.—Authorizing Saskatchewan Government Telephones to place wires across C.P.R. between secs. 14 and 15-7-30, west of 1st mer., Sask.

5874-5. Dec. 18.—Authorizing Norfolk County Telephone Co. to place wires across G.T.R. at Simcoe, Ont.

5876. Dec. 18.—Authorizing Manitoba Government Telephones to place wires across C.P.R. 4½ miles northeast of Winnipeg station.

5877. Dec. 18.—Authorizing National Transcontinental Ry. to place wires across C.P.R. at Vermillion Bay, Ont.

5878. Dec. 18.—Authorizing Laval Electric Co. to place wires across C.P.R. at L'Epiphanie, Que.

5879. Dec. 17.—Dismissing application of Quebec, Montreal and Southern Ry. for authority to construct a branch line near St. Angele, Que.

5880-1. Dec. 17.—Rescinding orders 5695 and 5696 authorizing Bell Telephone Co. to place wires across Pere Marquette Rd. at Adelaide St., London, Ont.

5882. Dec. 21.—Ordering Grand Valley Ry. to file its tariff of tolls with the Board.

5883. Dec. 16.—Authorizing G.T. Pacific Telegraph Co. to place wires across C.P.R. west of Portage la Prairie, Man.

5884. Dec. 17.—Dismissing the application of C.P.R. (Ont. & Que. Ry. Co.) for authority to take additional lands, for railway purposes, between Mountain and Windsor Sts., Montreal.

5885. Dec. 22.—Rescinding order 5661, Nov. 10, 1908, and directing Berlin and Waterloo St. Ry. to pay the G.T.R. 85 cents a day from Dec. 12, 1905, to May 1, 1907; and that the Light Commissioners of Berlin, Ont., pay the G.T.R. 90 cents a day from May 1, 1907, re wages of watchman.

5886. Dec. 22.—Authorizing Quebec, Montreal and Southern Ry. to construct spur line to the Distillery Packing and Vinegar Co.'s premises, St. Hyacinthe, Que.

5887. Nov. 4.—Authorizing St. John Ry. upon maintaining a semaphore at the crossing, to operate its line across the C.P.R. in Lancaster parish, county and city of St. John, N.B., without installing an interlocker or other similar appliance, for 12 months from Nov. 4, 1908.

5888. Dec. 16.—Regulations for protection of railway employes. (See pg. 95.)

5889. Dec. 22.—Authorizing C.P.R. Co. to construct revised location of its railway from lot 59, con. 2 E, Glenelg tp., Ont., to park lot 1, north of George St., Durham, Ont.

5890. Dec. 18.—Authorizing C.N.O.R. and G.T.R. to operate trains over crossing near Beaverton, Ont., without being brought to a stop.

5891. Dec. 22.—Authorizing C.N.O.R. to construct branch line partly within Hawkesbury town and partly within West Hawkesbury tp., Ont., from its main line to a junction with the G.T.R. at Riordan's Mills; the branch line to be completed within two years from date of order.

5892. Dec. 1.—Authorizing Toronto and Niagara Power Co. to erect wires across Toronto Suburban Ry. at the Weston Road, York County, Ont., subject to certain conditions.

5893. Dec. 21.—Authorizing the C.N.Q.R. to erect telegraph wires across C.P.R. at crossing east of Lorette, Que.

5894. Dec. 21.—Authorizing the Niagara, St. Catharines and Toronto Ry. to construct a spur from Hedley-Shaw Milling Co.'s mills, Thorold, Ont.; and to complete its branch line within two years from date of order.

5895. Dec. 21.—Authorizing C.N.O.R. to place telegraph wires across G.T.R. at Hawkesbury, Ont.

5896. Dec. 23.—Authorizing G.T.R. to construct spur branch line and two spurs therefrom to the Provincial Steel Co.'s property, Cobourg, Ont.

5897. Dec. 21.—Authorizing the Bell Telephone Co. to place wires across M.C.Rd. near Inwood station, Ont.

5898. Dec. 21.—Authorizing the Bell Telephone Co. to place wires across C.P.R. at Main Road, Megantic, Que.

5899. Dec. 21.—Authorizing Bell Telephone Co. to place wires across G.T.R. at Powassan, Ont.

5900-5903. Dec. 21.—Authorizing the Bell Telephone Co. to place wires across C.P.R. 4½ miles west of Holland Centre, Ont.; 1 mile east of Chatsworth station, Ont.; 5 miles west of Holland Centre, Ont.; and ¼ mile east of Chatsworth station, Ont.

5904. Dec. 21.—Authorizing Claremont and Ashburn Telephone Co. to place wires across C.P.R. at Claremont, Ont.

5905. Dec. 21.—Authorizing the Saskatchewan Government Telephones to erect wires across C.P.R. between secs. 10 and 15, tp. 8, r. 5, w. 2nd m., Sask.

5906. Dec. 21.—Authorizing Bell Telephone Co. to place wires across G.T.R. tracks ⅞ mile east of Beaconsfield station, Que.

5907, 5908. Dec. 21.—Authorizing the Saskatchewan Government Telephones to place wires across the C.P.R. between secs. 8 and 11, tp. 8, r. 4, w.p.m., Sask.; and between sec. 18, tp. 8, r. 5, and sec. 13, tp. 8, r. 6, w. 2nd m., Sask.

5909. Dec. 21.—Authorizing Claremont and Ashburn Telephone Co. to place wires across C.P.R. at Dagmar, Ont.

5910-5912. Dec. 21.—Authorizing Barrie and Angus Telephone Co. to place wires across G.T.R. tracks at four points.

5913. Dec. 21.—Authorizing Bell Telephone Co. to place wires across G.T.R. near Strathmore station, Que.

5914. Dec. 21.—Authorizing C.P.R. to construct spur line to Sunbeam Incandescent Light Co.'s premises, Toronto; the spur to be completed within two years from date of order.

5915, 5916. Dec. 24.—Authorizing British Columbia Telephone Co. to place wires across V.V. & E. Ry. at Sapperton and Kamloops, B.C.

5917. Dec. 22.—Authorizing G.T.P.R. to carry freight over the portion of its line from Winnipeg to Battle River, Alta., notwithstanding that such portion has not been opened for carriage of traffic, in accordance with Railway Act, sec. 261; and cancelling order 3780, Oct. 11, 1907.

5918. Dec. 22.—Authorizing G.T.P.R. to carry freight over its line from Fort William, Ont., to end of track, mileage 0.00 to 188.77, Ontario, notwithstanding that such line has not been opened for carriage of traffic in accordance with Railway Act, sec. 261.

5919. Dec. 10.—Authorizing C.P.R. to open for carriage of traffic its Moose Jaw North-west branch, in Saskatchewan, subject to condition that trains be not run at a greater speed than 15 miles an hour.

5920. Dec. 26.—Authorizing Bell Telephone Co. to place wires across C.P.R. near Strathmore station, Ont.

5921. Dec. 26.—Authorizing Vancouver Power Co. to place wires across C.P.R. at or near Barnet, B.C.

5922. Dec. 26.—Authorizing C.P.R. Co. to place telegraph wires across G.T.R. in Bentinck tp., Ont.

5923. Dec. 28.—Authorizing Town of Cobourg, Ont., to lay pipe under G.T.R. tracks on Ontario St.

5924. Dec. 22.—Authorizing Montreal Terminal Ry. to cross C.N.Q.R. opposite Vulcan Cement Co.'s Works, Longue Pointe, Que.

5925. Dec. 22.—Directing that Quebec, Montreal and Southern Ry., be at expense of changing derails at junction of its line with the Rutland Rd. and the G.T.R. at Noyan Jct., Que.

5926. Oct. 20.—Authorizing the M.C. Rd. to construct crossing over its railway on boundary line between C. and F. Slade's farms, Raleigh tp., Ont.

5927. Dec. 24.—Authorizing the M.C. Rd. to construct bridge at Charing Cross, Ont.

5928. Dec. 28.—Rescinding order 5803, Dec. 10, 1908, and authorizing C.N.Q.R. to construct a spur line to Argenteuil Lumber Co.'s mills at Morin Flats, Que., the spur to be completed within two years from date of order.

5929. Dec. 28.—Authorizing the G.T.P.R. to construct a double-track passenger bridge across the Assiniboine River at Winnipeg, Man.

5930-5933. Dec. 28.—Authorizing Manitoba Government Telephones to place wires across C.N.R. at three places northeast of St. Boniface station, and at ½ mile east of Swan Lake.

5934. Dec. 28.—Approving deviation of G.T.R. spur line from west side of King St., Chesley, Ont., to the Chesley Rake and Novelty Co.'s premises, Chesley, Ont.

5935. Jan. 11. Approving Grand Valley Ry. Co.'s by-law authorizing M. A. Verner, or such officers as the directors may designate, to issue tariffs of traffic tolls.

5936. Dec. 22.—Approving fire extinguisher for use in Central Ontario Ry. cars.

5937. Dec. 22.—Authorizing the Okabena Telephone Association to place wires across C.P.R. in s.w. ¼ sec. 32, tp. 15, r. 23, w. 2nd m., Sask.

5938. July 15.—Authorizing Walkerton and Lucknow Ry. to construct spur lines of railway in Hanover, Ont., to the Knechtel Furniture Co. and Hanover Portland Cement Co.'s premises.

5939. Oct. 6.—Authorizing the G.T.R. to construct a branch line, with spurs therefrom, to the Simonds Canada Saw Co., Jenkins Bros., the Lang Mfg. Co., and other premises, Montreal.

5940. Dec. 22.—Authorizing C.N.O.R. to construct its line across and divert the Montreal road and the sideroad between the counties of Russell and Prescott, at about mileage 28 west from Hawkesbury, Ont.

5941, 5942. Dec. 23.—Authorizing the G.T.P. Ry. Co. to divert highways at various points in Manitoba.

5943. Dec. 16.—Directing St. John's Electric Light Co. to forthwith remove wires placed over C.P.R. at Stevenson St., St. John's, Que.

5944. Dec. 23.—Authorizing C.P.R. to construct a spur line to the Royal Collieries Co.'s premises at Lethbridge, Alta., the spur to be completed within two years from date of order.

5945. Dec. 23.—Authorizing C. E. Knister, of Comber, Ont., to place wires across M.C. Rd. in Tilbury West tp., Ont.

5946. Dec. 23.—Approving by-law passed by M.C. Rd. authorizing C. F. Daly, Vice-President, in respect of freight and passenger traffic; O. W. Ruggles, General Passenger Agent, in respect of passenger traffic, and W. C. Rowley, General Freight Agent, and N. D. Chapin, Chief of Tariff Bureau, in respect of freight traffic, to prepare and issue tariffs of tolls to be charged.

Pintsch Light Steam Heat

Car lighting by the Pintsch System with improved mantle lamps and by Vapor lighting system for branch lines. Gas broilers, and ranges. Buoys.

The Safety Car Heating and Lighting Co
2 RECTOR ST., NEW YORK.

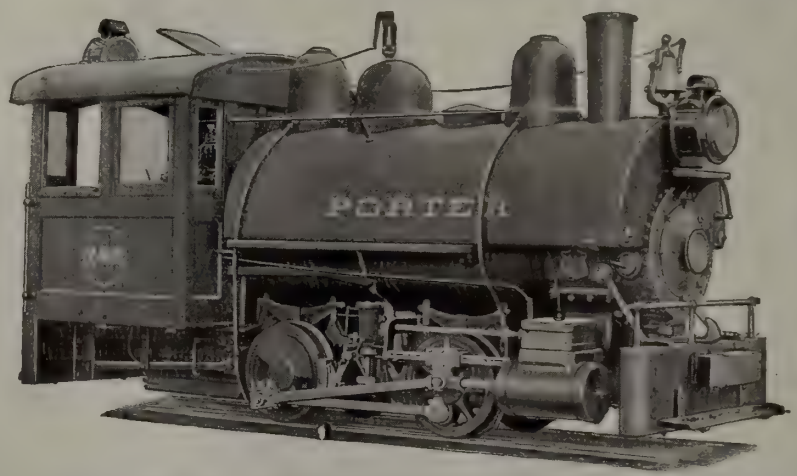
Car heating by controllable direct steam and water circulating systems steam tight couplers, traps, train pipe valves and other appliances.

CHICAGO - BOSTON - ST. LOUIS - ATLANTA - PHILADELPHIA - MONTREAL - BERKELEY, CAL.

LIGHT
LOCOMOTIVES
STEAM AND COMPRESSED AIR

COMPRESSED AIR LOCOMOTIVE

H. K. PORTER COMPANY
643 Wood Street, - Pittsburg, Penna.



LATEST DESIGN CONTRACTORS' LOCOMOTIVE

ALL GAUGES. EVERY VARIETY OF DESIGN. FOR ALL PURPOSES.

CONTRACTORS' LOCOMOTIVES ON HAND AND UNDER WAY FOR QUICK COMPLETION. WIDE AND NARROW GAUGE.

LOGGING, MINE AND INDUSTRIAL LOCOMOTIVES.

"TENTH EDITION CATALOGUE JUST PRINTED, MAILED FREE TO MINE, RAILWAY OR INDUSTRIAL OFFICIALS; OR TO OTHERS ON RECEIPT OF FIFTY CENTS."

5947. Dec. 22.—Authorizing G.T.P.R. to construct a bridge between Watson Island and Kaien Island, B.C.

5948. Dec. 23.—Approving location of C.P.R station at Coldwater, Ont.

5949-5952. Dec. 23.—Authorizing Saskatchewan Government Telephones to place wires across C.N.R. at four points near Findlater and Bethune, Sask.

5953. Dec. 14.—Dismissing application of the Chapple municipality, Ont., for order directing C.N.R. to place an agent at Barwick.

5954. Dec. 21.—Directing railway companies to file distances between stations. (See pg. 95.)

5955. Dec. 15.—Ordering C.N.R. to file joint tariff on grains and grain products from points on Q., L.L., and S. Rd. & Steamboat Co.'s railway to Pacific Coast terminal points and intermediate stations in British Columbia. (See pg. 95.)

5956. Dec. 22.—Directing Quebec, Montreal and Southern Ry. to prepare plans for new stations at Sorel and Pierreville Que., for the approval of the Board, within two months from the date of order; that the Q.M. & S. Ry., operate its trains according to its timetables, unless prevented from doing so by reason of accidents, snow storms, or causes of a like nature; that all frogs on its line be packed in accordance with the Railway Act; that signboards be erected; and that the company shall be liable to a penalty of $50 a day for a breach of any of the terms of this order.

5957. July 14.—Authorizing Guelph and Goderich Ry. to cross G.T.R. spur at Listowel, Ont.

5958. Dec. 23.—Authorizing Saskatchewan Government Telephones to place wires across C.N.R. near Disley, Sask.

5959. Dec. 15.—Dismissing application of City of Chatham, Ont., for order directing C.P.R. to provide gates at certain street crossings, and electric bells or other systems of warning at other crossings.

5960. Dec. 23.—Authorizing Saskatchewan Government Telephones to place wires across C.N.R. at Chamberlain, Sask.

5961. Dec. 22.—Amending error in plan and book of reference in connection with order 4498, dated Mar. 24, 1908, wherein, through mistake, Jos. Charron is named as owner of lands instead of F. Charron.

5962. Dec. 23.—Authorizing C.P.R. to operate bridges on its Fort William section at mileages, namely: 30.44, 64.4, 58.5, 72.27, 31.98, 88.73, 30.08, 31.62, 111.45, 112.89, 68.61, 139.98, 28.63, 101.11, 106.17, 48.24, 97.83, and 94.06.

5963. Dec. 23.—Extending until June 1, 1909, time within which C.N.Q.R. shall do the work required in order 5742 of Dec. 1, 1908.

5964. Dec. 29.—Dismissing application of Grenfell Milling and Elevator Co., Grenfell, Sask., for leave to erect electric light wires across C.P.R.

5965. Dec. 29.—Dismissing application of City of Saskatoon, Sask., for permission to lay water main under C.N.R. tracks.

5966. Dec. 29.—Authorizing Manitoba Government Telephones to place wires across C.N.R. 4½ miles northeast of St. Boniface station,

5967. Dec. 29.—Dismissing application of Village of Mannville, Alta., for order directing C.N.R. to provide a street crossing.

5968. Dec. 29.—Authorizing Manitoba Government Telephones to place wires across C.N.R. near Altamount.

5969. Dec. 29.—Authorizing Bell Telephone Co. to place wires across C.N.R. at Prince Albert, Sask.

5970. Dec. 29.—Authorizing C.P.R. to place stop-block 267 feet from switch leading to McIntosh-Gullett Co.'s siding at North Toronto, key of which shall be in custody of McIntosh-Gullett Co., who shall be responsible for seeing that the stop-block is at all times closed and locked when not in use.

5971. Dec. 24.—Approving revised location of the G.T.P.R., Prince Rupert easterly, mileage 10.64 to mileage 50, Coast District, B.C.

5972. Dec. 18.—Approving Orford Mountain Ry. Standard Passenger Tariff C.R.C. no. 20.

5973. Dec. 23.—Authorizing M.C. Rd. to use the interlocking plant at crossing just west of Ross St., St. Thomas, Ont.

5974. Dec. 23.—Authorizing Manitoba Government Telephones to place wires across C.N.R. at Oakville, Man.

5975. Dec. 29.—Authorizing C.N.R to open for traffic the portion of its line from Lumsden to Disley, Sask., the company undertaking to do before July 1, 1909, all fencing necessary.

5976. Dec. 29.—Dismissing application of Hinton Electric Co. for leave to erect wires across C.P.R. in Enderby, B.C.

5977. Dec. 29.—Authorizing the removal of the east derail and home semaphore at Walkerville Jct., Ont., 375 and 428 ft. respectively, from the Pere Marquette crossing with the C.P.R.

5978. Dec. 29.—Directing C.N.R. to construct certain highway crossings over its Oak Point branch, and pending the completion of a permanent highway crossing at mileage 27, the company to provide at once a temporary crossing and put it in such shape that teams may cross in safety during winter.

Saskatchewan Dept. of Railways, Etc.

The Department of Railways, Telegraphs and Telephones for Saskatchewan was created in May, 1908, by an act of the Legislature, which provides for the appointment of a member of the Executive Council by the Lt.-Governor to act as commissioner and of a deputy commissioner by the Lt.-Governor in Council, who shall have jurisdiction over all matters connected with railways over which the Provincial Government may have control, and over every telegraph and telephone system which may be constructed or acquired by the commission, unless otherwise provided. Power is also vested in the commission to construct, equip and operate telegraph and telephone systems, and to purchase, either in whole or part, any existing systems. The commissioner may summon witnesses, require deliveries of documents, and hear evidence on oath, penalties being provided in the event of refusal in the first two cases.

The chief work during the past year has been in connection with the Government telephone system. Long distance lines are in course of construction between Regina and Antler, and Lumsden and Saskatoon, and will shortly be completed. Twenty-one companies had been organized and incorporated under the Rural Telephone Act to the end of 1908, and about 20 companies are in course of organization. Hon. J. A. Calder is the Minister of the Department; S. P. Porter, Deputy Commissioner; J. Sutherland, Superintendent of Telephones; W. Warren, Engineer; D. C. McNab, Inspector of Rural Telephone companies; C. F. Smith, Accountant; R. Chown, Draughtsman; and H. Willsmer, Chief Clerk. The Department also maintains a staff of line inspectors, pole inspectors, storekeepers, etc.

St. Clair Tunnel Operating Results.

In our Dec. issue we devoted a large amount of space to an illustrated description of the electrification of the St. Clair Tunnel. We are now able to present some information as to the results of the operation of the tunnel by electric locomotives as compared with steam locomotives.

Electrification has increased the capacity of the tunnel fully 30%; it has removed a serious handicap from the passenger service and reduced the operating expenses. These improvements have been effected by the single-phase locomotive. The electric locomotives handle 1,000 ton trains, where the steam locomotives handled 700 ton trains. The electric locomotives climb the 2% grades with these trains at 10 miles an hour, where the steam locomotives were barely able to pull out at 3 miles an hour. Under electric conditions the average time from summit to summit is 10 minutes, and the average number of cars per train is 27.3, and this number can be increased. Under steam conditions the average time from summit to summit was 15 minutes, and the average number of cars per train was 19.7. During the first 24 hours of continuous electric service 1,529 freight cars and the usual number of passenger trains were put through the tunnel. This was done without any attempt to establish a record. The record under the steam conditions (exclusive of one for which extraordinary preparations were made) was 1,501 freight cars and the usual number of passenger trains. The average number of freight cars per day in Jan., 1908 (steam service), was 937, the average in Feb. was 682, in March 923. The low average in Feb. was due mainly to snow blockades resulting from 11 blizzards that occurred during that month. During the first half of March the business that offered exceeded the capacity of the tunnel. Just after the middle of March an 18-hour-per-day electric service was instituted. The first time the service was carried through 24 hours (March 23), the result indicated above was obtained. For several years past the business offered during the season of closed lake navigation has at times exceeded the capacity of the tunnel. With the electric service the capacity of the tunnel exceeds the capacity of the terminals. A run can be made through the tunnel every 15 minutes. Assuming 70% of these runs to be freight, and the average number of cars per train to be 30, the total is 2,016 freight cars a day, which is more than 30% greater than was the steam capacity of the tunnel.

The electric locomotives have transformed the atmospheric conditions of the tunnel. The air has been cleared of the exhaust steam and the gases of combustion. The tunnel is now as clean and well lighted as a city street, and the air is as pure as the St. Clair River air. Air brakes can now be used on all the trains. With the steam service hand brakes had to be used on freight trains. Had the air brakes been used, a break-in-two in the tunnel would have held the engine in the tunnel beyond the danger limit. Fortunately no accident ever occurred to a passenger train during the 18 years of steam service. There have been, of course, numerous break-in-twos and occasional derailments with freight trains, some of which accidents were accompanied with results that gave the tunnel a sinister reputation. With the electric service the tunnel trip is a safe and comfortable one. Moreover, the elimination of the exhaust steam and the corroding fumes has done away with what was a source of depreciation on the passenger rolling stock. A further saving in operation has been effected, due to the fact that the electric locomotives are less severe on the rails than the steam locomotives were.

MONTREAL STEEL WORKS, LIMITED

POINT ST. CHARLES, - - MONTREAL

MANUFACTURERS OF

STEEL CASTINGS (Acid Open Hearth System)

SWITCHES and TRACK WORK for Steam and Electric Roads

SPRINGS of all kinds

MANGANESE STEEL CASTINGS for wearing Parts, insuring Great Hardness and Durability

INTERLOCKING PLANTS

TRUCKS FOR ELECTRIC CARS

Agents for Canada for

THOS. FIRTH & SONS, LIMITED, SHEFFIELD, ENGLAND

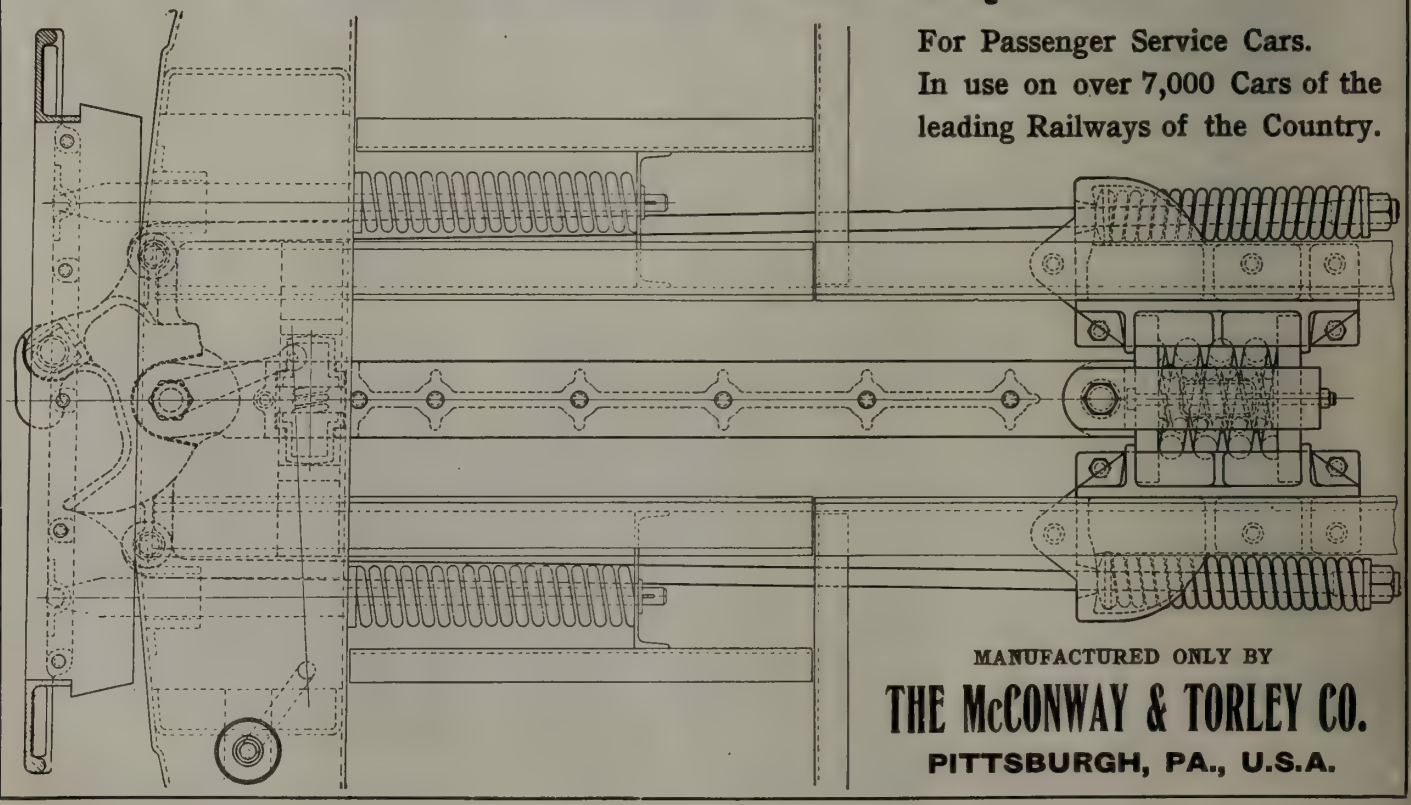
"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc. A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO., BARROW-IN-FURNESS, ENGLAND

Quotations for Tee Rails, Fish Plates, etc., promptly furnished. Catalogues sent on application.

THE BUHOUP 3-STEM COUPLER

THE MOST COMPLETE AND UP-TO-DATE EQUIPMENT



For Passenger Service Cars.
In use on over 7,000 Cars of the leading Railways of the Country.

MANUFACTURED ONLY BY

THE McCONWAY & TORLEY CO.

PITTSBURGH, PA., U.S.A.

The fuel bill for the locomotives during the last six months of steam service averaged $4,956 a month. The fuel bill for the first six months of electric service averaged $1,152.60 a month. Hard coal costing $6 a ton was used on the steam locomotives; bituminous coal costing $2 a ton is used in the tunnel power station. The maintenance of the steam locomotives averaged 13.6c. per locomotive mile. The maintenance of the electric locomotives during the first six months of service was 4.3c. per locomotive mile. There has been a 15% reduction in the total wages paid to locomotive crews, and 23% reduction in the total wages paid to train crews. The first six months of electric operation shows a 44% reduction on the cost of steam operation.

The electric locomotives have handled the entire tunnel service since May 17, 1908, prior to which date there were two months of 18-hours-per-day electric service, and prior to which period there was some preliminary electric operation. The transition period occupied about 10 weeks, continuous electric service not being inaugurated until the men and equipment were thoroughly seasoned. Gradual transition was, of course, but common prudence, as the results have abundantly proved. The change-over was made with practically no interference to traffic, and the new service has been a success from the start. Each one of the five original locomotives has made more than 23,000 miles. The wear on the gears is inappreciable, and the pinions, from present indications, will each make 50,000 miles. Main motor brushes are making 15,000 miles and the pantagraph shoes average 2,000, some have made 3,400 miles. The life of the brake shoes has been quite variable, however. The original shoes made from 5,000 to 6,000 miles. Steel shoes have been found to be quite unsatisfactory. Various kinds of cast iron shoes are now being tried. Their life is ranging from 400 to 2,000 miles. The commutation of the motors is good. The control system is practically troubleless. There has been some weeding out of defects that were not discovered during test, but the amount has been small. Two main motors and one auxiliary motor have failed. The trouble in each instance seems to have been due to defective workmanship. During the last six months there have been 34 delays to traffic, nine of which were chargeable to the electric locomotive. The power consumption for the passenger service is averaging about 38 watt hours per ton mile, and for the freight service about 35 watts per ton mile. Trouble with the overhead construction outside the tunnel has been limited to several lightning arrester failures, and the replacement of some three or four trolley ears. In the tunnel but two insulators have failed since the commencement of the service. On one occasion the trolley wire was burnt in two through the careless resetting of the pantagraph of a work train locomotive standing in the tunnel. On another occasion a box car with an extraordinarily high handbrake wheel grounded the tunnel trolley. The trolley breaker cleared the trouble, and no damage to the construction resulted. The wear on the trolley wire is insignificant.

The foregoing is extracted from a paper by H. L. Kirker, who was resident engineer for the Westinghouse Co. in connection with the installation of the electric equipment, etc.

The C.P.R. is considering the withdrawal or, at any rate, the curtailment of the half-fare rate extended on its western lines to clergymen and ministers. All permits have been cancelled pending a decision as to the company's policy. It is stated that the half fare privilege will be extended only to certain districts of Saskatchewan and Alberta for the future.

Grand Valley Railway Tariffs.

The Board of Railway Commissioners passed the following order 5882, Dec. 21: In the matter of the tariff of tolls of the Grand Valley Railway Co., the company not having filed its tariff of tolls with the Board in accordance with the provisions of the Railway Act, although it has been requested to do so by letter from the Secretary of the Board on several occasions: It is ordered that the Company file its tariff of tolls with the Board, pursuant to sec. 314 of the Railway Act, within 15 days from the date of this order. And it is further ordered that the President, the Secretary, and the directors of the Company shall have the tariff of tolls of the Company filed with the Board in accordance with the provisions of this order. Any person wilfully omitting or failing to comply with the provisions of this order shall be liable to a penalty of $100 for every day that he shall omit or fail to comply with the provisions of this order."

Distances Between Stations.

The Board of Railway Commissioners passed the following order 5954, Dec. 21: In pursuance of powers conferred upon it by secs. 26, 30, 322, 326, 330 and 339, of the Railway Act, and of all other powers possessed by the Board in that behalf: Upon the report and recommendation of the Chief Traffic Officer of the Board it is ordered that railway companies subject to the Board's jurisdiction file with the Board, within three months from the date of this order, the exact distances, to not exceeding two decimal points, between their stations, such tables to bear a C.R.C. number in both the freight and passenger tariff series, and to be in the form, size, and style prescribed by the Board for freight and passenger tariffs. And it is further ordered that the said railway companies shall deposit and keep on file a copy of such tables at the places and in the manner provided by sec. 339 of the Railway Act, in respect of tariffs of tolls.

Effect of Flat Wheels on Rails.

By H. H. Vaughan, Assistant to the Vice-President C.P.R.

An article by E. L. Hancock appeared in the American Engineer a few months ago discussing the effect of a flat wheel on a rail in which it was calculated that the blow delivered by the wheel was exceedingly serious in its amount and increased very considerably with the speed. This calculation was based on two assumptions, namely, that the weight carried by the wheel could be considered as a weight concentrated at the centre of the axle, and that the leading edge of the flat spot remained in contact with the rail while this weight described a circle round it. Neither of these assertions is justifiable. In the first place, allowing that the wheels, together with such other parts of a car or tender as are carried below the springs, may be considered as concentrated at the axle, the body of the car is spring supported and cannot be considered as acting in the manner assumed, and in the second place the edge of a flat spot on a wheel with any given weight concentrated at its centre would not remain in contact with the rail after a certain critical speed is reached. A more reasonable method of considering this problem is to assume that the weight supported by each wheel below the springs is concentrated at the centre of the axle and that this weight is pressed down by a force equal to the weight supported by each wheel above the springs and these quantities may be roughly taken at 1,600 and 14,400 lbs., respectively, giving a total weight per wheel of 16,000 lbs., or of 128,000 lbs. per car. On this basis the problem has been thoroughly worked out by L. S. Spilsbury, of the office of the Engineer of Bridges, C.P.R., whose mathematical discussion is given below. The results of this thorough and ingenious analysis are entirely different from those previously obtained and may be summarized as follows:

The striking velocity of the trailing edge of the flat spot on the rail increases proportionately to the speed up to a critical speed at which the leading edge leaves the rail. This critical speed under the assumption as to weights, etc., specified above, is about 21 ft. per second, or 14.5 miles per hour for a 33-in. wheel. After this critical speed is reached, there is a small range of higher speeds during which the leading edge of the flat spot after leaving the rail hits it again almost instantly, then one slightly higher speed at which the flat surface strikes the rail, after which the leading edge of the flat spot, after leaving the rail, does not again touch it, and the wheel leaves the rail until the trailing edge of the flat spot strikes it; this last condition continues indefinitely as the speed increases. After this last condition is reached the velocity with which the trailing edge of the flat spot strikes the rail is constant. It varies, for small flats, directly as the length of the flat, directly as the square root of the ratio between the total weight supported by the wheel to the weight below the springs and inversely as the square root of the radius of the wheel. For a 33-in. wheel supporting a total weight equal to 10 times the weight below the springs, this constant and maximum striking velocity is as follows:

For 3 " flat spot..... 3.8 feet per second.
For 4½" flat spot..... 5.7 feet per second.
For 6 " flat spot..... 7.6 feet per second.

The blow delivered by the wheel at these velocities corresponds to that delivered by a weight of 1,600 lbs. falling through the following distances:

For 3 " flat spot..... 0.22 feet.
For 4½" flat spot..... 0.50 feet.
For 6 " flat spot..... 0.89 feet.

The results of these calculations are in close accordance with practical experience, and the curious fact that the blow delivered by a flat spot is constant after a certain speed is reached corresponds with the sound

C C1 C2 is path of centre of wheel from when CO is vertical until CP is vertical.

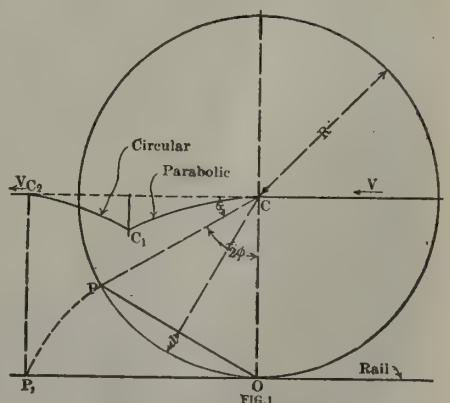


FIG. 1

given at varying speeds. The blow delivered on a rail by a flat spot while severe is not to be compared with that of a 2,000-lbs. weight falling through several feet, and is well within the capacity of any sound rail to withstand. The regulations of the Master Car Builders' Association give ample protection against excessive blows and do not allow wheels to run in a condition that may prove injurious to the rail. Mr. Spilsbury's calculations are as follows:

CANADA CAR COMPANY

MONTREAL, QUE. LIMITED

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS — CASTINGS — FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS
BOX 2286, MONTREAL.

Works: TURCOT

"BROWNHOIST"

Our Locomotive Cranes are used all over the world and are most wonderfully efficient and economical. The picture shows one used by Grand Rapids and Indiana Railway Co., Grand Rapids, Mich. Write us for "1730," and learn more regarding these machines.

The Brown Hoisting Machinery Co.

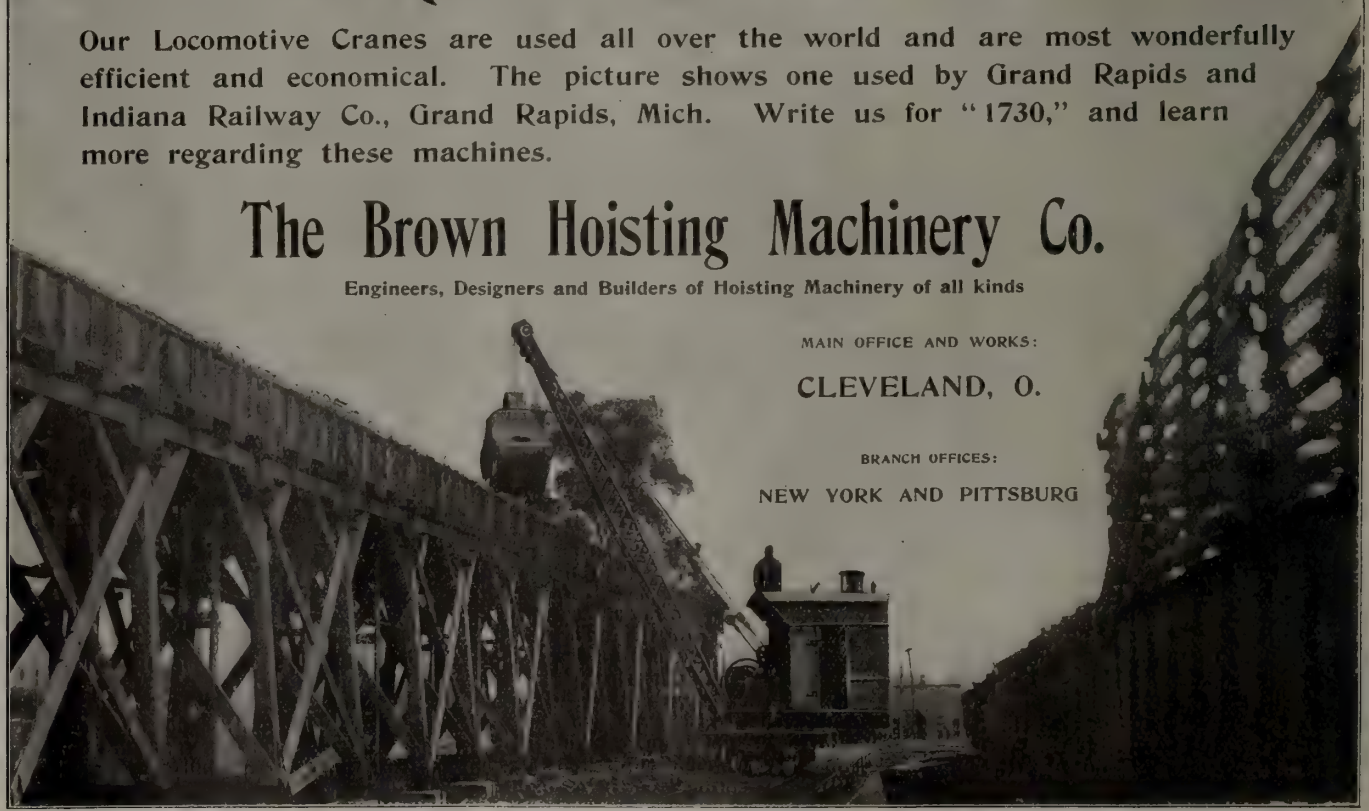
Engineers, Designers and Builders of Hoisting Machinery of all kinds

MAIN OFFICE AND WORKS:

CLEVELAND, O.

BRANCH OFFICES:

NEW YORK AND PITTSBURG



Let R = radius of wheel in feet.
l = length of flat spot in feet.
d = depth of flat spot in feet.
V = velocity of centre of wheel parallel to rail in f. s.
w = angular velocity of wheel = $\frac{V}{R}$
P = pressure of spring on wheel when motion is steady, in lbs. (This is assumed constant throughout.)
W = weight of wheel in lbs.

Then $(2R-d)\,d = \frac{l^2}{4}$ (See fig. 1.)

$$a = \frac{\pi}{2} - 2\phi = \frac{\pi}{2} - 2\sin^{-1}\frac{l}{2R}$$

When the wheel is in position shown in fig. 1 it is instantaneously turning about O, and the resultant upward acceleration = $\frac{V^2}{R}$ f. s. per sec.

It also has a downward acceleration due to the spring $= \frac{P+W}{W} g = f$.

So the point O will rise off the rail as soon as $\frac{V^2}{R} > f$

i.e., when $V > \sqrt{fR}$.

So the limiting speed, $V_{Lt} = \sqrt{fR}$ f. s.

I. Before the limiting velocity is reached.

V_s = striking velocity of pt P = $\frac{V}{R} - 1$.

So for any given wheel and flat spot, V, will increase uniformly until the limiting vel. is reached, when

$$V_s = V_{Lt} \times \frac{1}{R} = 1\sqrt{\frac{f}{R}}$$

II. After the limiting velocity is reached.

Let t secs. = time taken from when O leaves the rail to when P strikes the rail.

Downward accel. of wheel = $f = \frac{P+W}{W} g$ f. s. per sec.

The motion of point P (see fig. 2) is made up of two distinct motions:

(a) Translation. That of the wheel as a whole which moves Vt. ft. horz. forward and $\frac{1}{2}$ ft.² ft. vert. down.

(b) Rotation of wheel about its centre through angle wt, during which P moves from P_0 down to the rail at P_1.

We have $P_0P_1 = 2R \sin\frac{wt}{2}$

$$\gamma = a + \frac{wt}{2}$$

$$P_0N_1 = P_0P_1 \cos\gamma = 2R \sin\frac{wt}{2}\cos\left(a+\frac{wt}{2}\right)$$

$$P_1N_1 = P_0P_1 \sin\gamma = 2R \sin\frac{wt}{2}\sin\left(a+\frac{wt}{2}\right)$$

Now $L_1M + MP_0 + P_0N_1 = CO = R$

$$\therefore \tfrac{1}{2}ft^2 + R\sin a + 2R\sin\frac{wt}{2}\cos\left(a+\frac{wt}{2}\right) = R,$$

or $\tfrac{1}{2}ft^2 + R\sin(a+wt) = R$ ..... (A)

Distance between points of departure and strike:
$= OP_1$
$= ON + NP_1$
$= Vt + R\cos(a+wt)$

At the instant of striking, vertical velocity of the wheel as a whole = ft. downwards.

The velocity of P_1 due to rotation is V perpendicular to C_1P_1. Its vertical component = V cos $(a+wt)$.

$\therefore V_s = ft + V\cos(a+wt)$ ..... (B)

From (B) we get:

$V_s = ft + Rw\cos(a+wt)$
$= ft + Rw\sin\left[\frac{\pi}{2} - a - wt\right]$
$= ft + Rw\left[\frac{\pi}{2} - a - wt\right]$, since $\left[\frac{\pi}{2} - a - wt\right]$ is very small
$= t(f - Rw^2) + Rw\left[\frac{\pi}{2} - a\right]$ ..... (C)

From (A) we get:

$$\tfrac{1}{2}ft^2 + R\cos\left[\frac{\pi}{2} - a - wt\right] = R$$

or $\tfrac{1}{2}ft^2 + R\left\{1 - \frac{\left[\frac{\pi}{2} - a - wt\right]^2}{2}\right\} = R$, since $\left[\frac{\pi}{2} - a - wt\right]$ is small.

$$\text{or } t\left[w + \sqrt{\frac{f}{R}}\right] = \frac{\pi}{2} - a$$

Substituting in (C) for t, we get:

$$V_s = \left[\frac{\pi}{2} - a\right]\left\{\frac{f - Rw^2}{w + \sqrt{\frac{f}{R}}} + Rw\right\}$$

$$= \left[\frac{\pi}{2} - a\right]\left\{\frac{f + Rw\sqrt{\frac{f}{R}}}{w + \sqrt{\frac{f}{R}}}\right\}$$

$$= 2\sin^{-1}\left[\frac{1}{2R}\right] \times \sqrt{fR}$$

For small flats, $\sin^{-1}\frac{1}{2R} = \frac{1}{2R}$

$$\therefore V_s = 2\frac{1}{2R} \times \sqrt{fR} = 1\sqrt{\frac{f}{R}} \quad \text{..... (D)}$$

After the limiting velocity is reached.

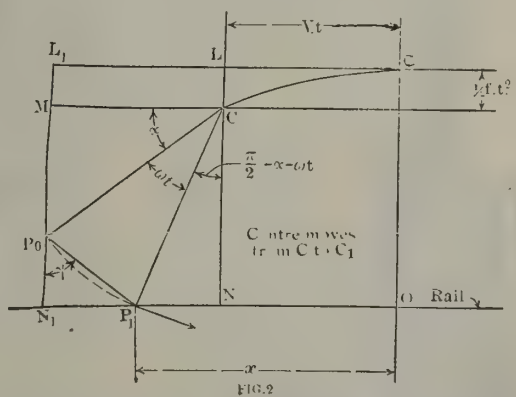


FIG. 2

THE ANGLE INDICATED BY THE GREEK LETTER ALPHA IN THIS DIAGRAM IS DESIGNATED BY THE LETTER *a* IN THE FORMULÆ.

This shows that after the limiting velocity is reached, the striking velocity becomes independent of the wheel's velocity, and is constant for any given wheel and flat spot:

For any given wheel, V_s. varies directly with the length of flat spot.

The general result is therefore:

Before limiting velocity is reached

$V_s = \frac{V}{R} - 1$, increasing uniformly from 0 to $1\sqrt{\frac{f}{R}}$

After limiting velocity is reached

$$V_s = 1\sqrt{\frac{f}{R}}$$

—American Engineer and Railroad Journal.

ACME RAILWAY EQUIPMENT CO.

PHILADELPHIA, PA.

THE "ACME"

THE OLD

ADOPTED ON

1,800 INTERCOLONIAL RAILWAY CARS
50 TEMISKAMING & NORTHERN ONTARIO CARS
300,000 CARS IN STATES

DOUBLE HANDLE CALLED FOR "Where a coupler couples by impact, but cannot be uncoupled unless the brakeman or switchman goes between, or over, or under the cars, or around the end of the train, IN ORDER TO REACH THE APPLIANCE ON THE CONNECTING CAR, such a coupling is **DEFECTIVE AND PROHIBITED BY LAW.**"—*Judge McPherson, Des Moines, Iowa.*

"AMERICAN" BRIDGE ERECTORS' ENGINE

"AMERICAN"

Steam and Electric Hoists Locomotive Cranes and DERRICKS

Designed for Every Purpose
Built for the Discriminating Buyer

WRITE FOR CATALOGUE "R M"

AMERICAN HOIST & DERRICK CO.

ST. PAUL, U.S.A.

CHICAGO NEW YORK PITTSBURG NEW ORLEANS SAN FRANCISCO

Railway Commissioners' Traffic Orders.

5955. Dec. 15.—In the matter of the application of the Board of Trade of Prince Albert, Sask., under sec. 334 of the Railway Act, for an order directing the C.P.R. and the C.N.R. to issue a joint tariff on grain and grain products in carloads, so that the new rates will restore to Prince Albert the position that it occupied with respect to Winnipeg and Regina, under the C.P.R. tariff, which was cancelled by that company on Feb. 12, 1908. Whereas, prior to the transfer of the Qu'Appelle, Long Lake and Saskatchewan Railroad and Steamboat Co.'s railway by the C.P.R. Co. to the C.N.R. Co., the C.P.R. had in force certain commodity rates on grain and grain products in carloads, from points on the Q., L.L. & S.R. & S. Co.'s railway to Pacific Coast terminal points, and intermediate stations in British Columbia, as shown in C.P.R. special tariff C.R.C. no. W543, which rates were withdrawn and cancelled by the C.P.R. on Feb. 12, 1908. And whereas the C.N.R. has not substituted therefor a joint tariff of commodity rates between the same points, but has charged and still charges its local rates to its point of connection with the C.P.R. Upon the report and recommendation of the Chief Traffic Officer of the Board, it is ordered that the C.N.R. and the C.P.R. be directed to agree upon and file not later than Feb. 1, 1909, a printer's proof of a joint tariff for the approval of the Board, to apply on such grains and grain products as were covered by C.P.R. special tariff C.R.C. no. W543, from points on the Q., L.L. & S.R. & S. Co.'s railway to Pacific Coast terminal points and intermediate stations in B.C. to which the said tariff applied.

LUMBER INTERSWITCHING AT TORONTO.

6048. Jan 8. In the matter of the application of the R. Laidlaw Lumber Co., Ltd., of Toronto, under the provisions of the Railway Act, for an order directing that order 4988, dated July 8, 1908, be made retroactive, so as to apply to all cars loaded with lumber received at Toronto over the G.T.R., from Feb., 1907, until the interswitching arrangements prescribed by the Board in the said order became effective on Sept. 1, 1908, and switched by the C.P.R. to the applicant's siding at Dundas St., Toronto; also that the railway company refund $42.00, paid by applicant as demurrage on eight carloads received at Toronto in April, 1907. Upon the hearing of counsel for applicant and the railway company, the evidence adduced, and what was alleged—it is ordered that the application be dismissed.

The judgment was given by Commissioner McLean as follows: The decision of the Board in this case must be governed by the decision in the joint switching rates case; Canadian Manufacturers Association vs. Canadian Freight Association, VII Canadian Railway Cases, 302. While the question of interswitching was dealt with in the London case: G.T.R. Co. vs. C.P.R. Co. and City of London, VI Canadian Railway Cases 327, the Board was careful to limit itself to the mere facts of the particular case before it. For it refused to deal in a general way with the question of the division of interswitching rates in reference to all the points in Canada where the railways of the two companies concerned connected.

It is admitted in case 1356, that it had, for a considerable period, been the practice of the railways in Toronto to absorb the interswitching charges. In the hearing at Toronto it was suggested that the applicant company had furnished sufficient antecedent consideration for the continuation of the practice of absorption. This was, however, by the way and not material. In addition the late Chief Commissioner held that the existence of such a practice of absorption for a period of time did not preclude railways changing the practice. Canadian Manufacturers' Association vs. Canadian Freight Association, ut supra 308.

In the absence of a joint tariff, including the switching charges, it was open to the railway to charge its standard tariff, and in addition thereto switching rates. Ibid, 308, 306.

While a comparatively sudden change from the practice of absorption of the switching charges to a practice of charging the shippers for the switching services may have been arbitrary, the railway was within its legal right in so acting.

It is alleged that the interswitching tariff of the Grand Trunk, effective March 1, 1907, was simply a tariff as between the railways, and not having been properly filed was illegal. While it was advisable that switching tariffs should be filed with the Board, the non-filing of such tariffs was not illegal prior to the issue of the order of July 8, 1908, by the Board. Ibid, 308.

While the Board may require the two railway companies to treat traffic involving interswitching as joint traffic, it was not illegal, in the absence of the filing of a joint tariff, covering switching services, for the railway to charge an additional sum for its switching services, which are something distinct from the ordinary work of transportation, although such switching charges might not have been filed. The argument then from the switching tariff, as between the railways themselves, fails.

Under an order of the Board of July 8, 1908, effective Sept. 1, 1908, there were established regulations in regard to the switching charges on traffic both competitive and non-competitive. The applicant claims that in so far as the interswitching rates charged by the railways were in excess of those established by the Board's order, there should be a refund. The first portion of the complaint of the applicant, namely, that dealing with the conditions under the tariff effective March 1, 1907, has already been dealt with. There is no complaint that the G.T.R. tariff, effective June 5, 1907, was not properly filed, or that it did not properly notify the public. While the subsequent order of the Board did reduce the switching rates on non-competitive traffic, the Board has no power to make a retroactive alteration in a tariff, which is not contrary to any of the provisions of the Railway Act, so as to apply the alteration to past transactions. Dominion Cement Co. vs. C.P.R. Co., VI Canadian Railway Cases 516.

It is clear that the law in regard to interswitching had been in an inchoate condition. The order of July 8, 1908, was the outcome of a series of investigations and reports which dates as far back as 1904. In view of this and of the established policy of the Board in regard to refunds, it is impossible to grant any such retroactive order as is asked for, and the complaint of the applicant should, therefore, be dismissed.

Railway Lands Patented.—Letters patent were recently issued covering Dominion lands in Manitoba, Saskatchewan, Alberta, British Columbia and the Yukon as follows:

	Acres.
Calgary and Edmonton Ry.	747.71
C.N.R.	6,675.52
C.P.R. grants	16,243.40
" Souris branch	618.13
G.T.P.R.	11,950.31
Manitoba Southwestern Col. Ry	282,645.30
Qu'Appelle, Long Lake and Saskatchewan Rd. & Steamboat Co.	639 00
Total	319,519.37

R. E. Tully, formerly C.P.R. agent at Emerson, Man., has been sentenced to one month imprisonment for having charged excessive rates on tickets and converted the difference to his own use.

TRADE AND SUPPLY NOTES.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

The Hart-Otis Car Co., Ltd., Montreal, has issued a large hanging calendar, illustrated with a number of half-tone views of Hart convertible and Otis dump cars.

The Canadian Westinghouse Co., Ltd., has issued circular no. 1118, describing its CCL polyphase induction motors, with squirrel-cage rotors, and constant speeds as applied to various machine tools.

Robert W. Hunt & Co., Chicago, Ill., and Montreal, have been awarded the contract for the inspection and testing of all materials entering into the constructive work of the terminal buildings being erected at Chicago by the Chicago and Northwestern Ry.

The B. Greening Wire Co., Ltd., Hamilton, Ont., has issued a wall calendar, following its usual style, a large pad of sheets for the various months, with a view of the works. The company will have ready for distribution in Feb., new catalogues for all branches of its business.

The Dougall Varnish Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $150,000, to acquire and carry on the business of McCaskill, Dougall & Co., of Montreal. The officers of the company are: President, J. S. N. Dougall; Vice-President, G. Gylling: Sec.-Treas., W. A. McGuinness.

The Hart-Otis Car Co., Ltd., Montreal, holders of a number of Canadian patents for dump cars, ballast spreading cars, combination freight and dump cars, railway cars, and end sills for cars, will apply at the next session of the Dominion Parliament for an act providing that such patents be made subject to the conditions set forth in pars. a, b, c, and d, sec. 44, cap. 69, R.S.C. 1906, instead of par. a, sec. 38, as heretofore.

The International Marine Signal Co., Ltd., Ottawa, Ont., has issued "As Others See Us," a book of nearly 100 pages, containing the testimony of mariners regarding the efficiency of the company's automatic acetylene gas buoys and beacons in various parts of the world. Although the company has only been in active business for about four years, and in the export field for about 18 months, it has sold 277 buoys and 50 beacons, which are located in Canada on the Great Lakes and the St. Lawrence River and on the Atlantic and Pacific coasts, in the United States on the Atlantic coast, in Panama, Brazil, Guatemala, England, Austria, India and Korea.

The American Locomotive Co. has purchased 130 acres of land at Gary, Ind., and plans are being drawn for a plant which officers of the company say will be the most complete and best equipped locomotive works in the world. The land purchased is twice the extent of that occupied by the largest of its present plants, and when fully occupied will give employment to from 12,000 to 15,000 men. The site was selected 24 miles from Chicago, to provide for the territory where the largest number of railways converge to a single commercial centre. The Chicago district is a great railway centre and that district is rapidly developing in manufacturing importance, which renders it favorable as a location for securing material for building locomotives. The company now operates plants in Schenectady and Dunkirk, N.Y.; Pittsburgh and Scranton, Pa.; Richmond,

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.
MONADNOCK, CHICAGO

POLSON IRON WORKS
LIMITED
TORONTO, CANADA

Steel Shipbuilders, Engineers and Boilermakers

Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers

OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO

Va.; Paterson, N.J.; Manchester, N.H.; and Montreal, Que. The selection of a location in the Chicago district provides additional locomotive building capacity where it is most needed for prompt and direct delivery to a large number of railways. The size of the new plant will be sufficient to provide liberally for the growing needs of the railways for years to come.

February Birthdays.

Many happy returns of the day to—

S. A. Baker, Canadian Freight and Passenger Agent, Chicago Great Western Ry., Toronto, born at Morrisburg, Ont., Feb. 1, 1877.

B. H. Bennett, General Agent Chicago and North-Western Ry., Toronto, born at Cobourg, Ont., Feb. 6, 1858.

F. L. C. Bond, Resident Engineer G.T.R., Montreal, born there Feb. 21, 1877.

Thos. Britt, General Fuel Agent C.P.R., Montreal, born there Feb. 3, 1871.

F. W. Churchill, C.P.R. ticket agent, Collingwood, Ont., born in London, Eng., Feb. 6, 1853.

H. R. Charlton, Advertising Agent G.T.R., Montreal, born at St. John's, Que., Feb. 9, 1866.

F. W. Cooper, Resident Engineer C.P.R., London, Ont., born there Feb. 16, 1880.

R. Crawford, Northwest Agent Northern Navigation Co., Winnipeg, Man., born at Kingston, Ont., Feb. 21, 1870.

E. A. Evans, General Manager and Chief Engineer Quebec Ry., Light and Power Co., Quebec, born at Kensington, London, Eng., Feb. 26, 1855.

E. H. Fitzhugh, Third Vice-President G.T.R. and Vice-President Central Vermont Ry., Montreal, born in Montgomery County, Mo., Feb. 1, 1853.

L. O. Genest, General Storekeeper, C.P.R. Western Lines, Winnipeg, Man., born at St. Henri, Levis County, Que., Feb. 16, 1856.

W. Jackson, C.P.R. ticket agent, Clinton, Ont., born there Feb. 4, 1860.

C. Gardiner Johnson, Lloyd's Agent for British Columbia, Vancouver, B.C., born at Dumblane, Perthshire, Scotland, Feb. 8, 1857.

R. S. Logan, Assistant to 2nd Vice-President and General Manager G.T.R., Montreal, born at St. Louis, Mo., Feb. 13, 1864.

D. MacPherson, Assistant Chief Engineer Transcontinental Ry. Commission, Ottawa, born at Bath, Ont., Feb. 2, 1858.

C. S. Maharg, Superintendent District 2, Western Division C.P.R., Medicine Hat, Alta., born in Dufferin County, Ont., Feb. 4, 1867.

T. McNabb, Master Mechanic Alberta Ry. and Irrigation Co. at Lethbridge, Alta., born in Scotland, Feb. 16, 1849.

J. K. McNeillie, Superintendent District 1, Ontario Division, C.P.R., Toronto, born there Feb. 23, 1874.

A. H. Robinson, Superintendent Elgin and Havelock Ry., Havelock, N.B., born at Elgin, N.B., Feb. 2, 1862.

A. E. Rosevear, Assistant General Freight Agent G.T.R., Montreal, born Feb. 20, 1863.

H. H. Schaefer, Division Freight Agent Intercolonial Ry., St. John, N.B., born at Cologne, Germany, Feb. 10, 1848.

J. G. Scott, ex-General Manager Quebec and Lake St. John Ry., Quebec, born there Feb. 13, 1847.

G. Spencer, Superintendent District 1, Lake Superior Division, C.P.R., North Bay, Ont., born in London, Eng., Feb. 21, 1865.

H. E. Suckling, Treasurer C.P.R., Montreal, born at Gibraltar, Feb. 27, 1851.

Hugh Sutherland, Executive Agent Canadian Northern Ry., Winnipeg, Man., born at New London, P.E.I., Feb. 22, 1845.

Sir Wm. C. VanHorne, K.C.M.G., Chairman C.P.R. and President Cuba Co., Montreal, born in Will County, Ill., Feb., 1843.

Railway Finance, Meetings, etc.

Alberta Ry. and Irrigation Co.—Approximate net profits, exclusive of land sales for Nov., 1908, $50,870, against $42,532 for Nov., 1907. Total net profits for 5 months ended Nov. 30, 1908, $179,438. Approximate railway receipts for Dec., 1908, $31,523, against $23,671 for Dec., 1907.

Alexander Gibson Ry. and Mfg. Co.—The annual meeting was held at Fredericton, N.B., Jan. 9. Following are the officers and directors for the current year: President, H. H. McLean, M.P.; other directors, A. Gibson, A. Gibson, jr., J. S. MacLaren, G. W. Massey; Secretary-Treasurer and Manager, A. Rowley.

Calgary and Edmonton Ry.—D. D. Mann, Vice-President Canadian Northern Ry., was quoted recently as having stated that the C.N.R. had no intention of purchasing the Calgary and Edmonton Ry., which is operated by the C.P.R. under a lease, approved by the bondholders at a meeting held in London, Eng., Feb. 6, 1903, for 99 years, and renewable for a further period of 99 years, at a rental equal to 4% of the bond issue. Following the signing of this agreement the C.P.R. purchased for $500,000 the entire capital stock of the C. and E.R. Co. The newspaper reports were to the effect that the lease of the C.P.R. of the line would expire in June, 1910, and that a clause in the original contract was that in the event of a sale of the line the contractors were to have the first chance of purchasing. The contractors were Mackenzie, Mann & Co., and the reports stated that they had an option on the line. If the statement had any foundation in fact, it would presumably have come to light in 1903 when the C.P.R. acquired the line.

Central Ontario Ry.—A mortgage made by the company in favor of the Trusts and Guarantee Co., Toronto, to secure a bond issue of £200,000, has been deposited with the Secretary of State at Ottawa, as required by sec. 140 of the Railway Act, chap. 37, R.S.C., 1906.

A meeting of the shareholders has been called to be held at Trenton, Ont., Feb. 10, for the purpose of authorizing the directors to issue bonds to the amount of $500,000, such bonds to constitute the second bond issue, and to be subject to the issue of £200,000 dated Jan. 1, 1909. The object of the issue is to provide for the completion of the extension of the railway and for other purposes.

Columbia and Western Ry.—The proceedings in the case in which the C.P.R. sought to compel F. A. Heinze to select his half of the land grant, will be fought out before the Imperial Privy Council. At the first trial the C.P.R. obtained a verdict, but on appeal reversed this decision, it being held that under the agreement Heinze has several years in which to make the selection.

Dominion Atlantic Ry.—Gross earnings for Nov., 1908, $97,000, against $99,916 for Nov., 1907. Gross earnings for 11 months ended Nov. 30, $1,168,300, against $1,205,555 for same period 1907.

Duluth, Rainy Lake and Winnipeg Ry.—A Duluth, Minn., press despatch recently stated that the amalgamation of the Meyerhauser and Hines Lumber and the Virginia Lumber Co. had been effected, the capital involved being $20,000,000. In closing up the deal the Duluth, Rainy Lake and Winnipeg Ry., controlled by the Virginia Lumber Co., was sold to the Canadian Northern Ry.

Intercolonial Ry.—The daily press has been giving considerable space of late to a discussion of a projected lease or sale of the Intercolonial Ry., either in whole or in part. Replying to the whole of the reports the Minister of Railways said, Jan. 13, no negotiations had taken place either for the sale or the leasing of the line to Mackenzie, Mann & Co., nor to anyone else, and no offer had ever been made by Mackenzie, Mann & Co. for the line; and on Jan. 15 he said: "If changes be decided on they will not include either the sale or the lease of the Government line.

Lake Superior Corporation.—The announcement was made officially, Jan. 14, that the Canadian Improvement Co. had paid in $1,000,000, and the Moreton Trust Co. of New York gave certificates that all guarantee certificates are cancelled and the matter closed. This, the Premier of Ontario states, puts an end to the liability of the province in regard to the guarantee of $2,000,000, given some years ago to assist the industries at Sault Ste. Marie, Ont.

The guarantee has been released owing to the introduction of new capital by R. Fleming, of Edinburgh, Scotland, and his London, Eng., and New York associates. A statement from New York set out that the interest acquired by this syndicate in the company is that formerly held by certain Philadelphia banking institutions, as security for advances, about which there was considerable litigation a year ago, the point in dispute being with respect to the voting power thereon. The arrangements for the reorganization of the company necessitated by the introduction of this new capital are being made.

The company owns, in addition to a number of industrial concerns, the Algoma Central and Hudson Bay Ry., and its steamship line on the Great Lakes; the Manitoulin and North Shore Ry.; the British America Express Co., the International Transit Co., and the Trans St. Mary Traction Co., these two latter being the street railways in Sault Ste. Marie, Ont., and Sault Ste. Marie, Mich.

London and Port Stanley Ry.—The annual general meeting of shareholders was held in London, Ont., Jan. 18. At the last meeting of the directors for 1908, the final reports of the year's operation were received. These showed that the city council would receive $19,549.69 as a return for its investment in the line, and that the remainder of the income, $153, was absorbed by current charges. The rental for the year from the Pere Marquette Rd., which operates the line under lease, is $10,000, and the other receipts include $2,596.60 for interest as rental, and $6,706 percentage of earnings of P.M.R. for 1907; the percentage on earnings for 1908 not being due for some time. The railway is practically owned by the city of London, the city council appointing the directors.

New Brunswick Southern Ry.—The annual meeting was held Jan. 11. Following are the officers and directors for the current year: President and General Manager, H. H. McLean, M.P.; other directors, F. R. Taylor, M. B. Edwards; Secretary-Treasurer, O. Ring.

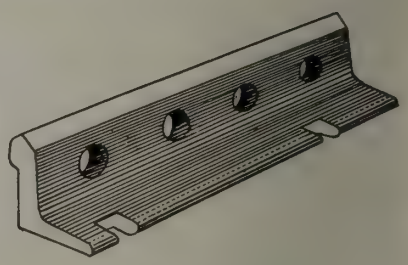
Pere Marquette Rd.—Reports are again current that the P.M.R., which includes the old Lake Erie and Detroit River Ry. in Canada, will shortly be absorbed by another company. H. B. Ledyard, chairman of the Board, Michigan Central Rd., said recently there was absolutely no foundation for the report so far as that company was concerned. His connection with the P.M.R. as a director was entirely a personal one, and at the request of J. P. Morgan. The other report, which has been denied more than once already, is that the line will be taken over by the C.P.R.

Quebec Central Ry.—Gross earnings for Oct., $78,935.41; expenses, $57,238.95; net earnings, $21,696.46; gross earnings for Nov., 1908, $65,615.98; expenses, $49,815.34; net earnings, $15,800.64, against $88,256.89 gross earnings; $62,592.13 expenses; $25,664.76

THE HAMILTON STEEL & IRON CO.

HAMILTON, CANADA. LIMITED

RAILWAY AXLES
ANGLE BARS AND
TRACK SPIKES
TIE PLATES



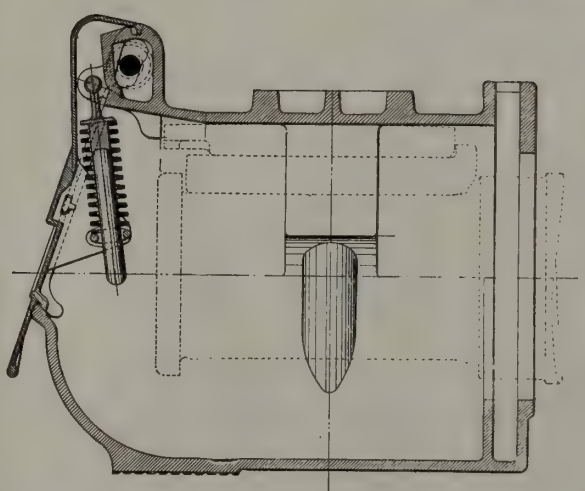
FORGINGS—MARINE AND RAILROAD

IN ROUGH, ROUGH-TURNED OR SMOOTH FINISHED. SPECIALTY OF HEAVY FORGINGS

PIG IRON, IRON AND STEEL BARS.

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



THE STRONGEST, LIGHTEST, TIGHTEST BOX MADE

The McCORD Draft Gear | **The McKIM Gasket**
The McCORD Spring Dampener | **The McCord Force Feed Lubricator**

McCORD & COMPANY
Old Colony Building, Chicago

N. J. HOLDEN CO., Ltd.,
302 St. James Street, Montreal

net earnings for Oct., and $85,012.63 gross earnings; $61,473.83 expenses; $23,538.80 net earnings for Nov., 1907. Gross earnings for 5 months ended Nov. 30, 1908, $480,076.58; expenses, $321,145.52; net earnings, $158,931.06; against $497,291.54 gross earnings; $324,701.44 expenses; $172,590.10 net earnings, for same period 1907.

St. John Bridge and Railway Extension Co.—The annual meeting was held at St. John, N.B., Jan. 12. Following are the officers and directors for the current year: President, D. McNicoll; Vice-President, W. Downie; Secretary-Treasurer, H. H. McLean, M.P.; other directors, R. Meighen, W. H. Thorne, H. E. Macdonell.

Temiscouata Ry.—Total traffic receipts for Dec., 1908, $15,720.30; aggregate for 12 months ended Dec. 31, 1908, $225,556.26.

Temiskaming and Northern Ontario Ry.—The report of the operations of this line during 1908, it is stated, shows that there were 487,051 passengers and 475,000 tons of freight carried, against 518,678 passengers and 393,589 tons of freight in 1907. The decrease in revenue from passengers is about $40,000, but there is an increase of about $100,000 in the receipts from freight. The Commissioners have paid over to the Government about $350,000 as the net receipts for the year, against $235,000 in 1907.

Canadian Northern Ry. Earnings, etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-08, from July 1, 1908:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July..	$728,500	$ 525,600	$ 202,900	$159,000—
Aug..	747,400	561,300	186,100	30,400—
Sept..	901,700	650,600	251,100	42,000+
Oct...	1,172,700	752,600	420,100	110,200+
Nov..	1,156,900	744,300	412,600	144,300+
Dec..	927,900	642,800	285,100	42,400+
	$5,635,100	$3,877,200	$1,757,900	$149,500+
Inc....or Dec....	$ 126,800	$ 84,400	$ 42,400	.....

Approximate earnings for 3 weeks ended Jan. 21, $378,400, against $414,800 for same period 1908.

C.P.R. Earnings, Expenses, etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-8, from July 1, 1908:—

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
J'ly	$6,292,880.82	$4,018,307.57	$2,274,573.25	$232,279.41—
Aug.	6,385,956.69	3,807,057.98	2,578,898.71	8,623.56+
Sept.	6,391,672.48	4,277,064.71	2,114,607.77	36,745.58—
Oct..	7,381,970.41	4,726,703.70	2,655,266.71	25,050.93—
Nov.	7,303,303.20	5,082,223.85	2,221,079.35	223,954.86—
Dec.	6,955,874.11	4,759,122.54	2,196,751.57	119,561.99+
	$40,711,657.71	$26,670,480.35	$14,041,177.36	$389,845.23—
Inc.. or Dec..	$ 143,838.36	.....	$389 845.23	.....

Approximate earnings for 3 weeks ended Jan. 21, $3,107,000; against $3,062,000 for same period 1908.
Mileage operated 9,844 miles.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross earnings for Nov., 1908, $237,816.12; expenses, $163,728.11; net earnings, $74,088.01, against $263,465.45 gross earnings; $201,458.98 expenses; $62,006.47 net earnings for Nov., 1907. Gross earnings for 5 months ended Nov. 30, $1,203,374.47; expenses, $847,208.73; net earnings, $356,165.74, against $1,553,516.35 gross earnings; $1,126,168.74 expenses; $427,347.61 net earnings for same period 1907. Approximate earnings for Dec., 1908, $223,671, and for 3 weeks ended Jan. 21, $134,222, against $225,142 and $133,512 for same periods 1907 and 1908 respectively.

MINERAL RANGE RD.—Operating earnings for Nov., 1908, $66,326.16; expenses, $54,726.52; net earnings, $11,599.64; against $68,873.15 operating earnings; $53,449.93 expenses; $15,423.22 net earnings for Nov., 1907. Operating earnings for 5 months ended Nov. 30, $362,502.84; expenses, $284,978.77; net earnings, $77,524.07, against $359,240.60 operating earnings; $282,575.33 expenses; $76,665.27 net earnings for same period 1907. Approximate earnings for Dec., 1908, $68,408, and for 3 weeks ended Jan. 21, $43,069, against $61,993 and $39,000 for same periods 1907 and 1908 respectively.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for Nov., 1908, $1,180,183.63; expenses, $591,899.00; net earnings, $588,284.63, against $1,106,255.89 gross earnings; $677,639.80 expenses; $428,616.09 net earnings for Nov., 1907. Gross earnings for 5 months ended Nov. 30, 1908, $6,108,328.06; expenses $3,087,708.36; net earnings $3,020,619.70, against $5,692,760.92 gross earnings; $3,376,374.56 expenses; $2,316,386.36 net earnings for same period 1907. Approximate earnings for Dec., 1908, $897,374, and for 3 weeks ended Jan. 21, $515,000, against $896,480 and $506,589 for same periods 1907 and 1908 respectively.

Grand Trunk Ry. Earnings, Expenses, etc.

The following figures give the earnings of the G.T.R., the C. A. R., the G. T. Western Ry., and the D. G. H. & M. Ry., separately, for Nov., as compared with Nov., 1907:

	1908	1907
GRAND TRUNK RAILWAY.		
Earnings	$2,814,700	$3,056,400
Expenses	1,982,300	2,224,400
Net earnings	$ 832,400	$ 832,000
CANADA ATLANTIC RAILWAY.		
Earnings	$ 167,800	$ 202,400
Expenses	123,900	189,100
Net earnings	$ 43,900	$ 13,300
GRAND TRUNK WESTERN RAILWAY.		
Earnings	$ 436,100	$ 528,400
Expenses	386,900	438,100
Net earnings	$ 49,200	$ 90,300
DETROIT, GRAND HAVEN & MILWAUKEE RY.		
Earnings	$ 137,000	$ 147,400
Expenses	121,600	121,200
Net earnings	$ 15.400	$ 26,200

Approximate earnings for Dec., 1908, $3,200,624, against $3,659,296 for Dec., 1907; and for 3 weeks ended Jan. 21, $1,806,208, against $1,909,089 for same period 1908.

TRAFFIC RECEIPTS OF THE SYSTEM.

Aggregate from July 1 to Dec. 31, 1908:

	1908.	1907.	Increase.	Decrease.
Grand Trunk	£3,329,571	£3,781,097	....	£451,526
Canada Atlantic	203,791	244,878	...	41,087
G. T. Western	586,362	690,172	....	103,810
D., G. H. & M.	181,259	206,335	....	25,076
Total....	£4,300,983	£4,922,482		£621,499

A circular letter issued by H. H. Norman, Secretary, from the company's head office, intimates that in accordance with the Dominion Government's revised classification, the published earnings and expenses will in future differ from those previously published by the elimination from the gross earnings of rents payable by other companies for the use of the companies' system, and from the working expenses, of the amounts paid to or received from other companies on account of car mileage and hire of equipment. These items will be included in the net revenue accounts each half-year. For purposes of comparison, the figures quoted for 1908 will be shewn on a similar basis.

Viaduct Ordered for Toronto.

The Board of Railway Commissioners issued the following draft order, Dec. 31: "In the matter of the application of the City of Toronto for an order directing the G.T.R. Co., and the C.P.R. Co., to carry York St. and certain other streets in the said city under the tracks of the said companies: Upon the hearing of evidence and of counsel for the city, the railway companies, the Toronto Board of Trade, and a number of landowners in the city, it is ordered and directed:

"That the railway companies submit to the Board, within 60 days from the date of this order, a plan showing at least four tracks of railway elevated and carried over the streets now open in the city between York and Cherry Sts., both included, at a height sufficient to give a clear headway not less than 14 ft. between the present level of the street and the superstructure at each crossing, and showing John St., Spadina Ave., and Bathurst St. carried over the railway tracks by bridges at a height sufficient to give, under each bridge, a clear headway of 22½ ft. above rail level.

"That within two years from the date of the approval of the plan by the Board, York St. be extended from its present terminus southerly to the waterfront.

"That within two years from the date of the approval of the plan by the Board, the railway companies alter and arrange their yards and sidings so that no tracks on the ground level shall cross York, Bay, Yonge or Church Sts.

"That, after two years from the date of the approval of the plan by the Board, no locomotive or car be moved on tracks at ground level between Church and York Sts., except between 10 p.m. and 6 a.m., during the season of lake navigation, and between 7 p.m. and 6 a.m. during the remainder of the year—provided, however, that cars containing fruit or other perishable merchandise may be moved across streets within the said limits between 6 a.m. and 10 p.m. when a flagman, on foot, precedes the train (engine, car or cars) to warn persons on such streets that a train is approaching.

"That no amount be paid to the city as damages or otherwise for any city property which may be taken or used by the railway companies in the elevation of their tracks or the re-arrangement of their terminals as shown on the said plan.

"That the city pay one-third of the cost—of the elevation of four tracks, excepting rails and tracklaying, of the elevation of the bridges at John St., Spadina Ave. and Bathurst St., and of the substructure for the elevation of necessary tracks at the proposed new union station, with a concourse such as that suggested in the plan submitted by the city.

"That all consequential damages (other than those of the city and the railway companies) recoverable by reason of the elevation of the tracks of the railway companies in accordance with the plan approved by the Board, be adjusted or settled by the city, and that, after settlement, two-thirds of the amount required to make such settlement be paid to the city by the railway companies.

"That the manner and expense of removing York St. bridge, and the extension of York St. as herein ordered, be arranged between the city and the railway companies, and that in case they fail to agree, the points at issue be referred to and settled by the Board.

"That the proportion which each railway company shall pay of the cost of carrying out the provisions of this order, and the amount which either of the railway companies shall pay to the other for consequential damages suffered by it through the carrying out of the provisions of this order, be determined by mutual agreement between the railway companies and that, in the event of their failing to agree, the questions in dispute be settled by arbitration, pursuant to the arbitration clauses of the railway act or by an expert to be chosen by the railway companies or by the Board."

At a sitting of the Board at Ottawa, Jan. 12, an order was issued requiring the companies to file plans with the Board within 90 days from that date. This order, we are informed, will be complied with, and in the meantime the question of an appeal to the Supreme Court, as to the jurisdiction of the Board regarding the matter remains quiescent. It is contended that any steps which the companies are taking towards compliance with the order for filing plans, etc., will not prejudice them, should an appeal on the Board's jurisdiction be proceeded with at a later date.

The reconstruction of the Union Stock yards at West Toronto, Ont., is to be taken in hand at once. The new buildings will be constructed of cement.

The Ontario Lumbermen's Association held a meeting recently in Ottawa, in regard to the details of the adjustment of railway rates on lumber, which is being dealt with by the Board of Railway Commissioners.

A press despatch from Winnipeg, Jan. 11, announced that the Tribune, a daily paper in that city, had been sold to C.P.R. interests announced the appointment of a new editor, and gave other details of a reorganization. Sir Thos. G. Shaughnessy, President C.P.R., stated, Jan. 12: "We have no intention of going into the newspaper business, and the paper would be of absolutely no use to the C.P.R. R. L. Richardson, principal owner of the Tribune, said he was not even negotiating for its sale.

N. CURRY, President
N. A. RHODES, Vice-President

CAPITAL, $1,000,000

J. M. CURRY, Sec.-Treas.

RHODES, CURRY & CO.

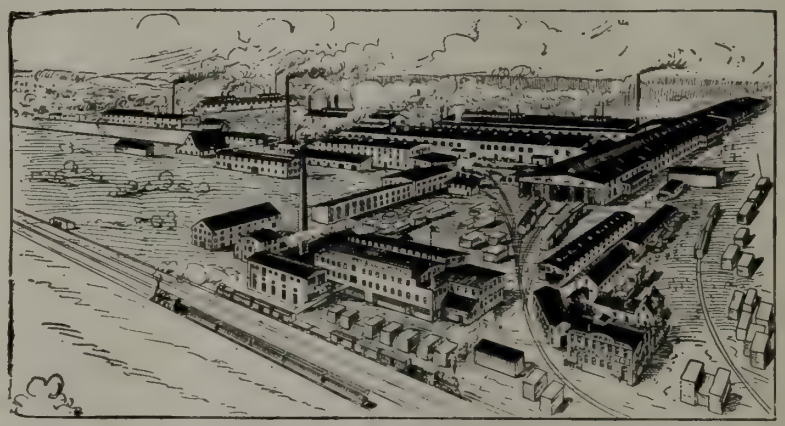
AMHERST, NOVA SCOTIA LIMITED

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels



Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

Salary-Raising Training For Railroad Men

There is no profession in which promotion depends in any higher degree upon a man's real ability and technical knowledge than in railroading. Quick promotion then for the railroader is the result of quick and also thorough acquirement of that technical training which will qualify him to hold a higher position. In no way can the ambitious railroad employe secure this technical knowledge so quickly and yet so simply as through the I. C. S. Courses of home training. These Courses have been written by the best railroad experts on this Continent and are taught after a manner that 15 years' experience in training hundreds of thousands of ambitious men for promotion and better earnings has proved to be the most practical and efficient. These Courses include instruction in LOCOMOTIVE MANAGEMENT, LOCOMOTIVE BOILERS, STEAM CYLINDERS, and VALVE GEARS, BREAKDOWNS, COMPOUND LOCOMOTIVES, TRAIN RULES, WESTINGHOUSE and NEW YORK AIR BRAKES, CAR LIGHTING and HEATING, and ELECTRIC HEADLIGHTS.

If **YOU** wish to secure the training in your own home, in your spare time, and at an insignificant cost, that will qualify you for promotion to the highest positions in your profession, simply mark and mail this coupon and we will tell you how you can do so. The fact that we have enabled hundreds of other railroad men to secure promotion in itself warrants your careful investigation of our plan if you really wish to better yourself. Don't let a postage stamp stand between you and a better position. **Mark and mail this coupon NOW.**

International Correspondence Schools
BOX 1072, SCRANTON, PA.

Please explain, without further obligation on my part, how I can qualify for a larger salary and advancement to the position before which is marked **X**.

General Foreman	R. R. Con. Engineer
R. R. Shop Foreman	Civil Engineer
R. R. Trav. Engineer	Bridge Engineer
R. R. Trav. Fireman	Chemist
Locomotive Engineer	Mining Engineer
Air-Brake Instructor	Architect
Air-Brake Inspector	Bookkeeper
Air-Brake Repairman	Stenographer
Mechanical Engineer	Ad Writer
Mechanical Draft.	French } With
Machine Designer	German } Edison
Electrical Engineer	Spanish } Phonogr'h

Name _____
St. & No. _____
Employed by _____ R. R.
City _____ State _____

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.

Abitibi and Hudson Bay Ry.—The Dominion Parliament will be asked to pass an act extending the time within which the company may construct the lines authorized by sec. 7, chap. 55, of the statutes of 1907. H. Fisher, Ottawa, is solicitor for the applicants. (May, 1907, pg. 323.)

Alberta Central Ry.—The Red Deer, Alta., Board of Trade is taking active steps to support this company's application to the Dominion Parliament for an extension of time for the construction of the projected railway from Red Deer towards Rocky Mountain House. A delegation from the Board has been visiting a number of districts through which the line would pass and the speakers stated that the Board had satisfied itself there was a bona fide prospect of the company starting active operations in the near future, and of the placing in operation of the section of the line which would serve the Medicine River country, within the next two years. They stated that negotiations had been going on with one of the transcontinental systems, and the company was advised that if proper gradients could be secured to make the proposed line equal to any of the transcontinental lines, the question of financing would be arranged. As a result of the visit of the delegates several settlements which had decided to petition against the granting of any further extension of time for the construction of the line have withdrawn their opposition. The projected line, it is stated, will serve a large and fairly well-populated district, besides striking some good coal areas and timber berths, and opening up a large area of high-class agricultural land. (Jan., pg. 17.)

Algoma Central and Hudson Bay Ry.—In connection with the discharge of the loan of $1,000,000 by the Ontario Government to the Lake Superior Corporation, the President, C. D. Warren, of Toronto, stated, Jan. 9, that there would be some change in the directorate, and that an announcement would be made as to plans of extension. A press report states of the $5,000,000 which it is proposed shall be expended on the company's plant, etc., at Sault Ste. Marie, Ont., a considerable proportion will be utilized on the extension of the A.C. and H.B. Ry. to the C.P.R., and that the work will be started early in the spring. F. H. Clergue was quoted, Jan. 7, as stating that within two years the railway will be constructed right through to connect with the C.P.R. The surveys for the entire distance to connect the detached portions of the line and the C.P.R. have been completed; grading has been done on a considerable portion of this location, and some track has been laid. (Jan., pg. 17.)

Arnprior and Pontiac Ry.—Application will be made to the Dominion Parliament for an act incorporating a company with this title to construct a line of railway from the Pontiac Pacific Junction Ry., between Quyon and Campbell's Bay, Que., southerly across the Ottawa River to Fitzroy Harbor, Ont., thence westerly via Arnprior to, or near, High Falls, on the Kingston and Pembroke Ry., also from Fitzroy Harbor easterly to Britannia, on the C.P.R., and to South March, on the G.T.R., with power to construct a bridge over the Ottawa River at Chats Falls; to operate steam and other vessels, wharves, elevators, telegraph and telephone lines, etc. Perkins, Fraser and Gibson, Ottawa, are solicitors for applicants.

The Atlantic, Quebec and Western Ry. is proceeding with the construction of the line from Port Daniel to Gaspe, Que., 82 miles. During 1908 it completed tracklaying on five miles of line between Port Daniel and Anse à la Barbe, and two miles between Grand Pabos and Anse aux Canards. The steel superstructures on nine bridges between Port Daniel and Pabos are in course of erection, and the tracklaying is being proceeded with on the remaining 14 miles between these two points. The New Canadian Co. (Ltd.), New Carlisle, Que., has the contract, and W. L. Bravue is the Chief Engineer in charge of construction.

Bruce Mines and Algoma Ry.—Application will be made next session of the Ontario Legislature, for an act extending the time for the construction of the lines authorized for five years from April 1, 1909, and to declare the act incorporating the company, 62 Vic., cap. 93, as amended by 5 Edward VII, chap. 91, to be in force notwithstanding any neglect or default in complying with the provisions of the amending act.

Burrard, Westminster Boundary Ry. and Navigation Co.—Application will be made to the Dominion Parliament for an act extending the time within which the company may commence and complete the railway authorized by its act of incorporation, chap. 68 of the Statutes of 1907; to authorize it to enter into any agreement with the Vancouver, Westminster and Yukon Ry. Co.; and to construct a branch line from the authorized main line easterly and northerly through Yale, Lillooet and Cariboo districts to the most convenient point where a junction can be made with the branch of the Vancouver, Westminster and Yukon Ry., which is projected to run from the main line of that railway easterly to Edmonton.

Cabano Ry.—Application is being made to the Dominion Parliament for an act incorporating a company with this title, with power to construct, equip, and operate a railway from Long Lake, Temiscouata Co., Que., on the National Transcontinental Ry., thence easterly through Temiscouata county, following the valley of the Cabano River to Cabano, on Lake Temiscouata, the railway to be declared a work for the general advantage of Canada. A. Fraser, Cabano, Que., is solicitor for applicants.

Canada and Gulf Terminal Ry.—See Matane and Gaspe Ry.

Central Ontario Ry.—During the past year eight miles of track have been laid upon the extension of the line northerly to Whitney, Ont., the mileage laid being from Maynooth to Lake St. Peter. The extension from Lake St. Peter to Whitney, a distance of about 20 miles, is under construction, and work will be proceeded with during the coming season.

Cobalt Range Ry.—The Dominion Parliament will be asked for an act extending the time fixed for the commencement and completion of the lines authorized by the company's act of incorporation; giving permission for the extension of its authorized line northerly from Ville Marie, Que., to or near Opasitica Lake and thence northerly to a junction with the National Transcontinental Ry.; and power to construct a line from Haileybury, Ont., to or near Elk Lake, via the townships of Bucke, Firstbrook, Barr or Hudson, Lundy, Auld, Cane or Henwood, Barber, Tudhope or Bryce and James, all in the Nipissing district, and thence to or near Gowganda Lake via the township of Smyth, and unsurveyed portions of the Nipissing district. MacCraken, Henderson, McDougal and Greene, Ottawa, are solicitors for the company.

Collingwood Southern Ry.—Application will be made to the Dominion Parliament for an act extending the time within which the company may construct the lines authorized by sec. 8, chap. 77 of the Statutes of 1907. (Oct., 1908, pg. 711.)

Eastern British Columbia Ry.—During 1908, tracklaying was commenced and completed on this line from McGillvray station on the C.P.R., Crow's Nest branch, southerly along Michel Creek to Corbin Mines, 14 miles. (Oct., 1908, pg. 711.)

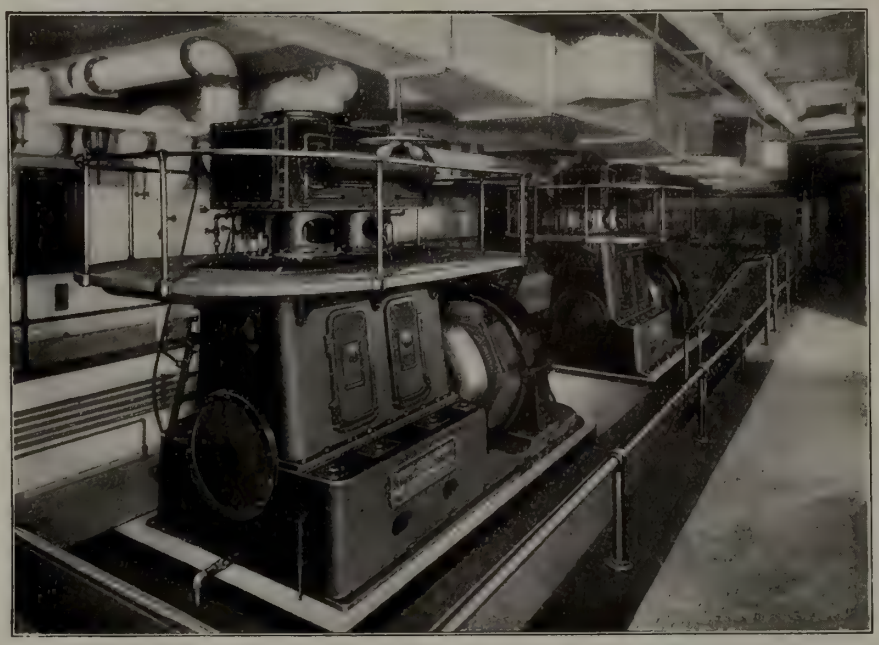
Farmers Ry.—The Saskatchewan Legislature will be asked this session to pass an act incorporating a company with this title to construct a line or lines of railway from Regina North, on the west side of Last Mountain Lake to or near Humboldt, and thence to Melfort; from Melfort northerly along the Carrot River to the eastern side of the province; from near the Carrot River west to Prince Albert; from near Humboldt to Saskatoon, and from Saskatoon northwesterly to the west side of the province; from or near the south end of Last Mountain Lake to Moose Jaw and from Moose Jaw south to the International boundary, and to extend the line from Regina southeasterly to the International boundary. Authority will also be asked to purchase and operate a system of steamboats and ferries in connection with the railways, and for other powers. D. W. Hines, Nokomis, Sask., is solicitor for the applicants.

Flathead River to Kootenay Pass.—The British Columbia Legislature will be asked to pass an act incorporating a company with power to construct a railway from the International boundary in East Kootenay, near the intersection of the boundary and the Flathead River, to a point near the boundary between British Columbia and Alberta, where it is intersected by the North Kootenay Pass. It is also desired to have authority to construct branch lines; to acquire steam and other vessels; to construct wharves, docks, etc.; to operate telegraph and telephone lines, and all the other powers usually conferred upon railway companies. Wilson, Senkler and Bloomfield, Vancouver, B.C., are solicitors for the applicants.

Graham Island.—Application will be made to the British Columbia Legislature for an act incorporating a company with power to construct a railway from near Masset, on the north coast of Graham Island, one of the Queen Charlotte Islands, lying east of the Masset Inlet, southerly to near Skidegate, on the same island; thence northerly and westerly by the southwest shore of Masset Inlet to or near Naden Harbor, thence westerly to the west coast of Graham Island, with power to construct branch lines from any point on the line, not exceeding in any one case 50 miles. The company also asks power to construct or acquire docks, wharves, etc.; to operate steam and other vessels; to construct telegraph and telephone lines, and other necessary and incidental powers. Wilson, Senkler and Bloomfield, Vancouver, B.C., are solicitors for the applicants. (See also Queen Charlotte Islands Ry., June, 1907, pg. 409.)

Grand Lake and Bell River Ry.—Application is being made to the Quebec Legislature for an act to incorporate a company with this title to construct and operate a line of railway from a point on the National Transcontental Ry. near Bell River, to Twenty-one Mile Bay, an arm of Grand Lake, or to Rabbit Lake on the Ottawa River, including a branch line not more than 12 miles in length. Power will also be asked to operate steam and other vessels, docks, wharves, etc., in all places on the railway or connected with it, and to erect and operate telegraph and telephone lines, acquire and transmit power, and operate boarding houses, etc. C. B. Devlin, Hull, Que., is solicitor for the company.

Halifax to Guysboro.—The property of the Alfred Dickie Lumber Co., of Nova Scotia, has been sold to a British syndicate, the purchase price being $1,567,500. The property transferred includes 405,000 acres of land, and it is stated that according to the contract of sale the purchasers are to construct a railway connecting Halifax, Country Harbour,



HIGH-SPEED VERTICAL ENGINES

of the English enclosed type with pressure oiling system, installed by us at the

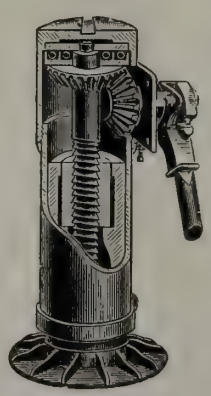
TRADERS BANK
TORONTO

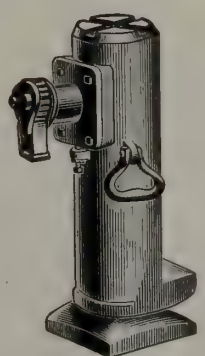
ROBB ENGINEERING CO., Limited, Amherst, N.S.

DISTRICT OFFICES: Traders Bank Building, TORONTO, Wm. McKay, Manager.
Bell Telephone Building, MONTREAL, Watson Jack, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.

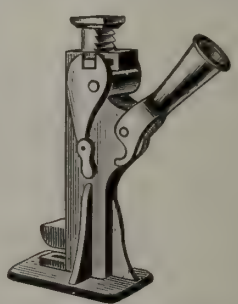
NORTON JACKS

ARE MADE IN CANADA AND SAVE YOU DELAY AND DUTY ON AMERICAN MADE JACKS.

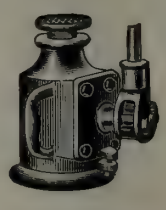

Sectional View


Foot Lift Jack

50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY


15 Ton Track Jack

Traversing Jack


Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

Guysboro, and other points in the Musquodoboit Valley, and possibly to the Straits of Canso, connecting up all the various properties. The construction of such a line has been under consideration for years under various titles, and while many surveys have been completed, and plans filed by the several companies, no construction has been done. The Nova Scotia Government finally took the matter in hand and after going over all the old surveys, and making some new ones, took power in a general act to finance liberally any company undertaking the construction of a line in the district according to a specified general plan. The principal man in the syndicate is Sir Thos. Troubridge, a British engineer, who is one of the principal promoters of the All Red route via Black Sod Bay, Ireland. The terminal port of the steamship line in Canada was to be Halifax, all the year round. Whether the purchase of these properties has anything to do with the development of the project has not been disclosed. (Nov., 1908, pg. 711.)

International Ry. of New Brunswick.—Track was laid during 1908, on 27 miles of this line, from mileage 35 to 62. The line as projected is from Campbellton, N.B., on the Intercolonial Ry., to a point on the St. John River, between Grand Falls and Edmundston, N.B., a total distance of about 110 miles. A Dominion subsidy was granted last session for the construction from mileage 20 to the point above named, not exceeding 90 miles. Grading has been done on an additional 42 miles, work having been carried on from both ends. T. Malcolm, Campbellton, N.B., is the general contractor. (Nov., 1908, pg. 793.)

Joliette and Lake Manuan Colonization Ry.—Application will be made to the Dominion Parliament for an act to extend the time within which construction of the railway authorized by sec. 2, ch. 111, R.S.C. 1905, may be commenced and completed. Desaulniers and Vallée, Montreal, are solicitors for applicants.

Kapitchouan Ry.—Application is being made to the Dominion Parliament for an act to incorporate a company with this title, to construct a railway from the National Transcontinental Ry. near Lake Kapitchouan, Que., southeastwardly to Montreal, with branch lines of about 12 miles in length. Power to operate steam and other vessels, wharves, elevators, telegraph, and telephone lines will also be sought. G. Desaulniers is solicitor for applicants.

Kettle Valley Lines.—Application will be made to the Dominion Parliament by the K.R.V. Ry. Co, owning the lines operated under the title of the Kettle Valley Lines, for an act authorizing it to construct a railway from or near Penticton, on Okanagan Lake, to or near Nicola, B.C., on the Nicola, Kamloops and Similkameen Coal and Ry. Co.'s railway.

We have been informed that there has been paid to the Kettle River Valley Ry., the company operating the line during 1908, $97,000 on account of subsidy by the Dominion Government, towards the construction of 40 miles of line from Grand Forks towards Penticton, B.C. This extension was expected to be open for traffic by Jan. 31. The mileage of the lines owned by the company in Canada previously was 3.86 miles, this line connecting at the International boundary with a line to Republic, Wash.

Application will be made to the British Columbia Legislature for an act to incorporate the Kettle River Valley Ry., with power to construct a railway to be operated by steam, electricity or any other power, from, at or near Midway, thence to Penticton, a distance of about 120 miles; and commencing at or near Penticton, on Okanagan Lake, thence to or near Nicola, a distance of about 150 miles, with all the powers usually conferred upon railway companies.

The Kettle River Valley Ry. Co. is the title of a company chartered by an act of the Dominion Parliament to construct certain railways along the valley of the Kettle River, which company will make application to Dominion Parliament this session for power to construct the line above-mentioned. The lines of railway already constructed in Canada by the K.R.V.R. Co., and operated as the Kettle Valley Lines, were constructed under the act incorporating the Grand Forks and Kettle River Ry. Co., passed by the B.C. Legislature in 1900. (Jan., pg. 17.)

Matane and Gaspe Ry.—Application will be made to the Quebec Legislature for an act changing the name of the company to Canada and Gulf Terminal Ry. Co.; designating St. Flavie instead of St. Octave de Metis as a connecting point with the Intercolonial Ry.; designating the connecting points with the National Transcontinental Ry. in the counties of Temiscouata and Kamouraska; giving the right to continue its main line or branches to the head of the Matane River, and continuing towards the east to the head of the Ste. Ann and Magdalene Rivers, thence to Mount Louis village, Gaspe County, and on to Gaspe Basin, either by the river, or starting from the main line behind Tourelle, Christie and Duchesner tps. It is also desired to have power to change the place of the company's head office; and to increase its capital to $4,000,000 in $100 shares instead of $50 shares.

The line is under construction from St. Flavie to Matane, Que., 37 miles; the contractors being the H. J. Beemer Co., Windsor Hotel, Montreal, and 42 Broadway, New York. The company has also under survey routes for a line from Matane up the river to Mount Louis, about 138 miles; and for a line from Mount Louis to Gaspe Basin, about 78 miles. (Dec., 1908, pg. 865.)

Michigan Central Rd.—A Detroit, Mich., press report states that it has been decided to make some important alterations in the operation of this railway. This change will involve the electrification of all the terminals in Detroit, and of the main line as far west as Ypsilanti, Mich., 30 miles. Electric power, it is said, will be generated by water power on the Huron River at Chelsea, Mich.

We are advised that during 1908, the company laid 6.50 miles of track in the new yards being constructed at Windsor, Ont., in connection with the Detroit Tunnel works. In addition a number of industrial sidings or spurs were laid, but none of them are of any consequence.

Montreal-Longueuil Bridge.—In an article on bridges between Montreal and the south shore, the Montreal Witness says: "The Montreal and Longueuil bridge was the first to die. The other lived till last year, when the offices of the bridge company were closed and the Royal Albert project was once more interred." The article reviewed the work done in connection with the promotion of these bridge schemes since 1876, when the Royal Albert bridge was promoted by Hon. John Young, then chairman of the Montreal Harbor Commissioners. This bridge was to be a double-decked structure, and was to be carried from the foot of Delorimier Ave., across Ile Ronde to Longueuil. In 1892 the Montreal-Longueuil bridge scheme was projected, the proposal being to construct a bridge from the end of the guard pier across the channel to St. Helen's Island, and then on to Longueuil, and construction was actually decided upon in 1898. Various attempts were subsequently made to revive the project, but without success.

North Eastern Ry.—Application will be made to the Quebec Legislature for an act extending the time within which the company may construct the lines authorized. Desaulniers and Vallee, Montreal, are attorneys for the company. (Sept., 1908, pg. 617.)

North Lanark Ry.—A press report states that this railway will be completed to Darling, Ont., during the year. Jas. Bell, of Arnprior, Ont., is President of the company. (Feb., 1908, pg. 99.)

Prince Albert and Hudson Bay Ry.—Application will be made to the Dominion Parliament for an act to incorporate a company with this title, to construct and operate a railway from near Prince Albert, Sask., to the mouth of the Nelson River, or to York Factory on Hudson Bay, by way of a crossing of the Saskatchewan River, and thence northeasterly. Power will also be sought to construct or otherwise acquire and to operate steam and other vessels on all navigable waters touching on the proposed railway, to acquire and utilize steam and water power for the development of electricity for motive or other power, to erect and operate telegraph and telephone lines, to construct railway bridges, etc., and to enter into contracts with other railway companies. It is sought to have the foregoing works declared to be for the general advantage of Canada. F. W. Halliday, Prince Albert, Sask., is solicitor for applicants.

Prince Edward Island Ry.—Tenders are under consideration for the erection of a freight shed on the wharf at Charlottetown. (Jan., pg. 17.)

Quebec County Ry.—The Quebec Legislature will be asked for an act extending the time with which this projected railway may be constructed and for other amendments to the charter powers. R. Campbell, Quebec, is attorney for the company.

Quebec Eastern Ry.—We are advised that F. N. McCrea, of Sherbrooke, Que., who is interested in the Lotbiniere and Megantic Ry., is also interested in negotiations now in progress for the construction of a railway from Quebec to Sherbrooke, Que., in the territory covered by the charter granted to the Q.E. Ry. Co. C. B. Hibbard, formerly General Manager of the Quebec, Montreal and Southern Ry., has been appointed Second Vice-President of the Q.E.R. Co., which, however, is not yet in a shape to commence operations. The act of incorporation gives the company power to acquire the Lotbiniere and Megantic Ry., and to utilize it as part of the projected line. (Feb., 1908, pg. 99.)

Quebec, Montreal and Southern Ry.—The Board of Railway Commissioners has made an order giving this company, which is controlled by the Delaware and Hudson Co., two months in which to file plans for new stations at Sorel and Pierreville, Que., and for carrying out other improvements. During the year track was laid on the extension towards Levis, Que., for 48.50 miles, from Pierreville to St. Philomene. The route of the extension from St. Philomene to Levis, 48 miles, has been located. (Jan., pg. 17.)

The Quebec Oriental Ry. Co. is applying to the Dominion Parliament for an act amending former acts respecting the company, by extending the time within which construction of the authorized lines may be commenced and completed, and by authorizing it to construct and operate a railway from its authorized line near Rivière du Loup, Que., thence southeasterly through Temiscouata county to a junction with the National Transcontinental Ry. near the boundary between Temiscouata and Kamouraska counties, and to empower the company to buy from the Royal Trust Co., or the owners for the time being, the railway lines from Metapedia to Caplin, and from Caplin to Paspebiac, heretofore known as the Baie des Chaleurs section of the Atlantic and Lake Superior Ry.

Power is also being asked to provide that the head office may be either in Canada or England; and for authority to fix the number of directors, which shall not be less than three

Two Types of Cars

that are making an envious name for themselves

The above style of car is building the railroads of to-day.

Some of the users:

Canadian Pacific Ry.	Macdonnell & O'Brien
Intercolonial Ry.	J. D. McArthur & Co.
Grand Trunk Pacific	M. P. & J. T. Davis
Canadian Northern Ry.	Corbett & Floesch
Canadian Northern Ontario Ry.	Central Ontario Ry.
Canadian Northern Quebec Ry.	New Canadian Co.

Many Others

This style of car is handling the coal of the railroads of to-day.

Some of the users:

Canadian Pacific Railway Co.
Intercolonial Railway
Atikokan Iron Co.

SEND FOR OUR SPECIALLY COMPILED PAMPHLET No. 14

THE HART-OTIS CAR CO., LIMITED

Successors to Dominion DUMP CAR Co., Limited

MONTREAL

SILLIKER CAR COMPANY, LIMITED, HALIFAX, N.S., CANADA

STREET RAILWAY CARS

HEAVY FORGINGS AND CASTINGS

RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

nor more than seven; to change the date of the annual meeting to the last Wednesday in Oct. of each year, and to increase the bonding powers of the company to $45,000 a mile.

The Q.O.R. Co. was originally incorporated in 1903, by the Quebec Legislature. The act was amended in 1905, and the company was granted a Dominion charter in 1907. Power was granted to construct a railway from Rivière du Loup, Que., on the Intercolonial Ry., to a point on the same railway near Metapedia, passing through Temiscouata and Rimouski counties, the northern part of New Brunswick, Bonaventure county and along the Metapedia River to St. Laurent de Metapedia, and the time within which the construction of the line was to commence and be completed was extended to 1909 and 1912 respectively. Provision was also made, in the event of the company desiring to purchase the Baie des Chaleurs Ry., as to the conditions on which such transfer should be made.

Railway to Hudson Bay.—Reports received at Ottawa with respect to the progress of the survey for the projected railway to Hudson Bay, show that very rapid progress has been made. R. D. Fry, E. Morrier, and F. Peters, arrived in Gimli, Man., from Fort Churchill, Jan. 5. The first named was one of the engineers on the railway survey, and he states that the distance of about 1,100 miles was accomplished in 45 days by dog train. With the exception of the last few days, which were stormy, the weather was fine and agreeable. The members of the party left behind to complete the work of the survey were reported all well. (Jan., pg. 19.)

Royal Collieries Ltd.—Application will be made to the Alberta Legislature for an act authorizing the Royal Collieries Ltd. to construct a railway from the C.P.R. Crow's Nest branch, 2,123 ft. west of Lethbridge Junction, to the s.w. ¼ of sec. 32, tp. 9, range 21, west of the 4th p. m., and to acquire by purchase, lease or otherwise, the spur line now under construction between the same points, together with all powers incidental to the construction, operation and acquisition of the said line of railway as are necessary. J. B. Wilkie, Lethbridge, Alta., is Secretary of the company.

Saskatchewan Central Ry.—Application will be made to the Saskatchewan Legislature for an act extending the time within which the lines of railway authorized by the company's act of incorporation of 1906 may be constructed. Allan, Gordon and Bryant, Regina, Sask., are solicitors for the applicants.

Application will be made to the Saskatchewan Legislature for an act incorporating another company with this title for the purpose of constructing the following lines of railway: (1) From or near the authorized line of the Canadian Northern Ry., between Prince Albert and Battleford, northerly to Crooked Lake. (2) From the Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.'s line between Findlater and Davidson, thence northerly and westerly to the provincial boundary. (3) From the Canadian Northern Ry. between Findlater and Davidson, westerly to the western boundary of the province south of the Saskatchewan River. (4) From or near Moose Jaw southerly or easterly to the International boundary. (5) From between ranges 1 and 12 west of the second meridian on or near the authorized line of the Canadian Northern Ry., southerly to the Souris coalfields and the International boundary. The company desires to have power to make agreements with other railway companies for amalgamation, or otherwise, with other necessary and usual powers, rights and privileges. Balfour, Martin and Casey, Regina, Sask., are solicitors for the applicants.

The above information is taken from the Saskatchewan Gazette, and the second notice would suggest that it is proposed to ask for the incorporation of a new company with the title of the Saskatchewan Central Ry. There is nothing to suggest that there is any connection between the owners of the charter granted in 1906 and the applicants for the additional one. In Manitoba, notice has been given of an application for the extension of time for the Midland Ry. of Manitoba, as well as for the incorporation of a new company with the same title, but there is a connection disclosed between the two; and some few years ago applications were made for legislation affecting the Central Ontario Ry. by two different sets of shareholders whose interests conflicted.

South East Kootenay Ry.—The British Columbia Legislature will be asked for an act extending the time for the construction of this projected railway. Barnard and Robertson, Victoria, B.C., are solicitors for the applicants.

Superior and Western Ontario Ry.—Application will be made to the Dominion Parliament for an act to incorporate a company under this name, with power to construct railways from the G.T.P.R., Lake Superior branch, about 154 miles northwest of Fort William, Ont., to the National Transcontinental Ry., north of Sturgeon Lake. Power will also be sought to operate steam and other vessels, wharves, elevators, telegraph and telephone lines, etc., and to have the work declared to be for the general advantage of Canada. McDougall and Honeywell are solicitors for applicants.

Sydney and Louisburg Ry.—Nine miles of track were laid during 1908 on this railway, which is owned and operated by the Dominion Coal Co., as follows: From Grand Lake Jct. to Colliery No. 12, 7 miles; from No. 14 Junction to Colliery No. 14, 2 miles.

The branch line from Grand Lake to Waterford, N.S., and the grading about collieries 10 and 12, have been completed. The contract was carried out by the Lindsay Construction Co. (Mar., 1908, pg. 185.)

Temiskaming and Northern Ontario Ry.—The buildings erected recently at North Bay, Ont., consist of a frame car repairers' shelter, 20 by 40 ft.; and a shed, 30 by 60 ft., of timber frame with corrugated iron sheeting, for iron pipe and castings.

During 1908, tracklaying was completed upon this line as follows: Wateybeag River to Cochrane, Ont., 44 miles; Englehart to Charlton, 8 miles; Cobalt to Kerr Lake, 4 miles; and from milepost 110 to Mooré's Cove, on Lake Temiskaming, 2 miles. The engineers have located a line from Charlton to Elk Lake, 20 miles; and a project is under consideration to construct a line from Elk Lake to Gowganda, 38 miles.

A second survey for the proposed extension of the line from Charlton to Elk City has been made, and the Chairman of the Commission recently stated that he expected the report of the engineers would be ready by Feb. 1. Before the line was extended to Elk City, however, he said the Commissioners wished to know whether the traffic would meet the charges against the investment of about $600,000, which it is estimated the extension would cost. If the report was favorable a contract could be closed at once, a good deal of the rock cutting done this winter, and the extension probably completed by the end of the summer. The Commissioners had an exploration party in the field making a survey of the country between Elk City and Gowganda. With regard to the main line between Cobalt and Haileybury, the Chairman at the same time said the Commissioners had been extending the sidings at these points as part of the plan for a second track. The completion of this work would enable the operation of a special hourly service, for which they were looking for a suitable motor car. Several cars had been considered, and it was hoped that a suitable one would be found during the year.

In connection with the project for the extension of the line from Charlton to Elk Lake, 18 miles, it is stated that the principal object of the third survey was to ascertain whether an easier gradient could be obtained. As to the extension from Elk Lake to Gowganda, the principal difficulty in the way of construction is the large amount of rock work which will be required to be done. There will only be one large bridge on the extension, viz., that over the Montreal River at Elk Lake. (Jan., pg. 19.)

The Thessalon and Northern Ry. Co., which was incorporated by the Ontario Legislature in 1907, is applying to the Dominion Parliament for an act declaring the railway which it is authorized to construct, to be a work for the general advantage of Canada, and authorizing it to enter into an agreement with the C.P.R., the G.T.R., or the C.N.R.

Vancouver to Howe Sound, etc.—Application will be made to the British Columbia Legislature for an act incorporating a company with power to construct a railway, to be operated by steam, electricity or any other motive power, commencing at or near Vancouver, thence northerly, following the valley of the Seymour Creek to the watershed north of Loch Lomond, and thence via the valley of the Indian River to the north arm of Burrard Inlet, with power to extend northerly to and through the Pemberton Meadows, and to construct a branch line via Ferry Creek Valley to Howe Sound, and any other short branches that may be needed to mines in the vicinity of the main line and branches. It is also proposed to ask for all other powers which are usually granted to railways. F. C. Wade, Vancouver, B.C., is solicitor for the applicants. (See Howe Sound, Pemberton and Northern Ry., Nov., 1908, pg. 793.)

Vancouver, Westminster and Yukon Ry.—Application will be made to the Dominion Parliament for an act extending the time within which the following projected lines may be constructed: (1) From the main line between Anderson and Green Lakes, running along or near Lillooet Lake, Lillooet River, and Harrison Lake, then southeasterly to the International boundary near Huntington, B.C.; (2) From the main line between Lillooet and Quesnel easterly through Quesnel Lake basin, to Tete Jaune Cache. (3) From the main line between the Cottonwood and Willow Rivers, southeasterly to Barkerville, B.C. (4) From the main line on Willow River, easterly to the Fraser River, along the Fraser River to Tete Jaune Cache, thence through the Yellow Head Pass, and thence by the most convenient route to Edmonton, Alta. It is also desired to have power to enter into agreements with the Burrard, Westminster Boundary Ry. and Navigation Co. (Sept., 1908, pg. 621.)

Winnipeg City Power Plant.—The line of railway along the right-of-way of the power plant has been completed from Lac du Bonnet to Point du Bois, Man., 24 miles.

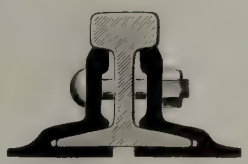
Yellow Head Pass Coal and Ry. Co.—Application will be made to the Dominion Parliament for an act incorporating a company with this title to acquire and hold timber, mining and other lands in Canada, and to develop the same by the construction of railways, etc. Power is particularly to be asked to construct a railway from the G.T. Pacific Ry. main line west of the crossing of the Pembina River, in Alberta, southwesterly to the Embarras River, thence southerly to the headquarters of the Little Pembina River, a distance not exceeding 100 miles; and a line commencing on the G.T. Pacific Ry., along

ADDITIONAL SAFETY AND ECONOMY IN

TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence.

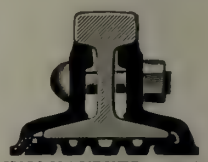
HIGHEST AWARDS
Paris, 1900;
Buffalo, 1901; St. Louis, 1904


CONTINUOUS JOINT

Over 50,000 miles in use

WEBER JOINT

Rolled from Best Quality Steel


WOLHAUPTER JOINT

CATALOGUES AT AGENCIES

Baltimore, Md. Boston, Mass. Chicago, Ill. Denver, Colo. Pittsburg, Pa.
San Francisco, Calif. Seattle, Wash. St. Paul, Minn. St. Louis, Mo. Troy, N.Y.

London, Eng. New York City.

THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES: BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base-Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, and Insulating Rail Joints, protected by Patents in U.S., Canada and Mexico.

EDWARDS

TRADE "PAOWNYC" MARK

STEEL TRAP-DOOR

FURNISHED COMPLETE, READY FOR APPLICATION

Weighs but a trifle more than a wood door, is **STRONGER** and cannot **WARP** or **SWELL.** Designed for Steel or Wood Coaches.

Write for Prices, Drawings and Further Information.

THE O. M. EDWARDS CO.
SYRACUSE, N.Y.

KERR'S GLOBE AND GATE VALVES

STRICTLY HIGH GRADE. TESTED & PACKED

THE KERR ENGINE CO. LIMITED
VALVE AND HYDRANT MANUFACTURERS
WALKERVILLE, ONT.

the Embarras River southwesterly towards the McLeod River, a distance of 25 miles. J. A. Ritchie, Ottawa, is solicitor for the applicants.

The coal mining properties owned by this company are located around the headwaters of the MacLeod, Pembina and the Embarras Rivers, 30 miles from the Saskatchewan River and about 130 miles from Edmonton, Alta. They will also be about 30 miles from the G.T. Pacific Ry., and the railway located from the mines will connect with that line at Big Eddy. The engineer of the syndicate, —. Landstreet, is reported to have said, recently, that it was hoped to have the line completed by July next, when operations will be started on the development of the coal properties. The gradient of the projected line will be ¼%.

Protection for Railway Employes.

The Board of Railway Commissioners passed the following order 5888, Dec. 16: In the matter of the Memorial of the Trainmen's Association of Canada, for the adoption of certain regulations by the Board, having in view the protection of employes of railway companies subject to the Board's jurisdiction. Upon the report of the operating officials of the Board, and upon hearing the representatives of the railway companies and of the employes; and in pursuance of the powers conferred upon it by secs. 30 and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf, it is ordered that:

1. No freight train, except work or construction trains of 15 cars or less, now in service, shall be made up or allowed to proceed upon its journey unless at least three-quarters of the cars composing such train have air brakes in good working order.

2. The number of cars that may be drawn in freight trains shall be left entirely to the judgment of the operating officials of such railway companies; in all cases, however, in which it may be found necessary to double-head, the leading engine shall control the train.

3. Every road locomotive engine shall be equipped with a step or steps and handholds on both sides of and at or near the rear ends of tenders; foot-rests shall be provided on the pilots of every such engine, sufficiently wide for a man to stand on; every switching or yard engine shall be equipped with footboards and headlights on the front and rear ends of the engine and tender, such footboards to be not less than 10 ins. wide; the back of such footboards shall be protected by a board not less than 4 ins. high, and if cut in the centre, the inner ends shall be protected in like manner; and footboards and headlights shall be placed on the rear end of the tender of every road locomotive engine used for switching services, except in cases of emergency; in no case, however, shall any engine be continuously used for switching purposes for more than 24 hours without such equipment.

4. The number that shall comprise the switching engine crews shall be left entirely to the judgment of the operating officials; on main lines light engines shall not be run a distance greater than 25 miles in any one direction without a conductor, in addition to the engineer and the fireman; and on branch lines, the operating officials shall determine the necessity of requiring conductors on light engines.

5. Every locomotive engineer of such companies must have at least one year's continuous experience as a fireman, pass a satisfactory examination in regard to the proper care of locomotive engines, the handling of air brakes, and train rules and regulations; be at least 21 years of age, and undergo an eye and ear test by a competent examiner before being eligible for appointment as such engineer. Except in cases of emergency, every conductor of such companies must have at least one year's experience as brakeman or conductor and be at least 21 years of age before being eligible for appointment as such.

6. The telegraph operators of such companies required to handle train orders shall be at least 18 years of age, able to write a legible hand, to send and receive messages at the rate of not less than 20 words a minute, and be thoroughly familiar with and required to pass an examination upon train rules before a competent examiner.

7. Every employe of such railway companies engaged in operating trains shall, before undertaking such duties, be required to undergo a color test by a competent examiner.

8. All railway companies shall strictly conform to the rules and regulations from time to time approved by the Master Car Builders' Association, governing the loading of lumber, logs, and stone on open cars, and the loading and carrying of structural material, plates, rails, and girders. No material of any kind shall be carried upon the roofs of cars.

9. All open drains crossing tracks in the yards of such companies shall be covered for 5 ft. on each side of the rails, except in times of flood, when temporary open drains may be provided; semaphore and signal wires, when they cross under tracks, shall be carried in pipes or boxes; new buildings and semaphores and poles erected shall be placed not less than 6 ft. from the rail of the main track; water stand supply pipe shall be fastened parallel with the main line, and enginemen shall be required to see that this is done after using such pipes.

10. Every person or company offending against any of the foregoing provisions shall forfeit and pay $50 for every such offence.

Great Northern Railway Lines in Canada.

In a recent interview J. J. Hill stated that it was the determination of his company to push railway construction in Western Canada generally, and in Manitoba particularly. It is said that as soon as spring opens work will be begun on some additional lines under the Midland Ry. of Manitoba's charter. This work, a Winnipeg despatch says, will probably be on a line from Emerson to Winnipeg, and upon the laying out of terminals and a station in Winnipeg. The company purchased land in Winnipeg for terminals, and for an entrance into the city, nearly three years ago, but beyond some clearing nothing was done. The company's operations in Manitoba are being carried on under the charters of the Midland Ry. Co. of Manitoba, and the Brandon, Saskatchewan and Hudson Bay Ry., and probably under some other charters not yet identified.

Midland Ry. Co. of Manitoba.—Application will be made next session of the Manitoba Legislature for an act incorporating a company with this title, with authority to acquire and operate the existing constructed lines of the Midland Ry. of Manitoba, viz.: the line from Gretna, at the International boundary, to Portage la Prairie, and from Morden to the southern boundary of the province; and to construct the following additional lines: From or near Winnipeg, westerly to Brandon; thence westerly to near Elkhorn, and thence westerly to the western boundary of the province; a line from near Morden, running northwesterly to near Rathwell, thence northwesterly to the first mentioned line. It is also desired to obtain authority to construct and operate telegraph and telephone lines in connection therewith, and all other powers necessary or incidental thereto. Fisher, Wilson, Battram and Hamilton, Winnipeg, are solicitors for the applicants.

Notice is also given for the Midland Ry. Co. of Manitoba, by the same firm of solicitors of intention to apply to the Legislature for an Act empowering the company in connection with its authorized line of railway between Winnipeg and the International boundary, to construct and operate a branch line from some point on the east side of the Red River, in tp. 1, range 2, or 3, to the International boundary, on the west side of the river in range 2 e. It is also desired to have power to sell its existing lines, viz., from Gretna to Portage la Prairie, and from Morden to the International boundary, to another company.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—During 1908, the company completed tracklaying on the section of the line from the International boundary to Olivers, B.C., 11.33 miles (of this distance 0.86 mile was laid in 1907); and from Olivers to Brownsville, B.C., 9.72 miles (of which 5.22 miles was laid in 1907). On this portion of the line grading is in progress between Keremeos and Princeton, 40.3 miles. Tracklaying was expected to be well in hand between Keremeos and Princeton, Jan. 31. Beyond Princeton surveys only are being made, but south of New Westminster, and in the vicinity of Vancouver, construction is going on, in connection with the lines amalgamated with the V.V. and E. Ry. and N. Co., and formerly known as the Vancouver, Westminster and Yukon Ry., and the Victoria Terminal Ry. and Ferry Co. The work there has been the completion of tracklaying on the line from Cloverdale to Sumas, of 29.28 miles, of which 1.38 miles were laid in 1907.

Vancouver press reports state that the G.N.R. proposes to expend $3,000,000 during the current year on terminals in that city. This report arises out of the recent purchase by G.N.R. and Northern Pacific Ry. interests of False Creek waterfront property valued at about $350,000. The property involved in the purchase comprises all the waterfront on the north side of the upper basin of False Creek lying between Heatley Ave. on the east and Boundary Ave. on the west. L. C. Gilman, of Seattle, Wash., attorney for the G.N.R., who made the purchases, is quoted as saying: "In making these purchases the company had in view not only its own requirements in Vancouver, but also those of the Northern Pacific Ry., which has the intention of entering the city, and doing business directly here. What we expect to do now is to go to the Northern Pacific people and endeavor to join with them in some plan for the location of joint facilities for terminal purposes at some convenient spot on the shores of False Creek." (Jan., pg. 35.)

Jeffery Hennigar, C.P.R. Freight Office, Fort William, Ont., in renewing his subscription to The Railway and Marine World, says: "Your paper certainly covers the railway field in a manner which no other even approaches."

The Grand Trunk Development Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $500,000, to purchase or otherwise acquire lands, etc., from the B.C. or any other Government; to erect and operate manufacturing concerns, to develop such properties, to carry on the general business of importer and exporter, to construct and operate railways or tramways, logging railways, telegraph and telephone lines, barges, boats, docks, wharves, etc., and for other purposes.

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.

The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.

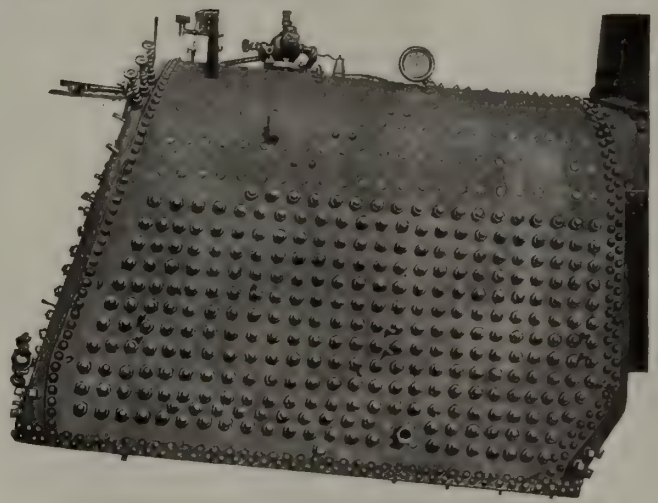
THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

AMERICAN BRAKE SHOE AND FOUNDRY COMPANY

NEW YORK MAHWAH, N.J. CHICAGO, ILL.

N. J. HOLDEN & CO., Agents, 302 St. James St., MONTREAL



AN INSTALLATION OF THE TATE FLEXIBLE STAY

THE TATE FLEXIBLE STAYBOLT.

THE PERFECT STAY

For Locomotive Fire Boxes

Over a million and a half bolts in service on over 100 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited
TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, = Pittsburgh, Penn., U.S.A.

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

C. P. R. Betterments, Construction, Etc.

Woodstock Branch.—During 1908 the company completed the following changes of line on the Woodstock branch in New Brunswick: Between mileage 55.3 and 59.8, a distance of 4.5 miles, not yet opened for traffic; between mileage 62.5 and mileage 64.0, a distance of 1.5 miles, which has been opened for traffic.

Northern Colonization Ry.—Track was laid on the extension from Nomining, Que., towards Rapide de L'Orignal, during 1908, from two miles north of Nomining to mileage 30.74, a distance of 28.74 miles. The total distance from Nomining to Rapide de L'Orignal is 34.6 miles. The contractors were the Toronto Construction Co. The extension has not yet been opened for traffic.

Place Viger Hotel and Terminals.—The proposal to enlarge and rearrange the hotel and terminals at Place Viger, Montreal, is reported to be taking definite shape, and it is said that a recent visit of D. McNicoll, Vice-President, to New York, was for the purpose of inspecting hotels and terminals there, before finally adopting plans for the work.

Montreal-Toronto Second Track.—During 1908 there was completed 10 miles of second track work upon the contract between Vaudreuil and Dalhousie Mills, a distance of 22.5 miles. J. P. Mullarkey, Montreal, is the contractor.

The second track construction between Finch and Smith's Falls, Ont., 50 miles, has been completed, track having been laid during 1908 upon the last 23.5 miles of the distance. The Toronto Construction Co. had the contract.

Georgian Bay and Seaboard Ry.—There was completed, during 1908, a line from Coldwater Junction, on the Toronto-Sudbury line, to the west side of Victoria Harbor, on Georgian Bay, 11.5 miles. The contractors were the Toronto Construction Co. The line has not yet been opened for traffic.

Walkerton and Lucknow Ry.—During 1908, tracklaying was completed on this line from mileage 26.2 to Walkerton, Ont., 11.5 miles, enabling the whole line from Saugeen, on the company's Owen Sound line, to Walkerton, 37.7 miles, to be opened for traffic. The contractor was Randolph MacDonald Co., Ltd., Toronto.

St. Mary's and Western Ontario Ry.—This line, completed during 1908, extends from St. Mary's to Embro, Ont., 15.9 miles. It effects a junction at Embro village with the extension of the T.L.E. and P. Ry. from Code Junction, and trains are being operated over these two lines, a total distance of 21.68 miles.

An application will be made to the Dominion Parliament for an act to amend the act of incorporation by giving the company power to construct the following lines: From Woodstock to Brantford; from near St. Mary's to near Stratford; from the company's main line between St. Mary's and Exeter in northerly and westerly direction through Perth and Huron counties to the Guelph and Goderich Ry. between Milverton and Goderich; and from the company's main line near Exeter to Grand Bend harbor, Lake Huron; and for further and other powers.

A freight shed is being erected at St. Mary's, Ont. A supplemental agreement under the act granting subsidies to certain railways was entered into Dec. 10, 1908, with the Dominion Government, with respect to the construction of a railway from Woodstock to Exeter, Ont., 45 miles.

Tillsonburg, Lake Erie and Pacific Ry.—The extension of this line, which was completed during 1908, leaves the main line, London section, at Code Junction, and extends to Embro village, Ont., 5.69 miles, where a junction is effected with the St. Mary's and Western Ontario Ry.

Sudbury to Gowganda.—It was stated in Montreal recently that while no actual decision on the matter had been reached, the C.P.R. was prepared to construct a branch line, without a subsidy, from Sudbury, northeasterly into the heart of the Gowganda district.

North Bay to Fort William.—A Montreal dispatch stated recently that the company "will have to build a line around Lake Superior, say from North Bay to Fort William, so as to be able to compete in hauling capacity with the G.T. Pacific Ry. . . . The proposed improvement will be undertaken and completed almost as soon as the G.T. Pacific will be finished from Ottawa to Lake Superior." It is stated "that it would be impossible for the C.P.R. either to double-track their present line around Lake Superior or to improve the grades and curves without entailing tremendous cost, and that the cheaper way would be to build a new line beyond the height of land." There are two mis-statements of fact in the item quoted which stamp the whole of it as the invention of an uninformed newsmonger making copy. The G.T. Pacific Ry. is not under construction from Ottawa to Lake Superior, its nearest point to Ottawa being 200 miles to the north; and if the C.P.R. were to decide to construct a line from Fort William easterly beyond the height of land, it would pass a considerable distance north of North Bay.

Fort William Terminals.—Application will be made next session of the Dominion Parliament for an act ratifying an agreement made Dec. 1, 1908, between the C.P.R. and the G.T. Pacific Ry. providing for joint terminal facilities at Fort William, Ont.

The agreement between the C.P.R. and the Fort William city council with respect to the extension of terminal facilities at that place, fixing a basis of taxation and other matters, has been signed. The terms of the agreement have not been made public.

Manitoba and Northwestern Ry.—Application is being made to the Dominion Parliament for an extension of time within which the company may construct the lines authorized by sec. 9, ch. 52, R.S.C. 1893, and sec. 2, ch. 104, R.S.C. 1907, and for other purposes.

Wilkie, Sask.—At this point, the present end of steel on the line westerly from Saskatoon, which is to be connected up with the branch from Wetaskiwin, Alta., now terminating at Hardisty, considerable activity prevails. A roundhouse, machine shop, station building, coal chutes and other necessary buildings are being put up. Construction on the line westerly is expected to be resumed as soon as spring opens up.

Weyburn, Milestone, etc.—Residents in Milestone and other points in southeastern Saskatchewan have sent petitions to C.P.R. officials asking that the line be extended from Weyburn westerly, so as to serve that territory. Farmers are said to be hauling wheat for distances up to 70 miles in order to reach a market.

Moose Jaw Northerly.—In connection with the construction of the line northerly from Moose Jaw, which has now reached Outlook, Sask., a roundhouse is being built, and other terminal facilities are being provided. A large staff of engineers is quartered in the town, in connection with the extension. The construction of a bridge across the river is necessary, and local reports state that work will be started this winter on the abutments.

Cardston to Great Falls, Mont.—In connection with the report mentioned on pg. 17 of our Jan. issue, we are advised that there is no foundation for the report that the C.P.R. was contemplating the construction of a line "from Cardston to Macleod, and the International boundary, and thence southerly almost in a straight line to Great Falls, Mont."

Western Lines Work for 1909.—W. Whyte, Second Vice-President, in the course of an interview at Montreal, Jan. 21, stated that the more important proposals regarding extensions and betterments of the western lines had been settled, but that several smaller extensions had not then been decided upon. One of the most important of the new lines will be through Southern Saskatchewan and Alberta, about midway between the main line and the International boundary. This line will start from Weyburn, southeast of Moose Jaw, and go across country to Lethbridge, about 400 miles. Construction will be started in the spring from Weyburn, and it is expected that from 20 to 25 miles will be completed this year.

The line from Saskatoon to Edmonton now has a gap in the centre of it of 130 miles. All the grading on this gap has been completed and rails are to be laid immediately, so that the whole of this line will be in operation in the spring, giving a new short line between Winnipeg and Edmonton.

There has been a great deal of new settlement in the fall wheat district of Alberta, particularly east of the line running up north from Macleod to Calgary. The company has decided to build another line up through this district, starting from Lethbridge, and joining the Macleod to Calgary line a little north of High River station. The total distance is about 80 miles, and 30 miles of this are to be built this season, taking the line up to the Little Bow River.

The bridge which the company is building at Lethbridge, over a mile long and 300 ft. high, will be completed early this year.

Another district in which there has been much new settlement is east of the line from Calgary. The company will therefore build a branch northwards from Cheadle—which is on the main line east of Calgary—and eventually connect it with the line east from Lacombe, at Alix. This line will be 100 miles long, and it is intended to carry it as far as the Ghost Pine Creek this year—a distance northward from Cheadle of from 35 to 40 miles. The Lacombe-Stettler line will also be extended easterly about 35 miles.

These are the most important extensions decided on, but there will be a lot of betterment work done this year throughout the west in replacing light rails with heavy ones and in building new stations. In the matter of improvements at any one place the plan for the development of the company's terminals at Fort William will take first place. The foundation of the extensions contemplated there are to be laid this year. Mr. Whyte did not think it advisable to state the total amount of money decided on for the western appropriations, but there was no objection to saying that it ran into millions.

Esquimalt and Nanaimo Ry.—The steel superstructure for the bridges across the Nanaimo and Chemainus Rivers have been delivered, and will be put up as early as possible. These bridges are to replace wooden trestles. The superstructure for the bridge over the Cowichan River was expected to be delivered by Jan. 31. The substructure for this latter bridge is completed. In respect of works of betterment to be undertaken during the coming year, it is expected that the appropriations will include amounts for the replacing of the wooden trestles between Victoria and Shawinigan Lake with steel span bridges. These and the other steel spans being erected on the line are light bridges which are being replaced on the C.P.R. transcontinental

THE ALGOMA STEEL CO., LIMITED

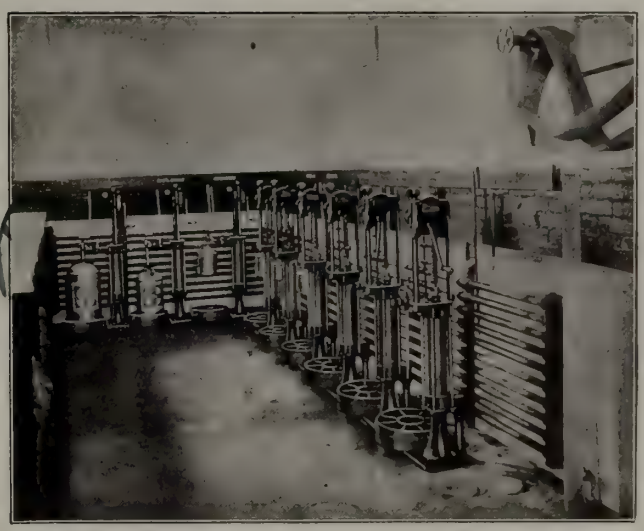
SAULT STE. MARIE, ONTARIO

IS NOW BOOKING ORDERS FOR **STEEL RAILS** FOR DELIVERY DURING THE SEASON OF 1909

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to ensure desired deliveries.

Office:
CANADA LIFE BUILDING,
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS



BOWSER PUMPS IN A RAILWAY STOREHOUSE

Greater Net Earnings

A big gross income is a good thing, but it is what is left after all expenses are deducted that counts.
Reduce your operating expenses, and thereby increase your net income by installing

The Bowser System of Oil Storage

The BOWSER reduces the cost of labor involved in handling the oil 75 per cent. It reduces the oil bills 10 to 25 per cent. It also reduces the insurance rate by decreasing the fire hazard.
Bulletin 18 tells all about it. Sent upon request to those interested.

S. F. BOWSER & CO., LIMITED
66-68 FRASER AVENUE, - - TORONTO

THE
NEW HOTEL BREVOORT CHICAGO

The Twentieth Century Hotel **Absolutely Fireproof**

Centrally Located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG,
PROPRIETORS

ARTHUR M. GRANT,
MANAGER

line by larger and heavier bridges necessary to carry the increasing traffic.

Great progress is reported to have been made with the clearing of the company's lands in the vicinity of Ladysmith, and their preparation for sale to settlers in small lots.

British Columbia Southern Ry.—Application is being made to the Dominion Parliament for an act granting an extension of time within which the company may construct an extension of its railway to the 49th parallel and the Tobacco Plains, authorized by ch. 55, R.S.C. 1899; the western section of its railway and the branches to Nelson and Martin Creek, authorized by sec. 1, ch. 52, R.S.C. 1900; and authorizing the construction or acquirement of a branch line from near Michel northerly through Kananaskis Pass to a point of junction with the C.P.R. main line near Kananaskis, about 120 miles.

Kootenay and Arrowhead Ry.—Application will be made to the Dominion Parliament for an act extending the time within which the company may construct the lines authorized by sec. 7, ch. 70, R.S.C. 1901, and for other purposes.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—An announcement was made Jan. 10 by Vice-President and General Manager Pennington, that the company's extension into Duluth was expected to be completed and opened for traffic by July 1. (Jan., pg. 15.)

During 1908, the company laid track upon its extension to Superior and Duluth, Minn., upon 91 miles between Mississippi River and Moose Lake, Minn. The remaining mileage of the extension, which leaves the main line at Brooten, from Moose Lake to Superior-Duluth, a distance of 47 miles, is under construction. Foley Bros., Larsen & Co., St. Paul, Minn., are the contractors.

Duluth, South Shore and Atlantic Ry.—Exclusive of sidings and logging tracks for temporary purposes, the company, during 1908, laid the following lengths of permanent track: A branch from milepost 79, about 1.50 miles east of Humboldt, Mich., to the Boston-American Mine, 2 miles; and a branch from Ahmeek Mine track to Kearsarge Mine, no. 4 shaft, 1 mile. The company has no branches nor extensions now under construction.

Bridge Engineering—Roof Trusses.

This is the title of a work of 384 pages, by F. O. Dufour, C.E., which has been adopted as a text-book at the University of Chicago. It is a manual of practical instruction in the calculation and design of structural steel truss and girder bridges for railways and highways, and includes also chapters on the analysis and design of roof trusses and other details of mill building construction. The treatment of the complicated problems involved in the calculation and design of modern steel structures is exceedingly clear and concise and free from the abstruse mathematical calculations that usually overburden other works in this difficult field. Special stress is laid on the practical side of the subjects treated of as distinguished from a mere theoretical or academic discussion. The section on bridge engineering treats fully of analysis and design of all kinds and descriptions. Every detail is clearly explained by the aid of diagrams, while graphic methods are chiefly used in the computations. The same practical and concise treatment marks the section on roof trusses. Photographs of typical structures are given with full explanation of the methods followed in their design, and in some cases statements of cost. There are 340 illustrations. The volume is published by the American School of Correspondence, Chicago, and may be obtained through THE RAILWAY AND MARINE WORLD'S book department, the price being $3.

President Hays on the G.T.P.R.

In a recent interview, C. M. Hays, President G.T. Pacific Ry., referring to his last inspection trip as far west as Prince Rupert, B.C., said, among other things:

"We are doing very well, indeed. The various contractors are in good spirits and well abreast of their dates. Indeed, the financial disaster in New York a year ago was for us a blessing in disguise. Large numbers of men have come north seeking work. Labor is abundant and is more productive, at lower wages. Already our trains are running regularly over the whole section 660 miles west of Winnipeg into Alberta. The newly arrived settlers have harvested a great wheat crop—great both in quantity and in quality, greater still for the price it is bringing. At our Pacific terminus, Prince Rupert, good progress is being made with the grading of the first 100 miles east, and I see no reason to doubt that by the autumn of 1911 our first train will break through to tide-water, passing from the Atlantic to the Pacific.

"We carry our road from Winnipeg over the Rockies to Prince Rupert with a maximum gradient of 26 ft. to the mile going west and 21 to the mile going east. The immense economy in hauling freights with gradients so remarkable, every railway man must recognize. We shall be able to put 2,000 tons of freight into Prince Rupert from Winnipeg behind a single engine. Of the seven great railroad systems which to-day cross the Rockies and reach the Pacific, the Union Pacific with grades of 116 ft. eastbound and 105 westbound, comes nearest to us. I will tabulate for you the grades of our six competitors and the dynamics of an engine on each.

Railroad.	Max. Grade.	Tractive Resistance in Pounds Per Ton.	Gross Capacity of Engine in Tons.
Grand Trunk Pacific	26	14	2,041
Great Northern	116	50	572
Northern Pacific	116	50	572
Union Pacific	116	50	572
Santa Fe	185	76	376
Canadian Pacific	237	96	298

"In other words, the same engine could haul up the maximum grade of the G.T. Pacific nearly four times more freight in a train than either the Great Northern, Northern Pacific, or Union Pacific, over five times more than on the Santa Fe, and about seven times more than on the C.P.R. These are very remarkable figures, I am aware, and I accept the responsibility for putting them on record. You can read in these figures the reason for our so-called 'generous expenditures.' The interest on the cost of such a line will be returned to us ten times over in the economy of our operations and in the increased safety of our passengers.

"We expect that our easy gradients, which are due not only or chiefly to our 'generous expenditures,' but to our possession of the Yellow Head Pass through the Rockies, will in a few years twist around a great portion of the wheat export trade of the Northwest, and with the opening of the Panama Canal in 1914, send wheat to Europe (let alone to Asia) by way of the Pacific. At present the wheat crop is either hurried to the ports on the great lakes, Duluth, Fort William, and Chicago, during the few weeks between threshing and the closing of lake navigation in November, or it is held up for six months in elevators at a considerable cost, or again, if it is carried through to the Eastern seaboard in winter, when the St. Lawrence route is closed by ice, the long haul through heavy snows makes the operation difficult, costly, and even disastrous both for the railway and to the farmer. Westbound from Saskatchewan and Alberta to Prince Rupert, the grades are easy; there is very little snow in winter, so that when the Panama Canal opens in six years I look to see Prince Rupert one of the very great grain ports of the world. I have more than once ventured the prediction that in my lifetime we shall haul to the Pacific as much grain as we shall haul to the Atlantic."

Mr. Hays declared that this diversion of traffic would not seriously diminish the earnings of the G.T.P.R. Eastern Division. "The volume of traffic," said he, "coming out of the new Northwest, if we may judge from the way settlers are already swarming in, will throw far more business upon our existing lines than they can possibly handle. The present cultivated area is but six million acres, a mere patch this on a farm of 300,000,000 acres. As yet we have but scratched the surface. We shall require very shortly to do what the C.P.R. is already doing in Manitoba, that is, double-track our road to enable us to handle the traffic. Thus the diversion of a large portion of the far western wheat trade will advantage every section of our road; it will even enable us to give settlers much lower rates, because we shall even up our loads, sending full cars both east and west, instead of only east. While we send cattle, grain, and minerals west to Prince Rupert, we shall haul back east the coal and the lumber which the settlers on that three hundred million-acre farm need.

"When Prince Rupert has been connected with Sydney across the Pacific by a good line of steamships—and that will come soon—the connection will have been completed of the two very finest harbors in the British Empire. Our route cuts off to the Far East—say Yokohama—1,500 miles from New York, compared with the San Francisco route, and 500 miles over the Vancouver route, and the saving of two or three days will often decide the choice. The climate of the place is neither hot in summer nor cold in winter; the mercury rarely, if ever, goes to zero."

[EDITOR'S NOTE—Mr. Hays' statement in regard to the maximum gradient on the C.P.R. is misleading, and we do not consider it fair to the latter line to publish his comparison without explanation. The gradient of 237 ft. to the mile which he mentions is the original gradient between Field and Hector. B.C., eastbound. In September, 1907, we published an article describing the work of grade revision which the company was then about to undertake there. This work will reduce the gradient to 116 ft. to the mile on tangents which, on account of compensation for curvature, will give an actual rise of about 103 ft. to the mile. This work is practically completed, and the new line will, it is expected, be opened for traffic early this summer, before the G.T.P.R. mountain section is completed. In making a comparison of the gradients on the two lines, the reduction on the C.P.R. should in all fairness be taken into account.]

Corrections for the Erring.

"Following the announcement in The Globe yesterday as to changes in the staff of the C.P.R. at West Toronto, the company has issued a circular giving a number of other changes which will take effect to-day. Mr. Allen Cameron, a former resident of this city, has been transferred from London, Eng., to New York, where he will be general traffic manager, while Mr. E. V. Skinner, of Montreal, will succeed him in London. Mr. G. McL. Brown, of Hamilton, will be general passenger agent for the C.P.R.'s Atlantic lines and will also be located in London."—Toronto Globe, Jan. 1.

Allan, not Allen, Cameron has been appointed General Traffic Agent, not General Traffic Manager, at New York. E. V. Skinner was not "of Montreal," never having lived there. He was Assistant Traffic Manager at New York. He has not been appointed to succeed Allan Cameron in London, the principal reason being that he died Nov. 7, 1908. Allan Cameron succeeds him in New York under a different title. G. McL. Brown has not been appointed General Passenger Agent for the C.P.R. Atlantic Lines with headquarters at London. He held that position in Montreal, but he has been transferred to London to succeed Allan Cameron as General Traffic Agent.

ROYAL MAIL TRAINS

VIA

INTERCOLONIAL RAILWAY

BETWEEN MONTREAL AND HALIFAX

MARITIME EXPRESS Leaving Montreal, Friday 12.00 noon, carries the EUROPEAN MAIL and lands Passengers and baggage at the steamer's side, Halifax, the following Saturday.

SPECIAL TRAIN When the Canadian bound Mail Steamships do not connect with the Maritime Express at Halifax, a SPECIAL TRAIN with sleeping and dining cars attached, for passengers holding first-class tickets, is run from Halifax to Montreal.

FOR TIMETABLES AND OTHER INFORMATION APPLY TO

GENERAL PASSENGER DEPARTMENT - - - MONCTON, N.B.

Or TORONTO TICKET OFFICE, 51 King Street East

WASHBURN STEEL COUPLERS

Freight, Passenger and Engine.

MANUFACTURED IN CANADA

Write us for Catalogue and Quotations.

TAYLOR & ARNOLD

180 ST. JAMES ST., MONTREAL

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING
232 ST. JAMES STREET, MONTREAL

Canadian Northern Ry. Construction, Etc.

Canadian Northern Quebec Ry.—Application will be made to the Dominion Parliament for an act extending the time for the construction of the proposed line from Rawdon to Lake Archambault and for the line from Quebec to James Bay, with branches to Chicoutimi and Tadousac, Que.

Canadian Northern Ontario Ry.—The Dominion Parliament will be asked for an act to authorize the construction of the following lines of railway: (1) From or near Nipigon Bay northerly to a junction with the National Transcontinental Ry., with two branches to reach water connections at the northerly and southerly ends of Lake Nipigon. (2) From the authorized line between Montreal and French River, in or near Chisholm tp., northerly and westerly to the company's Hutton branch, in or near Capreol tp. (3) From the authorized line between Sudbury Jct. and Port Arthur, near the source of Vermillion River, northerly and easterly to a junction with the National Transcontinental Ry. near its crossing of the Abitibi River. (4) From the last mentioned line between its starting point and the great northern bend of the Montreal River, southerly and easterly to near the south end of Lake Temiskaming. It is also desired to obtain an extension of time within which the following lines may be constructed: (1) Washago to Kincardine; (2) Arnprior to Gananoque; (3) Pembroke to Port Hope or Cobourg; (4) Pickering tp. to Owen Sound; (5) from near Toronto to Windsor, with a branch from London to St. Thomas and Sarnia, and a branch or loop north of Toronto; (6) Niagara River to Goderich; (7) from between Dunnville and Port Dover to Owen Sound or Meaford; (8) Washago to Midland; (9) Hawkesbury to the Ottawa-Toronto line in Leeds or Lanark; (10) Parry Sound to North Bay; (11) the line authorized in 1902 from French River to Batchawana Bay; and (12) the line authorized in 1905 from Toronto to Ottawa.

The sleigh road which the company is constructing from Sellwood Jct., on its line near Sudbury, Ont., into the Gowganda country, is expected to be completed at an early date. It was reported, Jan. 11, that 12 miles of the road had been completed and that it was expected to complete 53 miles by Jan. 31. The work of making the sleigh road available for waggon traffic is expected to be completed by spring, and traffic will be carried on by means of waggons until the steel is laid for the railway. The railway line will follow the sleigh road as nearly as possible. It is stated that there have been some 3,000 claims staked out, and that there is a population of about 4,000 people in the district. These are at present being supplied largely from Sudbury, from which point the C.N.O.R. is operating by sleighs, a passenger, freight and express service.

In a recent interview, D. D. Mann, Vice-President C.N.R., stated that the next project which was absolutely essential to the carrying out of the company's programme was the construction of the line between Sudbury and Port Arthur, Ont. The company had to get assistance from the Government for this and he added: "We shall get after it as soon as Parliament meets." W. H. Moore, Secretary of the company, was in Ottawa recently, and it was said that his visit had to do with the obtaining of a subsidy for the construction of this line.

W. Mackenzie, President, in an interview at Montreal, Jan. 15, said the company was going to construct the line in the near future. The company's engineers had already permanently located a good portion of the route from Port Arthur eastward. A first-class route had been found, its location being between the C.P.R. and the National Transcontinental Ry. At some points the route would be nearer the N.T. Ry. than the C.P.R. We have reason to believe that about 37 miles of line will be built this year, from Sellwood Jct. 3 miles east of the present terminus at Sellwood westerly.

Canadian Northern Ry.—The Mayor of Port Arthur, Ont., was in Winnipeg, Jan. 1, in conference with W. Mackenzie, and other officers and officials of the C.N.R., discussing matters affecting the railway interests of the city. It was stated that as a result of the conference an agreement had been signed for the transfer of a piece of the city property to the company upon which is to be built an hotel at a cost of $250,000. It is said the erection of this hotel is to be started early in the season. The company is reported to have also agreed to make considerable extensions of its terminal tracks, and to do a good deal in the way of dredging in the harbor. To increase the freight storage capacity, a shed is being built over the steel dock. A new dock is to be built just south of the present one; the work is to be started as soon as possible, and it is expected to have it completed for the summer trade.

Negotiations are said to be in progress with the Dominion Government for the purchase of the mounted police barracks in Calgary, Alta., which it is proposed to use as a union station by the C.N.R. and the G.T. Pacific Ry.

The Edmonton Board of Trade is pressing the company to extend the Unionville branch to Athabasca Landing, Alta., and it is expected that work will be put in hand during the coming season. (Jan., pg. 27.)

Edmonton and Slave Lake Ry.—Application will be made to the Dominion Parliament for an Act extending the time within which the company may complete and put into operation the lines which it was authorized to construct by sec. 8, chap. 66, of the statutes of 1899. G. F. Macdonnell, Toronto, is solicitor for the applicants. (Sept., 1907, pg. 663.)

C.P.R. Industrial Department.

F. W. Peters, Assistant to the Second Vice-President, C.P.R., Winnipeg, has issued the following circular;

FORT GARRY STATION, WINNIPEG

Now being erected by the Canadian Northern Ry. for joint use of Canadian Northern Ry. and Grand Trunk Pacific Ry.

"This company, with a view to encouraging the development of the cities, towns and villages along its lines in the West, and supplying their needs, has established an Industrial Department. Enquiries are constantly coming in through the company's various departments from manufacturers, importers, wholesale merchants and individuals in Eastern Canada and elsewhere, as to the openings in the West for manufactories, wholesale and retail houses, etc. Many of the new, as well as the older established points along our main line and branches throughout the West, are desirous of securing industries which will supply their needs and assist in their growth and prosperity. Our desire is, therefore, to obtain from all stations along our Western lines full information as to their requirements and the attractions their particular localities present to settlement, as well as to manufactories, jobbing or any industry that will assist in the development of our great west and bring a profitable return for investment. Secretaries of boards of trade are invited to correspond freely with the undersigned and furnish all particulars possible as outlined above, and manufacturers or intending investors are also asked to communicate with me if they desire any information. Such enquiries will receive the most careful and prompt attention, and it will be my endeavor to give information that will be reliable."

DOMINION IRON AND STEEL CO.

LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1909. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICE AND WORKS: **SYDNEY, CAPE BRETON, CANADA**

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

CANADIAN GOLD CAR HEATING & LIGHTING CO.

492 ST. PAUL STREET, MONTREAL, QUE. LIMITED

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished. Improved System of Acetylene Car Lighting.

Largest Manufacturers in the World of Car Heating Apparatus

Railway Rolling Stock Notes.

The Temiskaming and Northern Ontario Ry. is in the market for two switching locomotives.

The G.T. Pacific Ry., between Dec. 18 and Jan. 16, received 225 box cars, nos. 307925 to 308149.

The Temiskaming and Northern Ontario Ry. has ordered 4 first-class coaches to be rebuilt by the Preston Car and Coach Co., Preston, Ont.

The J. D. McArthur Co., contractors, Winnipeg, has ordered 50 flat cars, 30 tons capacity, from the Crossen Car. Mfg. Co., Cobourg, Ont.

The Canadian Northern Ry. has ordered 4 60-ft. combination baggage and mail cars, and 2 second-class cars from the Preston Car and Coach Co., Preston, Ont.

The Intercolonial Ry. has ordered 2 60-ft. baggage cars from the Preston Car and Coach Co., Preston, Ont., and 3 baggage cars from the Crossen Car Mfg. Co., Cobourg, Ont.

The Preston Car and Coach Co., Preston, Ont., is rebuilding one 70-ft. baggage, and one 70-ft. sleeping car for a theatrical touring company; has delivered one carload of platform sleighs to the Canadian Express Co., one station platform truck to the C.P.R., and is building 10 taximeter cabs for the Berna Commercial Motors and Taxicabs of Toronto.

The C.N.R., between Dec. 15, 1908, and Jan. 15, ordered the following rolling stock: 1,000 box cars (mentioned in our last issue), and 15 cabooses, from Rhodes, Curry and Co., Amherst, N.S.; 25 stock cars from the Crossen Car Mfg. Co., Cobourg, Ont.; 4 mail and express and 2 second-class coaches from the Preston Car and Coach Co., Preston, Ont.

The Dominion Bridge Co., Montreal, has ordered one 4-wheel locomotive from the Montreal Locomotive Works. Following are the chief dimensions:

Cylinders	13″ by 18″
Drivers, diar	36″
Boiler, type	straight top.
" pressure	160 lbs.
Firebox	40 3/16″ by 38⅜″
Wheels, drivers	69″ diar.
" trailers	44″ diar.
Boiler, type	Extended wagon top.
" pressure	200 lbs.
Firebox	94⅛″ by 69⅞″
Tubes, no. and diar	193–2¼″, 22–5″
" length	19′ 6″
Driving wheel base	13′ 0″
Engine wheel base	33′ 7″
Engine and tender	59′ 11¾″
Weight on drivers	135,000 lbs.
Total weight	214,200 lbs.
Tank capacity	5,000 imp. galls.
Superheater	Vaughan-Horsey.

Following are chief particulars of the 750 box cars which the Canada Car Co., Montreal, is building for the C.N.R.:

Length over end sills	36′ 9¾″
Width over side sills	9′ 0¾″
Height from top of sill to bottom of plate	7′ 10¾″
Length inside	35′ 10¾″
Width inside	8′ 6″
Height from top of floor to bottom of car line	8′ 0″
Outside of end sill to centre of bolster	5′ 0″
Centre to centre of cross ties	7′ 6″
Door opening	6′ 0″
Wheel base of truck	5′ 2″
Height from top of rail to centre of drawbar	2′ 10½″
Height from top of rail to top of brake mast	14′ 0″
Height from top of rail to top of running board	13′ 3″
Width over eaves	9′ 7⅜″
Body and truck bolsters	Simplex
Brake beams	Simplex

ONE OF THE STEAM LOCOMOTIVES USED IN THE ST. CLAIR TUNNEL PRIOR TO ITS ELECTRIFICATION

During Jan., the Montreal Locomotive Works shipped to St. Thomas, Ont., 3 locomotives for the Michigan Central Rd., and completed 10 locomotives for the Canadian Northern Ry.

The C.P.R., between Dec. 21 and Jan. 13, received the following additions to rolling stock: 109 box cars and 1 snowplow from its Angus, Montreal, shops, and 18 vans from its Farnham, Quebec, shops.

The G. T. Pacific Ry., in addition to the 25 eight-wheel locomotives ordered with the Montreal Locomotive Works, details of which are given, has ordered 25 mogul locomotives from the Canadian Locomotive Co., Kingston, Ont., a total of 50 locomotives for delivery this year.

The C.N.R., between Dec. 15 and Jan. 15, received the following additions to rolling stock: 11 consolidation locomotives, 7 of which were from the Canadian Locomotive Co., Kingston, Ont., and 2 snowplows from the Crossen Car Mfg. Co., Cobourg, Ont.

The C.P.R., between Dec. 21 and Jan. 13, placed orders for the following rolling stock: 70 box cars, 1 colonist car, 6 stock cars, 3 refrigerator freight cars, at its Angus, Montreal, shops; 3 vans at its Farnham, Que., shops, and 5 steel coal cars and 3 Hart-Otis ballast cars, with the Dominion Car and Foundry Co., Montreal.

Tubes, no. and diar	92–2″
" length	9′ 9″
Wheel base	6′ 3″
Weight	51,000 lbs.
Tank capacity	950 U.S. galls.

M. P. and J. T. Davis, railway contractors, Quebec, have ordered two 4-wheel locomotives from the Montreal Locomotive Works. Following are the chief particulars:

Cylinders	15″ by 24″
Drivers, diar	44″
Boiler, type	straight top.
" pressure	160 lbs.
Firebox	72″ by 33⅜″
Tubes, no. and diar	137–2″
" length	9′ 7″
Wheel base	7′ 0″
Weight	75,420 lbs.
Tank capacity	1,000 U.S. galls.

The G.T. Pacific Ry. has ordered 25 American type locomotives from the Montreal Locomotive Works. Following are the chief dimensions:

Cylinders	18″ by 24″
Drivers	69″ diar.
Boiler, type	Extended wagon top.
" pressure	200 lbs.
Firebox	95¾″ by 41⅞″
Tubes, no. and diar	210–2″
" length	11′ 2¾″
Driving wheel base	8′ 10″
Engine wheel base	23′ 8¼″
Engine and tender	50′ 11¾″
Weight on drivers	74,770 lbs.
Total weight	120,700 lbs.
Tank capacity	7,000 U.S. galls.

The C.P.R. has ordered 30 Pacific type locomotives from the Montreal Locomotive Works. Following are the chief dimensions:

Cylinders	21″ by 28″
Side bearings	Susemihl, roller
Couplers	Latrobe steel
Air brakes	Westinghouse
Journal boxes	McCord

The locomotives, nos. 1301 to 1304, used by the G.T.R. for the operation of the trains through the Sarnia tunnel, which have now been retired in favor of electric traction, and one of which is illustrated on this page, are of the 10-wheel type, 22 x 26 in., with 50½ in. drivers. Their general dimensions are as follows:

WEIGHT.—On drivers—42,150 lbs., 40,050 lbs., 32,400 lbs., 29,400 lbs., 29,100 lbs., on each pair of drivers from front to rear; total weight of locomotive, loaded, 173,000 lbs.; the engine being weighed with three gauges of water. Weight of tender loaded, 62,500 lbs.; total weight of locomotive and tender, 235,600 lbs.

LENGTH.—Wheel base of locomotive, 18 ft. 5 in.; wheel base of tender, 16 ft. 3 in.; total wheel base of locomotive and tender, 48 ft. 2 in. Total length of locomotive, 42 ft. 7½ in.; length of tender 19 ft. 11½ in.; total length of engine and tender, 62 ft. 7 in. Height, 14 ft. 9 in.; width of locomotive over all, 10 ft. 4 in.

BOILER.—Outside diameter, 74 in.; working pressure, 165 lbs. to the square inch.

HEATING SURFACE.—Firebox, 180 sq. ft.; tubes, 1,905.5 sq. ft.; total, 2,085.5 sq. ft. Grate area, 37.3 sq. ft.

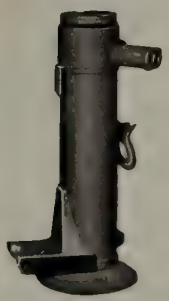
TENDER.—Capacity, 2,925 U.S. galls. of water.

The Minister of Railways stated, Jan. 5, that the reduction, on Jan 1, from 10 hours to eight hours, with a corresponding reduction of pay, in the Intercolonial Ry. shops, is merely temporary, and will probably not last more than a month or two.

H & E PATENT BALL-BEARING LIFTING JACKS

For Railway and Bridge Work, Contractors' and Builders' Use

Foot-Lift



For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed. Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

Square Base

Journal Jack

Plain

MANUFACTURED BY

H & E LIFTING JACK COMPANY, WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

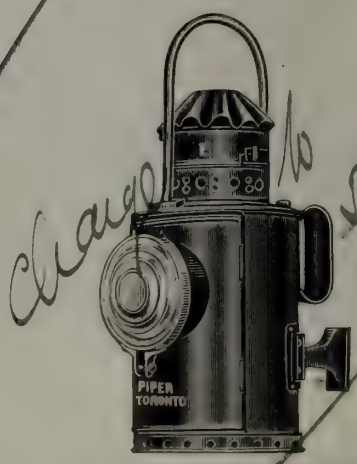
THE **N. L. PIPER RAILWAY SUPPLY CO.,** LIMITED

— TORONTO —

MANUFACTURERS OF

RAILWAY LAMPS ETC

(Registered 1902) CLASSIFICATION LAMP



(Registered 1902) ENGINE TRI-COLOR LAMP

(Registered 1902) MARKER LAMP

CANADIAN LOCOMOTIVE CO. LTD.,

KINGSTON, ONT.,

Builders of Simple and Compound **LOCOMOTIVES** Adapted to every variety of service.

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

PUBLICATION OFFICE,
157 Bay Street, Toronto, Canada.
Local and Long Distance Telephone, Main 3201

UNITED STATES REPRESENTATIVE
A. Fenton Walker
143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.
The Toronto Transportation Club.

SUBSCRIPTION PRICES, INCLUDING POSTAGE

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, FEBRUARY, 1909

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. J. H. McMaugh, Toronto, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, A. S. Hobson, Sherbrooke, Que.; MANAGER, J. E. Duval, 121 Board of Trade, Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E.J.Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. F. Chapman, Deseronto, Ont.; SEC.-TREAS., T. Marshall, Toronto.

OFFICIAL ORGAN.—THE RAILWAY & MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche. Office, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, L. R. Johnson, Montreal; SECRETARY, J. Powell, St. Lambert, Que.

MEETINGS at Windsor Hotel, Montreal, 1st Tuesday of each month, 8 p.m., except June, July and August

Canadian Street Railway Association.

PRESIDENT, J. E. Hutcheson, Ottawa; SEC.-TREAS., Acton Burrows, 157 Bay St., Toronto.

OFFICIAL ORGAN.—THE RAILWAY AND MARINE WORLD, Toronto.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal.

MEETINGS at 877 Dorchester St., Montreal, every alternate Thursday, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, R. J. Craig, Cobourg, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN.—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto.

MEETINGS at Rossin House, Toronto, 3rd Tuesday each month, except June, July and August.

Dominion Marine Association.

PRESIDENT, A. A. Wright, Toronto; SEC.-TREAS., F. King, Kingston, Ont.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto SECRETARY, R. B. Wolsey, C.E., Toronto. Rooms, 96 King St. West, Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee.

CHAIRMAN, A. A. Heard, Albany, N.Y.
SECRETARY, Jas. Morrison, Montreal.

Quebec Transportation Club.

PRESIDENT, E. A. Evans; SECRETARY, A. H. Davis, Box 324, Quebec.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

Alphabetical List of Advertisers.

	PAGE
Abbott, W.	146
Acme Railway Equipment Co.	94
Alexander Car Replacer Mfg. Co.	150
American Brake Shoe & Foundry Co.	108
American Car & Equipment Co.	154
American Hoist & Derrick Co.	94
American Specialty Co.	150
Babcock & Wilcox Ltd.	156
Banwell, Hoxie Wire Fence Co., Limited.	134
Beatty, M., & Sons, Ltd.	148
Belle City Malleable Iron Co.	154
Bowser, S. F., & Co., Limited.	110
Bradstreet Company	142
Brown Hoisting Machinery Co.	92
Burnham, Williams & Co.	124
Burrows,—Acton Burrows, Limited.	Cover 1
Butterfield & Co.	148
Canada Car Co., Ltd	92
Canadian Bridge Co., Ltd.	138
Canadian Bronze Co., Ltd.	154
Canadian Fairbanks Co., Ltd.	84
Canadian Gold Car Heating & Lighting Co., Ltd.,	114
Canadian Iron & Foundry Co., Ltd.	118
Canadian Locomotive Co., Ltd.	116
Canadian Northern Railway.	128
Canadian Office & School Furniture Co., Ltd.	154
Canadian Pacific Railway Land Department.	142
Canadian Railway Accident Insurance Co.	Cover 1
Canadian Ramapo Iron Works, Ltd.	140
Canadian Rand Co., Ltd.	126
Canadian Westinghouse Co., Ltd.	Cover 2
Cardwell Mfg. Co.	150
Chalfonte Hotel	136
Chicago Ry. Equipment Co.	124
Cleveland City Forge & Iron Co.	138
Cleve-Mor Engineering & Construction Co.	Cover 2
Clifton Hotel, Niagara Falls, Ont.	140
Coddington, W. H.	146
Coghlin, B. J., & Co.	142
Continental Iron Works	122
Crossen Car Mfg. Co., of Cobourg, Ltd.	120
Date, John.	146
Delaware and Hudson Co.	152
Dominion Bridge Co., Ltd.	144
Dominion Car & Foundry Co., Ltd.	Cover 4
Dominion Iron & Steel Co., Ltd.	114
Dominion Wire Rope Co., Ltd.	86
Doty Engine Works Co.	132
Dougal Varnish Co., Limited.	Cover 1
Drewry, E. L.	148
Drummond, McCall & Co.	110
Duner Co.	154
Edwards, O. M., Co.	106
Engineering News Book Dept.	128
Falls Hollow Staybolt Co.	148
Farlow Draft Gear Co.	126
Flannery Bolt Co.	108
Galena Signal Oil Co.	78
Galen Hall, Atlantic City, N.J.	136
Galt Malleable Iron Co.	146
Gardner, J. T.	150
Gartshore, J. J.	148
Gartshore-Thomson Pipe & Foundry Co., Ltd.	152
Goldschmidt Thermit Co.	118
Grand Trunk Railway	120
Greening, The B., Wire Co., Ltd.	142
H and E Lifting Jack Co	116
Hamilton Pattern Works	150
Hamilton Steel & Iron Co., Ltd.	98
Harrison Dust Guard Co.	148
Hart-Otis Car Co., Ltd.	104
Hayes Track Appliance Co.	120
Holden, N. J., Co.	122
Hopkins, F. H., & Co.	86
Hotchkiss, Blue & Co.	142
Hotel Cadillac, Detroit, Mich.	Cover 1
Hudson's Bay Company	114
Hunt, Robert W., & Co.	144
Hunter-Rose Co., Ltd.	154
Hutton, James, & Co.	146
Illinois Central Railroad	152
Imperial Bank of Canada	154
Intercolonial Railway	112
International Correspondence Schools	100
International Marine Signal Co.	132
International Mercantile Marine Co.	144
Jardine, A. B., & Co.	124
Jessop, Wm., & Sons, Ltd.	146
Kerr Engine Co., Ltd.	106
Knowlton, W. H.	154
Latrobe Steel & Coupler Co.	144
Lewis, Rice, & Sons, Ltd.	108
Lima Locomotive & Machine Co.	144
Lufkin Rule Co.	Cover 1
Mail Job Printing Co., Ltd.	154
McConway & Torley Co.	90
McCord & Co.	98
McGregor-Banwell Fence Co., Ltd.	126
Meaford Wheelbarrow Co.	134
Metcalf, John S., Co.	146
Modoc Soap Co.	150
Montreal Locomotive Works, Ltd.	80
Montreal Rolling Mills Co., Ltd.	130
Montreal Steel Works, Ltd.	90
Mussens Limited.	Cover 1 and 82
National Malleable Castings Co.	Cover 1
New Brunswick Wire Fence Co., Limited.	152
New Hotel Brevoort, Chicago, Ill.	110
Norton, A. O.	102
Ontario Wind Engine and Pump Co.	146
Orford Copper Co.	154
Ottawa Car Co. Ltd.	Cover 1
Owen Sound Wire Fence Co., Ltd.	140
Page Wire Fence Co., Limited.	138
Parry Sound Lumber Co., Ltd.	148
Phillips, Eugene F., Electrical Works, Ltd.	154
Piper, The Hiram L., Co., Ltd.	154
Piper, N. L., Railway Supply Co., Ltd.	116
Polson Iron Works, Ltd.	96
Porter, H. K., Co.	88
Positive Lock Washer Co.	154
Preston Car & Coach Co., Ltd.	154
Provincial Steel Co., Limited.	152
Pyke, J. W., & Co.	112
Pyle National Electric Headlight Co.	96
Rail Joint Co. of Canada, Ltd.	Cover 1 and 106
Rendle, A. Edgcumbe.	Cover 1
Rhodes, Curry & Co., Ltd.	100
Robb Engineering Co., Ltd.	102
Robertson Machinery Co.	154
Safety Car Heating & Lighting Co.	88
Saxby and Farmer, Ltd.	Cover 1
Sheriffs Mfg. Co.	150
Silliker Car Co., Limited.	104
Simplex Railway Appliance Co., Ltd.	Cover 4
Smart, James, Mfg. Co., Ltd.	—
Standard Coupler Co.	124
Standard Explosives, Limited.	118
Standard Steel Works.	124
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold.	122
Thomas, J. Lewis.	117
Toronto Bolt and Forging Co., Ltd.	130
Toronto Pressed Steel Co., Ltd.	128
Vulcan Iron Works.	Cover 2
Wallace Supply Co.	150
Washburn Steel Castings & Coupler Co.	112
Waugh Draft Gear Co.	Cover 1
Wire & Cable Co.	Cover 1
Wolfe Brush Co.	148

J. LEWIS THOMAS
C.E., F.A.I.C.
CONSULTING ENGINEER
43 Bank of Toronto Chambers
LONDON, ONTARIO
Electric and Steam Railways
PROPOSITIONS INVESTIGATED AND REPORTED ON

LOCOMOTIVE CYLINDER REPAIRED WITH THERMIT

WELDING

Locomotive Frames, Connecting Rods, Driving Wheel Spokes, and Mud Rings

By the THERMIT PROCESS, welds may be made to all kinds of steel sections without removing the broken part. Locomotive frames and mud rings may be welded without dismantling the engine. Stern-posts and rudder frames of steamships may be quickly repaired without removing them from the ship. Furthermore, all this may be accomplished in one or two days, depending on conditions.

Write for descriptive pamphlet No. 18-N and for "REACTIONS," the Thermit Quarterly.

Goldschmidt Thermit Co.
103 Richmond St. W., Toronto, Ont.

General Offices: 90 West St., New York.
Pacific Coast Branch: 432-6 Folsom St., San Francisco.

THE CANADA IRON CORPORATION

Successors to: LIMITED

CANADIAN IRON & FOUNDRY CO., LIMITED
CANADA IRON FURNACE CO., LIMITED
ANNAPOLIS IRON CO., LIMITED
JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE — MONTREAL, P.Q.,

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and Gas Pipe, Specials, Valves, Hydrants, Etc. Castings of All Kinds

W. T. RODDEN, Managing Director **J. F. JOHNSON, Secretary-Treasurer**
GEO. C. TUNSTALL, Jr., Sales Manager

STANDARD EXPLOSIVES

LIMITED

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL
Works: L'ISLE PERROT, NEAR VAUDREUIL, P.Q.

MAINLY ABOUT PEOPLE.

J. W. Leonard, General Manager C.P.R. Eastern Lines, who has been ill, is recuperating at Preston Springs, Ont.

J. O'Connor, an old G.T.R. employe at Montreal and Brockville, Ont., died at the latter place Dec. 28, 1908, aged 65.

J. B. Jones, who was engaged on C.P.R. surveys in Manitoba in the company's early days, died in Winnipeg Dec. 25, 1908.

M. Donohue, an employe of the old Northern Ry. prior to its absorption by the G.T.R., died in Toronto recently, aged 80.

R. K. Sperling, of London, Eng., a director of the B.C. Electric Ry. Co., and a brother of R. H. Sperling, its General Manager, died recently.

Mrs. Wm. Mackenzie, wife of the President C.N.R., has been elected Vice-President of the St. Elizabeth Visiting Nurses' Association Toronto.

J. J. Hill, Chairman of the Board, Great Northern Ry., has contributed $1,000 towards the building fund of the Friends' College at Newmarket, Ont.

D. D. Mann, Vice-President Canadian Northern Ry., recently presented to each official of the company, a set of three volumes of Queen Victoria's Letters.

Miss Elizabeth Vickers, who died at Dublin, Ireland, recently, aged 89, was the only sister of the late J. J. Vickers, of Toronto, founder of Vickers' Express.

Geo. Jackson, who died in Toronto Jan. 6, aged 74, was father of H. A. Jackson, Assistant General Freight and Passenger Agent, Great Northern Ry., at Helena, Mont.

Robert Tinsley, who has been appointed Manager Pullman Car Works, Chicago, Ill., is a son of E. Tinsley, Superintendent Ontario Game and Fisheries Department.

Lord Strathcona has subscribed $5,000, and Lord Mount Stephen $2,500, to the Mansion House Fund, London, Eng., for the sufferers by the recent earthquake at Messina, Italy.

Winnipeg press reports mention Andrew Strang, a merchant of that city, as a likely appointee to the Board of Railway Commissioners to fill the vacancy caused by T. Greenway's death.

J. E. Quick, General Baggage Agent G.T.R., left Toronto, Jan. 20, for St. Augustine, Fla., to attend the meetings of the Association of General Baggage Agents of America, of which he is Secretary.

G. Johnson, C.E., a native of Belleville, Ont., who has for some years been engaged on railway construction work in China, has been appointed to take charge of a large irrigation project in Mexico.

A fire occurred at the residence of S. Higgins, General Manager New York, New Haven and Hartford Rd., New Haven, Conn., Jan. 13, in which his mother lost her life, and other members of the family were injured.

Judge Gunn, of Ottawa, has been appointed Chairman, and J. L. Whiting, K.C., and J. G. O'Donoghue, members of a board of conciliation to deal with a dispute between the Kingston and Pembroke Ry. and its telegraphers.

F. Nicholls, Vice-President Toronto Ry., and associated with other transportation interests, had a narrow escape from a serious accident in Toronto, Jan. 7, when his automobile was struck by a street car and badly damaged.

Dr. W. J. McGuigan, who died Dec. 25, 1908, at Vancouver, B.C., was from 1885 to the completion of the construction of the transcontinental line, C.P.R. Medical Superintendent on construction work within the province.

T. S. Acheson, General Grain Agent C.P.R., Central and Western Divisions, was, from 1895 to 1904, Agent; 1904 to 1905, Supervisor of Agencies; 1905 to Jan. 1, 1909, Travelling Freight Agent Central Division C.P.R., Winnipeg.

B. W. Folger, General Manager Niagara Navigation Co., Toronto, with Mrs. Folger and family, left Toronto Jan. 3, and sailed from New York for Europe. They will spend some time in Munich, Bavaria, probably returning in March.

Judson Harmon, who was receiver of the Pere Marquette Rd., as well as of the Cincinnati, Hamilton and Dayton Rd., when they were operated jointly, and who still retains the latter office, has been elected Governor of the State of Ohio.

D. Sutherland, General Agent C.P.R., Prince Rupert, B.C., was prior to entering C.P.R. service, General Freight Agent Reid Newfoundland Co., St. John's, Nfld., and until Jan. 1, was Travelling Freight Agent C.P.R., Vancouver, B.C.

J. H. Gordon, Travelling Freight Agent Eastern Manitoba, C.P.R., Winnipeg, has been in the company's service eight years, during which time he has been in the operating and traffic departments, and was, until Jan. 1, Soliciting Freight Agent at Winnipeg.

Imperial Service Medals have been awarded to the following Government railway employes for long and meritorious service: J. C. Clarke, section foreman; A. McCabe, engineman; J. G. McDonald, engineman, and E. Shaw, crossing watchman, all of the Intercolonial Ry.

Miss L. Begy, daughter of G. A. Begy, St. Catharines, Ont., who was connected with the construction of the Nicola, Kamloops and Similkameen Ry., and is interested in other railway projects in Canada, was married Jan. 11 to F. Ritchie, Brockville, Ont.

C. Graham Drinkwater, heretofore Manager railway and contractors' department, Canadian Fairbanks Co., Montreal, has been appointed Manager of the company's Montreal house, vice C. M. Rudel, resigned. Mr. Drinkwater is a son of the late C. Drinkwater, Secretary C.P.R.

F. A. Miller, claims clerk, G.T.R., Montreal, was presented, Jan. 15, by the clerical staff at the Montreal freight terminals, with a gold watch and chain, on his retirement under the provisions of the Pension Fund. He was in the G.T.R. employ for 36 years and will in future reside in England.

In a list of railway stockholders of the U.S., recently published in New York, Lord Strathcona appears as the holder of $4,000,000 of Northern Pacific and $2,880,000 of Great Northern stock, and his daughter, Hon. Mrs. Howard, as owner of $1,990,000 of Northern Pacific and $1,700,000 of Great Northern stock.

Additional subscriptions recently received for the Hammond Endowment Fund, inaugurated by H. C. Hammond, President Northern Navigation Co., for the Toronto Free Hospital for Consumptives, include: S. H. Blake, K.C., $300; D. D. Mann, $200; G. T. Blackstock, K.C., $100; Z. A. Lash, K.C., $100; Angus Sinclair, $50.

Mrs. J. L. Englehart, wife of the Chairman of the Temiskaming and Northern Ontario Ry. Commission, died at Toronto, Dec. 31, after a somewhat lengthy illness. The funeral, which took place at Petrolea, Ont., Jan. 4, was attended by F. Dane, one of the Commissioners; A. J. McGee, Secretary-Treasurer; J. H. Black, Superintendent, as representing the railway.

I. Randolph, Chicago, Ill., who was retained by the City of Toronto as an expert in the recent application to the Board of Railway Commissioners for an order to compel the railway companies to construct a viaduct across the city, has been appointed one of the six engineers who have been instructed to proceed to Panama to prepare a report on the progress of the canal project.

In our issue of October last, reference was made to the death at Red Deer, Alta., of Jos. Wallace, formerly General Agent G.T.R., Hamilton, Ont., from which position he retired in May, 1905. The item was based on information which we believed to be authentic, but we have since learned that it was incorrect, and we very much regret having published it. We were recently advised that Mr. Wallace was still living at Red Deer, and in good health.

W. H. Estano, who has been appointed acting Traffic Auditor, Intercolonial Ry., Moncton, N.B., was born at Halifax, N.S., Sept. 29, 1874; educated at Moncton, N.B., and entered the I.C.R. Traffic Auditor's office, Moncton, Oct., 1892, occupying various positions, these including those of clerk in charge of interline, passenger, parlor and sleeping cars; statistical and outstanding accounts, travelling auditor, etc. He was appointed chief clerk, Accounting Department, Mar. 1, 1907, which position he held until Jan. 1, 1909.

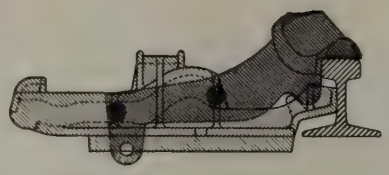
The Montreal Transportation Co.'s directors, at a meeting Jan. 7, passed the following resolution: "That the directors of this company wish to place on record the great loss they have sustained through the death of J. A. Cuttle, the Managing Director. He had been in the employ of the company for 34 years, and his ability, foresight, and single-minded devotion to the company, and its interests, have done much for its advancement, and his sudden death is not only a great loss to this company, but to the business interests of Montreal."

John Halstead, General Freight Agent C.P.R., Calgary, Alta., entered C.P.R. service Jan. 7, 1892, and was to Sept., 1901, in the Local and General Freight office, Toronto; Sept., 1901, to April, 1902, chief clerk General Freight office, Winnipeg, and during the latter portion of that time he was Travelling Freight Agent there; 1902 to 1906, chief clerk General Freight office, Vancouver, B.C., and during the latter part of 1906 was General Agent Freight and Passenger Department, Tacoma, Wash.; 1906 to Jan. 1, 1909, Assistant General Freight Agent, Calgary, Alta.

F. L. Hay, whose appointment as Superintendent Sleeping and Dining Cars and News Service, district 5, Pacific Division, C.P.R., at Vancouver, B.C., was announced in our Jan. issue, was born at Portland, Ore., Jan. 16, 1868, and entered the Pullman Co.'s service at Chicago in 1887, where he remained until July, 1895, since when he has been till July, 1908, in the Dining Car Dept., Pennsylvania Rd., Jersey City, for the last eight years as Assistant Superintendent of Dining Cars and Restaurants; July to Dec., 1908, acting Superintendent, Sleeping and Dining Cars and News Service, C.P.R., Vancouver, B.C.

G. H. Middleton, C.E., who died at Edinburgh, Scotland, Dec. 17, 1908, was engaged in 1871 in construction work on the St. Lawrence district of the Intercolonial Ry., and subsequently in C.P.R. construction north of Lake Superior. On the completion of this latter work he entered into partnership with the late Sir Robert G. Reid, in connection with the railways in Newfoundland. For several years he has been engaged in railway work in South Africa. He married a daughter of the late S. Hazlewood, some time District Engineer Intercolonial Ry., one son being on the C.P.R. engineering staff at Lethbridge, Alta.,

J. W. Donald, formerly District Passenger Agent, Chicago and Alton Rd., Detroit, Mich., whose death was mentioned in our last issue, was born at St. John, N.B., Dec. 22, 1857, entered railway service in 1877, and was to 1881 Travelling Passenger



Simplicity in a track device is a prime requirement. As parts are added troubles multiply. Two pieces are all that go to make up a complete Hayes Derail of the pipe-operated models. The guide box is readily made a fixed part of the track; the derail block moves back and forth with little effort and with the usual switch stroke. When on the rail it is firmly locked in position by the seats in the front end of the guide box.

The derail block clears its path of snow when moving in either direction. This feature makes the Hayes Derail preëminent for economy in winter.

We make prompt shipments from our works at Hamilton, Ontario.

Address: Hayes Track Appliance Co., Geneva, N.Y.

CROSSEN CAR MFG. COMPANY
OF COBOURG, LIMITED

MODERN HIGH-CLASS

ROLLING STOCK

Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows

Car Castings, Forgings and Repair Parts

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON [via Boston & Maine R.R. and Cent. Vermont Ry.] MONTREAL, TORONTO and CHICAGO.
THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.
Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, General Passenger and Ticket Agent, MONTREAL, QUE.

Agent C.P.R., St. John, N.B., and at Bangor, Me., 1881 to 1887, Travelling Passenger Agent, Atcheson, Topeka and Santa Fe Rd., Boston, Mass.; 1887 to 1901, General Agent Passenger Department, Chicago and Alton Rd., Boston, Mass.; 1901 to 1904, District Passenger Agent, same road, Buffalo, N.Y.; 1904 to Nov. 20, 1908, District Passenger Agent, in charge of Michigan and Ontario territory, same road, Detroit, Mich.

G. D. Robinson, whose appointment as Assistant Export and Import Freight Agent C.P.R., Toronto, was announced in our last issue, was born at St. John, N.B., Dec. 7, 1877, and entered C.P.R. service Nov. 25, 1895, since when he has been, to Dec., 1901, in the General Freight Agent's office, St. John, N.B.,; Dec., 1901, to Aug., 1903, Travelling Freight Agent, covering territory east of St. John in New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland; Aug., 1903, to Aug., 1907, chief clerk, General Freight Agent's office, St. John, N.B.; Aug., 1907, to Jan. 1, 1909, chief clerk, General Foreign Freight Agent's office, Montreal.

J. K. Savage, whose appointment as Chief Train Dispatcher, District 3, Central Division C.P.R., Brandon, Man., was announced in our Jan. issue, was born at Forreston. Ill., Oct. 5, 1876. He entered the C.P.R. service Mar. 1, 1890, as station agent at South Stukely, Que., since when he has been successively to May 1, 1894, station agent and operator at various stations in Quebec Province; May 1, 1894, to May 24, 1897, train dispatcher, Farnham, Que.; Jan. to Sept., 1904, Night Chief Train Dispatcher, Toronto; Sept., 1904, to Sept., 1906, Inspector Train Dispatching Western Lines, Winnipeg; Sept., 1906, to Mar. 1, 1907, Chief Dispatcher, District 1, Central Division, Kenora, Ont.; Mar. 1, 1907, to Dec., 1908, Trainmaster District 3, Central Division, Brandon, Man.

H. C. Hammond, President Northern Navigation Co., who has been suffering from cancer of the throat since June last, died in Toronto Jan. 26. He was born at Grafton, Ont., Oct. 19, 1844; educated at Cobourg Grammar School and Upper Canada College, and began his business career in the Cobourg branch of the Bank of Montreal, passing to the Quebec Bank, and subsequently to the Bank of Hamilton. He entered into partnership with E. B. Osler in Toronto in 1872, and took a leading part in many important commercial and financial projects. In 1904 he was elected President Northern Navigation Co., at a time of exceptional difficulty in that company's career, and the strong position it now occupies is due in a great measure to the energy of the late President.

W. M. Ansley, whose appointment as Trainmaster, district 3, Central Division, C.P.R., Brandon, Man., was announced in our Jan. issue, was born June 15, 1873, at Flesherton, Ont. He entered railway service April 6, 1897, as wiper on the Canada Atlantic Ry., at Depot Harbor, and was subsequently transferred to the mechanical department until Dec., 1900, when he engaged with the Algoma Central and Hudson Bay Ry., Sault Ste. Marie, Ont., and later left railway service. He re-entered it in 1901, since when he has been: Aug. 4, 1901, to Mar. 17, 1903, brakeman, C.P.R., Kenora, Ont.; Mar. 17, 1903, to Aug. 19, 1907, conductor, same road; Aug. 19 to Nov. 3, 1907, Assistant Trainmaster, same road, Brandon, Man.; Nov. 3, 1907, to completion of construction, Trainmaster, Sheho extension, same road, Saskatoon, Sask.; from then to Oct. 1, 1908, Trainmaster, district 5, Central Division, Saskatoon, Sask.; Oct. 1 to Dec. 1, 1908, Trainmaster district 4, Central Division, Souris, Man.

The Winnipeg Tribune, under the heading "Ten Years Hence," recently published the following: "The report that Sir George J. Bury has accepted the presidency of the Winnipeg, Hudson's Bay and Liverpool Aerial Navigation Co., is premature. Sir George explains that the offer from a monetary point of view was extremely flattering, but the condition that obliged him to demur was that the president should sit in the stern of the air train and steer the thing across the Atlantic on the initial trip. While he was fond of sea bathing at Atlantic City, Old Orchard, or Pawm Beach, providing the conditions and company were agreeable, he did not fancy a dip among the icebergs in the northern inland sea, or along the Labrador coast. He had been reading up the history of northern navigation from Sir Henry Hudson's voyage, down on past Sir John Franklyn's expedition, and those which went out to find him, and Sir George fancied that, all things considered, he would quietly and unostentatiously remain with horizontal navigation as near to terra firma as possible."

Shipment of Long Materials and Stones.

The Board of Railway Commissioners has sent out the following draft of an order which it proposes to issue, stating that the matter will be taken up at the sittings in Ottawa, April 6:

Whereas the attention of the Board has been called to a number of accidents, in some instances fatal, caused by defects in the flat and open cars of railway companies, used for shipments of long materials and stone, not affording proper safeguards for the handling of such traffic. Upon the report and recommendation of its inspectors, and in pursuance of the powers conferred upon it by secs. 30 and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf, it is ordered that every railway company subject to the legislative authority of the Parliament of Canada operating a railway by steam power, adopt the following rules and regulations to govern the loading of lumber, logs and stone on flat or open cars, namely:

1. That cars be so loaded that one handbrake shall always be accessible and operative; and that there be at least 6 inches between the brake wheel and the lading.

2. That all stakes, clamping pieces, bearing pieces, and braces be sound, straight grained lumber (hardwood preferred), and free from knots that would materially impair their strength. (Hemlock must never be used.) Care must be taken to keep the stakes from spreading at the top while cars are being loaded, and in no case must the load exceed the width of the car. Unless otherwise specified, stakes must not be less than 4 ins. wide by 5 ins. deep, or saplings 5 ins. in diameter at the centre, tapered at the ends to fit accurately, extend through and completely fill the stake pockets, which should not be less than 3½ ins. wide by 5 ins. deep.

3. That opposite stakes be always fastened together. When the specified fastening is by means of boards, there must be two boards on opposite sides of every pair of stakes, each board not less than 1 by 6 ins. in dimension, unless otherwise specified, and fastened at each end by not less than 3 ten-penny wire nails. (Hemlock must never be used.) When the specified fastening is by means of wire, the wire used, unless otherwise specified, must be equal to 6 strands or three wrappings of no. 8 telegraph wire (or wire of equal strength), and the wire must be secured, to prevent it from slipping.

4. (a) That all large flagging block, or breakwater stone, with approximately straight face, loaded on flat or open cars, be placed on strips spaced 18 ins. apart, placed crosswise on the car, and of sufficient thickness to keep the stone clear of the car floor—cars so loaded to be provided with hardwood stakes or cleats, to prevent the stone from shifting; (b) that all large block or breakwater stones resting on uneven face be wedged to prevent them from rocking, and that cars so loaded be provided with hardwood stakes or cleats, to prevent end and side shifting; (c) and that when small-sized stone, such as rip rap, spawls, paving blocks, etc., is loaded on flat or open cars, such cars be provided with side and end boards securely staked and fastened, that is to say, the boards and stakes are to be high enough and strong enough to carry the load safely, and not allow any of it to fall from the car during transit or switching, the side and end boards 10, 20, or 30 ins. in height, as the load may require, to be securely fastened to the stakes by the use of clamps or nails so that the ends and sides of the car shall be securely closed.

5. That if the load on a car shifts in transit, the train crew shall see that it is readjusted in accordance with this order before the same is allowed to proceed.

6. That shippers and the railway companies and their operators and employes shall see that all open and flat cars are loaded, and the loads protected in accordance with the terms of this order.

7. That every such railway company shall be liable to a penalty not exceeding $50 for every failure to comply with the foregoing regulations.

8. That every employe of such railway company and every shipper shall be liable to a penalty of not exceeding $25 for every failure to comply with the foregoing regulations.

Railway Interests in Parliament.

The speech of the Governor-General at the opening of the Dominion Parliament, Jan. 20, contained the following references to railway interests:

"The rapid settlement of the new provinces calls for new lines of transportation. The construction of the Transcontinental Railway has been vigorously pressed forward during the last year. The line was open for the carrying of the crops from Winnipeg to the Battle River, a distance of 675 miles.

"Exploratory surveys for a railway from the western wheat fields to Hudson Bay are being pushed energetically. Four parties have been at work since August last. Upon the report it will be possible to reach a decision as to both the route to be followed and the approximate cost. The provision of the Dominion Lands Act of last session for the sale of pre-emptions and purchased homesteads has created a new source of revenue that will be sufficient to bear the cost of the railway to Hudson Bay without burdening the ordinary revenue. From Sept. 1, when the Act came into force, until Jan. 1, sales of pre-emptions and purchased homesteads amounted to over two million acres, all subject to homestead rules.

"In pursuance of an announcement made during the concluding session of last Parliament, a commission was appointed to examine various lines of railway connected with the Intercolonial Ry., and which might become valuable feeders thereto. The report of this commission has been received and will be placed before you."

Canadian Lake Line.—The following appointments have been made: W. Askin, formerly General Agent, Montreal and Lake Superior Line, Montreal, to be Western Agent at Winnipeg, vice J. McLerie, resigned. W. J. Rochford, Travelling Freight Agent for Western Ontario, with headquarters at Windsor, Ont. The Oceanic Transit Co., General European Agent, London, Eng. The Traffic Manager, H. A. Young, has removed from the wharf office at the foot of York St., Toronto, to 18 Wellington St. East, where the offices of the Canadian Lake and Ocean Navigation Co. and the Canadian Lake Transportation Co. are now located.

FARNLEY STAYBOLT IRON

HIGHEST GRADE OF IRON FOR STAY-BOLTS, RIVETS AND MINING PURPOSES

All sizes carried in stock in Montreal and Winnipeg

Write us for prices, samples and tests.

TAYLOR & ARNOLD

c/o W. E. SKINNER, LIMITED
SOMERSET BLOCK, WINNIPEG, MAN.

180 St. James St., MONTREAL

MORISON Suspension Furnaces

The universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine —Boilers—

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

MANUFACTURED BY

THE CONTINENTAL IRON WORKS,

WEST AND CALYER STS., BOROUGH OF BROOKLYN. Near 10th and 23rd Street Ferries.

NEW YORK

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

Railroad Contractors!!!

Do you require a Steam Shovel for railroad ditching, sloping, road building, digging irrigation ditches, removing landslides, etc.? If so, we have just what you want in our VULCAN "GIANT" REVOLVING SHOVEL, made in four sizes, viz: No. 0, No. 1 Special, No. 1 Standard and No. 2. This type of shovel has many advantages over the ordinary steam shovel for the work above mentioned, full particulars of which are given in illustrated pamphlet which we will be pleased to send you on receipt of your request. We can also give very close quotations on Dump Cars and "Dinkey" Locomotives.

N. J. HOLDEN CO., LIMITED

42 York St., Toronto **302 St. James St., Montreal**

National Transcontinental Railway.

H. J. Mackenzie, divisional engineer for the first 40 miles of the main line easterly from Superior Junction, recently stated in Winnipeg, that the contractors on several portions of District F, were busily engaged in taking in their supplies from various points on the G.T. Pacific Ry.'s Lake Superior Branch, toting roads having been cleared for this purpose. The principal route used is from Waco. On the contract easterly from Superior Junction, 138 miles, the work is in the hands of O'Brien, Fowler & McDougall, who have about 1,000 men at work upon the first 50 miles. About 20 miles of bush clearing had been completed at the end of 1908, and some 16 miles of grading was being progressed with. There was a good deal of rock cutting along the 50 miles, and work will be proceeding on all the cuts throughout the winter.

S. R. Poulin, Engineer of District F, on his recent visit to Ottawa, stated that the Commissioners were determined to leave no stone unturned to have the track laid from Winnipeg to Superior Junction in time to move the western crop of 1909.

GRAND TRUNK PACIFIC RY.

An official statement has been issued by the company showing the total mileage of the company's line, the mileage of track laid in 1908, the mileage under contract, and the mileage surveyed, but for which contracts have not been let. This statement shows that on Jan. 1, 1908, the company had laid track on 418.3 miles of line, and that on Dec. 31, track had been laid on 878.8 miles, the mileage laid in 1908 therefore being 460.5 miles. This was distributed as follows:

	Miles.
Ont., mileage 99.6 to mileage 188.8	89.2
Man., Winnipeg to mileage 45	45.0
Sask., mileage 312 to mileage 414.9	102.9
Sask., mileage 466.6 to mileage 627.1	160.5
Alta., mileage 627.1 to mileage 685.0	57.9
Alta., mileage 786.6 to mileage 791.6	5.0
	460.5

The new line upon which construction was proceeded with or completed during the year includes the following distances: Winnipeg to mileage 45; mileage 312 to 414.9, a distance of 102.9 miles; mileage 466.6 to 916, a distance of 449.4 miles, of which the last 231 miles was placed under contract in 1908; mileage 1655 to 1755, a distance of 100 miles; Lake Superior branch, mileage 99.6 to 188.8, a distance of 89.2 miles; and Pacific Northern and Omineca Ry., from Kitimat, B.C., to mileage 53.7. The contractors now at work on the line are Foley, Welch and Stewart, their headquarters being Stoney Plains, Alta., and Prince Rupert, B.C. The company has had under survey during 1908, mileage 916 to 1655, a distance of 739 miles; of which the 609 miles from mileage 1045 was still marked as being under survey Dec. 31, 1908.

The Ontario Railway and Municipal Board, Jan. 5, gave a certificate to the company for presentation to the Provincial Treasurer, to enable it to obtain the bonus of $2,000 a mile and 3,000 acres of land granted by the Ontario Legislature towards the construction of the line. The certificate given covers the first 122 miles out of Fort William. It was anticipated that the town of Port Arthur would have opposed the granting of the certificate, on the ground that that city's interests were being neglected in the laying out of the terminals at the head of the lakes. An understanding, however, had been reached and the Board received a telegram, Jan. 5, to the effect that all opposition had been withdrawn.

Application will be made at the current session of the Dominion Parliament by the C.P.R. and the G.T.P.R. companies for an act ratifying and confirming an agreement, dated Dec. 1, 1908, between the two companies, respecting joint facilities at Fort William, Ont.

With the completion of the bridge across the Battle River, 675 miles westerly from Winnipeg, tracklaying was resumed in the direction of Edmonton. The whole of the grading between Battle River and Edmonton, Alta., has been completed, the last link required to enable tracklaying to be rushed through without a break being forged Dec. 29, when the big bridge at Clover Bar was finished. This bridge has an aggregate length of 663 ft., and consists of 19 spans, varying from 40 to 225 ft. in length, and is 136½ ft. above low water level. The substructure is of concrete, and the spans of steel. It is expected that the track will be laid into Edmonton, and the line opened for traffic early in the summer.

J. W. Stewart, of Foley, Welch and Stewart, stated Jan. 12, that the firm's contract for the grading of the G.T.P. Ry., from Edmonton to the Pembina River, 125 miles westerly, had been completed, and the line was ready for tracklaying.

With regard to the construction on the line easterly from Prince Rupert, J. W. Stewart, of Foley, Welch & Stewart, who have the contract for the first 100 miles, stated in Montreal, Jan. 11, that the grading upon this distance was expected to be completed by Sept. 1, and that tracklaying would probably be started at Prince Rupert in June. All the camps were accessible from the Skeena River, and when he came out at the end of Dec., there were 3,500 men at work and very satisfactory progress was being made.

The railway ferry barge Georgian, the deck of which is laid with three tracks, recently made a trip from New Westminster to Prince Rupert, carrying a load of equipment, including locomotives, dump and flat cars, steam shovels, etc. The locomotives and cars were landed at Prince Rupert Dec. 28.

G.T.P.R. BRANCH LINES.

The statement was made in Edmonton, Alta., Jan. 18, on the authority of D'Arcy Tate, Assistant Solicitor G.T.P.R., that the company would have a route into Calgary before the end of next season. The intention of the company is to construct a line from Wainwright to Calgary, and then on to Coutts, Alta., 330 miles. Work will be started as soon as spring opens and will be pushed through to completion. (See also Saskatchewan-Regina Railways.)

Pacific Northern and Omineca Ry.—Application will be made to the British Columbia Legislature for an act giving the company power to construct a railway from the junction of the Skeena and Copper Rivers to the junction of the Bulkley and Telkwa Rivers, or that vicinity, and to amend the company's act of 1905, by extending the time for the completion of the lines then authorized to be constructed to June 26, 1911. Bodwell & Lawson, Victoria, B.C., are solicitors for the company.

Canadian Ticket Agents' Association.—At a meeting of the Executive Committee in Toronto, Jan. 19, W. Bunton, G.T.R., Peterboro, Ont., was appointed to represent the Association at the next meeting of the American Association of General Passenger and Ticket Agents at Toledo, Ohio, Oct. 19. The C.T.A.A. will hold its next annual meeting at Buffalo, N.Y., Oct. 5 to 7.

The Ontario Government has under consideration plans for a new wing at the Parliament Buildings, Toronto. The new wing would provide accommodation for the Ontario Railway and Municipal Board, the Temiskaming and Northern Ontario Ry. Commission and the Hydro-Electric Commission, as well as some other departments.

Rate Meetings at Niagara Falls.

Three important rate meetings were held at the Clifton House, Niagara Falls, Ont., Jan. 19 to 21. The rate clerks of the lines comprising the Niagara Frontier Summer Rate Committee and the Great Lakes and St. Lawrence River Rate Committee met Jan. 19 and 20 to arrange the details of rates for the current year.

The International Water Lines Passenger Association met Jan. 20. In the absence of the President, C. A. Jaques, of Montreal, C. F. Bielman, of Detroit, Mich., presided.

R. C. Davis, G.P.A. Goodrich Line, on behalf of the Association presented a gavel for the retiring President, which was accepted by Melville Jaques in behalf of his father. The gavel was made of wood from the Allan Line s.s. Grampian, which was wrecked in the St. Lawrence, and which is said to be the first large vessel ever raised by compressed air. The wood was procured by T. Henry, G.T.M. Richelieu and Ontario Navigation Co.

The Tennessee River Navigation Co. and the Temagami Steamboat and Hotel Co. were admitted to membership; other applications are under consideration.

J. Berolzeim, formerly Manager Manitou S.S. Co., and J. F. Chapman, General Passenger Agent Deseronto Navigation Co., were elected honorary members.

The meeting declared itself heartily in favor of uniformity in prepaid ticket orders, but it was felt that until the various railway lines adopt a uniform order the Association could not take any united action and that the matter must be left for individual action on the part of each line.

The question of an improved style of dating stamp was left to each line for individual action, with a recommendation that where possible the new form as suggested by the American Association of General Passenger and Ticket Agents be adopted and put in use as fast as possible.

The question of the advisability of filing the Association's tariff with the Interstate Commerce Commision having been taken up, the Secretary reported that he had a ruling from the Commission as follows: "Under the act to regulate commerce you are not required to file the local tariffs of your steamship line covering transportation from one lake port to another. However, the law does require the filing of joint through tariffs covering transportation partly by rail and partly by water." The Commission does not assume or assert any authority or jurisdiction over the local rates (from port to port) of a steamship line, even though local tariff is filed. But in order to participate in interstate rates, partly rail, and partly steamship, a tariff must be filed. Where a steamship line does not issue a through joint tariff, the filing of a local tariff for interstate business does not in any way affect the Commission's jurisdiction over the local business (from port to port). Again, "Where a carrier has no tariffs on file with the Commission, and does not acknowledge itself subject to the Commission's jurisdiction (on interstate business), the Commission will regard the issuance of passes (by rail lines) to its officers, or employes, as unlawful." It was the consensus of opinion that the Association's tariff entitled "Passenger Fares" be filed with the Commission and that each member line furnish the Association's Secretary with power of attorney to file their tariffs on their behalf. The Secretary submitted correspondence with the Commission regarding the matter, also letters from a large number of railway lines which distributed the tariff among their agents, and which consider it very valuable and requested that it be filed.

The following officers, etc., were elected for the current year: President C. F. Bielman,

Baldwin Locomotive Works

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND

LOCOMOTIVES

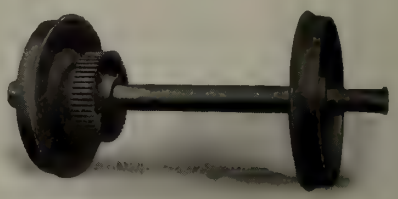
Mine, Furnace and Industrial Locomotives
Electric Locomotives with
Westinghouse Motors and Electric Trucks

BURNHAM, WILLIAMS & COMPANY
PHILADELPHIA, PA., U.S.A.
Cable Address:—"Baldwin," Philadelphia

Standard Steel Works Co.

HARRISON BLDG., PHILA., PA., U.S.A.

THE BRYDGES ENGINEERING & SUPPLY CO. Limited
WINNIPEG, MAN. REPRESENTATIVES



Wheels mounted on axles fitted with motor gear
ready for application to equipment

Standard

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes

Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.

E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES:
46th, ROBEY AND LINCOLN STS.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.

Manufacturers of

DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:
22 St. John Street
MONTREAL, - QUEBEC

I. A. YOUNG,
AGENT

Sessions-Standard Friction Draft Gear

Simplest and Best

Both
Made by
Standard Coupler Co.
2 RECTOR STREET NEW YORK

Standard Steel Platforms

Used by all Canadian Railways

T.M. White Star Line, Detroit, Mich.; Vice-President, W. M. Lowrie, G.P.A. Northern S.S. Co., New York; Sec.-Treas., M. R. Nelson, Northern S.S. Co., New York; Executive Committee, for two years, A. A. Heard, G.P.A. Delaware and Hudson Co.; for one year, L. G. Lewis, G.P. and T.A. Detroit and Cleveland Navigation Co.; R. C. Davis, G.P.A. Goodrich Transit Co., remains on the committee from a previous year's election. Audit Committee, C. H. Nicholson, T.M. Northern Navigation Co.; J. H. Allaire, G.P.A. Hudson Navigation Co.; H. Foster Chaffee, A.G.P.A. Richelieu and Ontario Navigation Co.

A committee was appointed to draft a resolution of sympathy with C. E. Markham, G.P.A. Anchor Line, who has been ill for some time.

THE NIAGARA FRONTIER SUMMER RATE COMMITTEE

met Jan. 21, the chairman, W. J. Lynch, P.T.M. New York Central Lines, Chicago, presiding. A. A. Heard, G.P.A. Delaware and Hudson Co., Albany, N.Y., was elected chairman for the current year and took the chair.

The rates as prepared by the rate clerks, and which contained no important changes beyond adjustments and extension of territory were adopted.

The New York, New Haven and Hartford Rd., the Quebec, Montreal and Southern Ry., and the Prince Edward Island Ry. were elected members.

THE GREAT LAKES AND ST. LAWRENCE RIVER RATE COMMITTEE

met Jan. 21, the chairman, T. Henry, T.M. Richelieu and Ontario Navigation Co., presiding. C. H. Nicholson, T.M. Northern Navigation Co., was elected chairman for the current year and took the chair.

The rates as arranged by the rate clerks were unanimously adopted.

The three Associations decided to hold their 1910 meetings at the same place, viz., Clifton House, Niagara Falls, Ont.

Saskatchewan and Alberta Railways.

The question of railway extensions in the Provinces of Saskatchewan and Alberta has been atracting considerable attention of late. The Premiers of the two provinces had a conference at Winnipeg, early in Jan., with W. Mackenzie, President, and other officers of the Canadian Northern Ry., and it was subsequently stated that the Legislatures of Saskatchewan and Alberta would probably ratify an agreement which would carry a guarantee of bonds to the extent of $10,000 a mile on ordinary mileage, and that where exceptional construction difficulties were encountered, and the Governments were satisfied that the extra cost was necessary, the bonds for these portions would be guaranteed to the extent of $15,000 a mile, but under no circumstances would a higher figure be allowed. The general routes of the lines to be constructed were discussed and it is said that the guarantee of bonds will cover about 500 miles of line, which will give the company access to the coalfields of Southern Alberta. There are said to be few if any engineering difficulties in the way of construction of a line through the southern portions of the provinces. A representative of the C.N.R. is in the territory mentioned looking over the field.

The first official pronouncement as to the proposed extension of lines under provincial guarantee was made in the Saskatchewan Legislature, Jan. 18, when the Government presented bills to aid railway development in the province. The bill authorizing the guarantee of certain securities of the G.T. Pacific Ry. provides that the amount of the securities to be guaranteed shall not exceed $13,000 a mile of railways constructed, at 4%, the principal to be repaid in 30 years. The securities to be issued are to be secured by one or more deeds of trust by way of first mortgage in the usual way. Not less than 50 miles of the lines mentioned in the schedule are to be completed by Dec. 31, and the remaining mileage is to be completed by Dec. 31, 1911, and an agreement is to be made for the operation of the lines so constructed. The standard of the lines is to be not inferior to that of the main line of the Canadian Northern Ry. between Winnipeg and Edmonton, and the routes of the different lines are to be approved by the Government. Provision is also made for the guarantee of an additional $2,000 a mile upon a supplementary deed of mortgage provided the sanction of the Legislature has previously been obtained to the guarantee being affixed thereto. The lines to be constructed by the G.T. Pacific Ry. under this guarantee are as follows: From the western division of the G.T. Pacific Ry. in the vicinity of tp. 22, range 6, west of the second meridian, on the G.T. Pacific Ry., to Yorkton, 40 miles. From between the 108th and 109th degrees of longitude on the G.T. Pacific Ry. to Battleford, 40 miles. From the vicinity of tp. 22, range six, on the western division G.T. Pacific Ry., to Regina, 110 miles.

The bill relating to the guarantee of bonds of the Canadian Northern Ry. is similar in every respect, except that the mileage to be constructed during the current year is 125, and the remaining mileage is to be completed by Dec. 31, 1911. The lines to be constructed under the guarantee are as follows: From Craven, running west of Last Mountain Lake to the Prince Albert branch, between Adams Ferry and Branchpetha. From between Aylesbury and Davidson, northwesterly and westerly to a junction with the Goose Lake branch of the C.N.R. near r. 16, west 3rd meridian, about 100 miles. A line to Roche Percee coalfields, about 25 miles. From Maryfield westerly and northerly to near range 17, west 2nd meridian, for 135 miles. A line from Dalmeny, on the main line of the C.N.R., north and northwesterly for 40 miles. A line from North Battleford northerly for 40 miles.

At the opening of the session of the Alberta Legislature, Jan. 14, the Lt.-Governor in the speech from the throne said: "The great problem of transportation facilities has been receiving the most anxious consideration of my Government. In the vast country to the north of us, with all its agricultural and mineral possibilities, and in the mining and wheat-producing districts of the south, the province has two assets of which the value can only be guessed until they have been penetrated and traversed by railways. The south country is already tapped, but it needs and will need as time goes on in an increasing measure more and more arteries through which its riches can flow. The north has not at present a single line, and without a line it is impossible to measure the vastness of its future. Several bills will be submitted for your approval authorizing my Government to assist the railway development of the country. Both north and south will be found to be cared for in the bills presented. The already existing facilities in the centre of the province will be very considerably supplemented."

An Edmonton dispatch, Jan. 24, said that as a result of a conference between Premier Rutherford and D. D. Mann, Vice-President C.N.R., the following lines would be gone on with at an early date, viz., from Edmonton to Fort Assiniboine on the Athabasca River, and eventually to Lesser Slave Lake and Peace River Crossing; from the eastern boundary of Alberta to Edmonton, running north of the Saskatchewan River, and probably a line from Strathcona to Calgary, meeting a wide detour to the east to Penetal. The guarantee of bonds to be the same as in Saskatchewan.

W. Wainwright, Second Vice-President G.T. Pacific Ry., who has been spending some time in Saskatchewan and Alberta, in connection with the negotiations between the G.T. Pacific Ry. and the two provincial governments, has given out some details of the company's plans. So far as his statement refers to Saskatchewan, it is covered by the proposals of the Government quoted above. With reference to Alberta his statement is to the effect that the line starting from Wainwright will be extended through Alberta, southwesterly to Calgary, and then carried southeasterly to the International boundary.

Packing of Railway Frogs.

The Railway Act, sec. 288, provides as follows: "The spaces behind and in front of every railway frog or crossing, and between the fixed rails of every switch, where such spaces are less than 4 ins. in width, shall be filled with packing up to the under side of the head of the rail. The spaces between any wing rail and any railway frog, and between any guard rail and the track rail alongside of it, shall be filled with packing at their splayed ends, so that the whole splay shall be so filled where the width of the space between the rails is less than 4 ins. Such packing shall not reach higher than to the under side of the head of the rail. Such packing shall consist of wood or metal, or some equally substantial and solid material, of not less than 2 ins. in thickness, and, where by this section any space is required to be filled in on any railway, shall extend to within 1½ ins. of the crown of the rails in use, shall be neatly filled, so as to come against the web of such rails, and shall be well and solidly fastened to the ties on which such rails are laid. The Board of Railway Commissioners may, notwithstanding the requirements of this section, allow the filling and packing therein mentioned to be left out from the month of December to the month of April in each year, both months included, or between any such dates as the Board, by regulation, or in any particular case, determines."

On Dec. 22, 1905, the Board of Railway Commissioners passed an order permitting the G.T.R. to leave out the filling and packing required by the above section from Dec. to April in each year, both months included. This order was rescinded by the Board, Nov. 4, 1908, and the G.T.R. applied for the restoration of the original order. In giving judgment, Dec. 29, Chief Commissioner Mabee said: "Oral evidence was given in support of the application, the principal ground being that the snow and ice forming on the packing increased the possibility of derailment. No specific instances of such were given. No other railway is asking for the like order. The reasons for requiring packing exist to almost the same extent in winter as in summer; and I am, therefore, of opinion that no sufficient cause has been shown that would justify the Board in relieving the company from complying with the provisions of the section."

The C.P.R. has presented to the London, Eng., County Council Educational Department, a series of 200 pictures of Canadian scenery framed in Canadian woods, which are being utilized for educational purposes, with a view to stimulating interest in the Dominion.

The Board of Conciliation appointed to investigate the complaints of the C.P.R. locomotive engineers consists of Mr. Justice Fortin, Montreal, Chairman; W. Nesbitt, K.C., representing the C.P.R., and J. G. O'Donoghue on behalf of the men. The enquiry commenced Jan. 14.

PUMP YOUR WATER

BY

COMPRESSED AIR

For pumping mines, sand, mine tailings, condensing and factory water, from rivers or lakes having a great rise or fall, the RAND "RETURN AIR" is unquestionably the most economical system known.

Its essential principle, distinguishing it from other pneumatic displacement pumps, is the use of the same charge of air over and over, thus utilizing its expansive power.

No system is so simple to manage or maintains such a high original efficiency indefinitely.

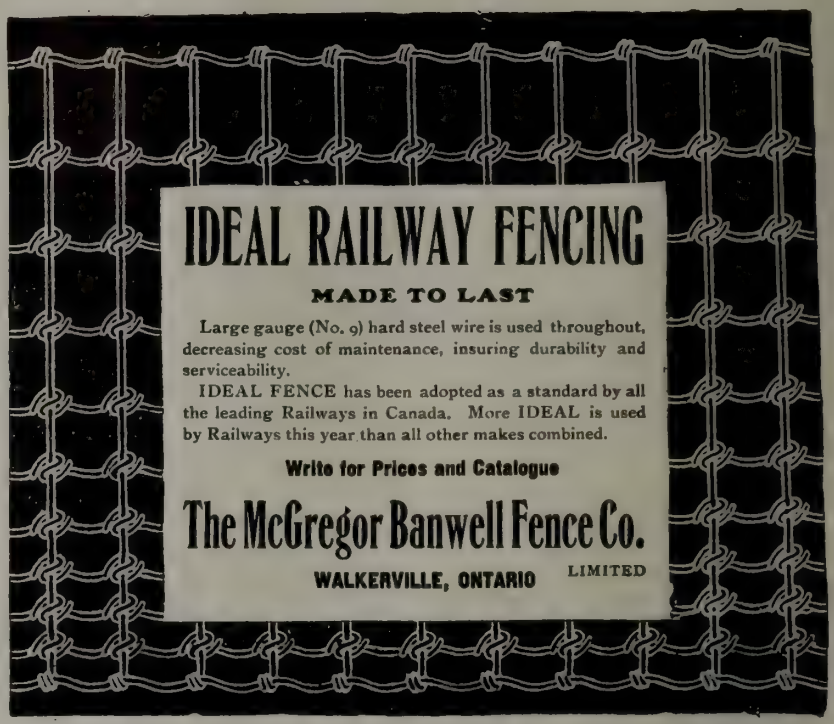
Full information on request.

CANADIAN **RAND** CO., LIMITED

MONTREAL, QUE.

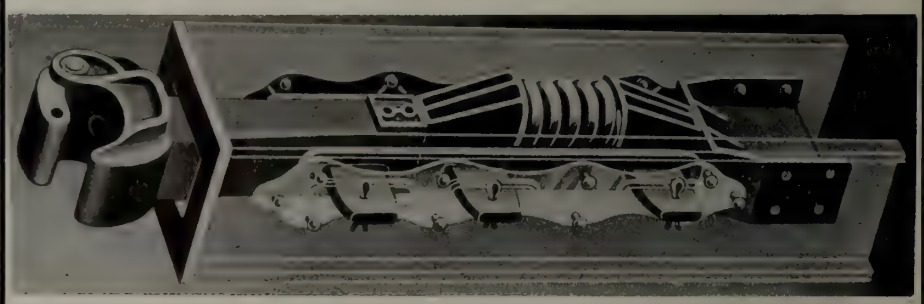
BRANCHES AT:

TORONTO, HALIFAX, WINNIPEG.
VANCOUVER, ROSSLAND, COBALT.


IDEAL RAILWAY FENCING
MADE TO LAST
Large gauge (No. 9) hard steel wire is used throughout, decreasing cost of maintenance, insuring durability and serviceability.
IDEAL FENCE has been adopted as a standard by all the leading Railways in Canada. More IDEAL is used by Railways this year than all other makes combined.
Write for Prices and Catalogue
The McGregor Banwell Fence Co.
WALKERVILLE, ONTARIO
LIMITED

THE

FARLOW TWIN SPRING DRAFT GEAR



Designed for Wooden or Steel Cars and Engines.

Pulling Strains Distributed Equally on the Three Cross Keys.

Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.

BALTIMORE, MD. · CHICAGO, ILL.

TRANSPORTATION APPOINTMENTS.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian Pacific Ry.—The duties of Mechanical Engineer, locomotive branch, Angus shops, Montreal, heretofore performed by A. W. Horsey, who has been appointed District Master Mechanic, Smith's Falls, Ont., will hereafter be carried on by G. I. Evans, Chief Draughtsman.

D. L. Jones has been appointed Locomotive Foreman at Smith's Falls, Ont., vice B. Pendleton, transferred.

J. R. Nelson, heretofore Superintendent District 2, Ontario Division, London, Ont., has been appointed Superintendent District 1, Ontario Division, vice J. K. McNeillie, transferred. Office, Toronto.

J. H. Mills, heretofore District Master Mechanic, Farnham, Que., has been appointed acting Master Mechanic, Ontario Division, vice R. Preston, who has been granted leave of absence. Headquarters, West Toronto, Ont.

A. Maynes, heretofore District Master Mechanic, District 1, Ontario Division, has been appointed Rule Examiner.

J. R. Spragge, heretofore District Master Mechanic, District 3, Ontario Division, has been appointed District Master Mechanic, District 1, Ontario Division, vice A. Maynes. Headquarters, West Toronto, Ont.

A. E. Stewart, heretofore Trainmaster, Walkerton and Lucknow branch, has been appointed acting District Master Mechanic, District 3, Ontario Division, vice J. R. Spragge, transferred. Headquarters, West Toronto.

F. Rowlandson, heretofore Locomotive Foreman, Brownville Jct., Me., has been appointed Locomotive Foreman, West Toronto, Ont., vice T. Reynolds, resigned.

J. K. McNeillie, heretofore Superintendent District 1, Ontario Division, Toronto, has been appointed Superintendent District 2, Ontario Division, vice J. R. Nelson, transferred. Office, London, Ont.

A. E. Hough, heretofore Locomotive Foreman, Ignace, Ont., has been appointed night shop foreman, Fort William, Ont.

W. F. Lowe has been appointed Locomotive Foreman, Ignace, Ont., vice A. E. Hough, transferred.

T. S. Acheson, heretofore Travelling Freight Agent Central Division, has been appointed General Grain Agent, Central and Western Divisions, and will give direct attention to grain traffic conditions. Office, Winnipeg.

J. H. Gordon, heretofore Soliciting Freight Agent, Winnipeg, has been appointed Travelling Freight Agent, Eastern Manitoba, covering main line and branches east of Brandon, Orcadia, Varcoe, Souris, and Boissevain. Office, Winnipeg.

A. T. McKean, heretofore chief clerk Assistant Freight Traffic Manager's office, Winnipeg, has been appointed Soliciting Freight Agent, Winnipeg, vice J. H. Gordon, promoted.

C. S. Morse, heretofore in charge of export work, General Freight Department, Winnipeg, has been appointed Travelling Freight Agent.

G. Hebb has been appointed Road Foreman, District 2, Central Division, vice A. West, appointed District Master Mechanic at Kenora, Ont.

J. Montgomery has been appointed acting Roadmaster, Miniota and Lenore branches, Rapid City section, and Brandon yard, Central Division, vice R. J. Hood, who has been granted leave of absence.

J. H. Longworth, City Freight Agent, Brandon, and Travelling Freight Agent Western Manitoba, has been assigned the following territory: Broadview section on the main line; Rapid City section, Miniota and Lenore branches; Pheasant Hills section, including Neudorf; Arcola section, Reston and Lyleton branches; and Kemnay to Boissevain via Napinka. Office, Brandon, Man.

W. H. Allinson, heretofore chief clerk, General Freight Department, Winnipeg, has been appointed City Freight Agent, Regina, and Travelling Freight Agent, Southern Saskatchewan, with territory covering the main line from Broadview to Swift Current, both inclusive, Outlook, Portal and Moose Mountain sections; Weyburn branch, and Estevan section, Melita to Estevan. Office, Regina, Sask.

R. W. Drew, District and Travelling Freight Agent, Northern Saskatchewan, has been assigned the following territory, covering Last Mountain, Lanigan, Saskatoon and Sheho sections. Office, Saskatoon, Sask.

John Halstead, heretofore Assistant General Freight Agent, Calgary, Alta., has been appointed General Freight Agent, Western Division; with jurisdiction over freight matters from Swift Current on the main line to Laggan, B.C., and from Dunmore Jct., on the Crow's Nest branch, to Frank, Alta. Office, Calgary, Alta.

A. H. Eager, heretofore District Master Mechanic, Kenora, Ont., has been appointed Locomotive Foreman, Calgary, Alta.,

F. W. Sadlier has been appointed Locomotive Foreman at Field, B.C., vice J. Archibald, transferred to Vancouver.

P. Wade, heretofore General Roadmaster, District 3, Pacific Division, has been appointed Roadmaster covering territory in District 3, as follows: Nelson to Castlegar Jct., not including Castlegar yard; Slocan Jct. to Slocan; Nakusp to Sandon; Nelson to Procter; Lardo to Gerrard. Office, Nelson, B.C. The position of General Roadmaster has been abolished.

T. H. Nichols has been appointed Roadmaster covering territory in District 3, Pacific Division, as follows: Farron to Midway, not including Farron; Eholt Jct. to Phœnix; Greenwood to Motherlode; B.C. Jct. to B.C. Mine; Granby Jct. to Granby Smelter. Office, Eholt Jct., B.C.

J. M. McGreevey has been appointed Roadmaster covering territory in District 3, Pacific Division, as follows: Rossland to Farron, including Farron; Smelter Jct. to Trail. Office, Smelter Jct., B.C.

J. Archibald, heretofore Locomotive Foreman, Field, B.C., has been appointed shop foreman, Vancouver, B.C.

D. Sutherland, heretofore Travelling Freight Agent, Vancouver, B.C., has been appointed General Agent, Prince Rupert, B.C.

R. Main, heretofore Commercial Agent at Pittsburg, Pa., has been appointed District Freight Agent there.

C. S. Richardson, heretofore Travelling Freight Agent, Buffalo, N. Y., has been appointed District Freight Agent there.

B. C. Tucker, heretofore Commercial Agent, Cleveland, Ohio, has been appointed District Freight Agent there.

Central Vermont Ry.—T. McHattie, heretofore Master Mechanic, Eastern Division, G.T.R., Montreal, has been appointed Superintendent of Motive Power and Car Department, C.V.R., vice W. Kennedy, resigned. Office, St. Albans, Vt.

Grand Trunk Pacific Ry.—E. J. Chamberlin, formerly General Manager Canada Atlantic Ry., has been appointed Vice-President and General Manager G.T.P.R., vice F. W. Morse, resigned.

W. H. Ardley, General Auditor, Grand Trunk Ry., has also been appointed General Auditor, G.T.P.R., vice N. J. Power, retired. Office, Montreal.

Grand Trunk Ry.—N. J. Power, General Auditor, after more than 50 years of faithful and continuous service with the company, retired under the provisions of the Company's pension scheme on Jan. 1.

W. H. Ardley, heretofore acting General Auditor, has been appointed General Auditor, vice N. J. Power, retired. Office, Montreal.

J. C. Garden, heretofore general shop foreman, Toronto, has been appointed Master Mechanic, Eastern Division, Montreal, vice T. McHattie, who has entered the Central Vermont Ry. Co.'s service.

L. L. Grabill, heretofore chief clerk General Baggage Agent's office, Toronto, has been appointed Assistant General Baggage Agent. Office, Toronto.

G. Stilson, heretofore Roadmaster at Sarnia Tunnel, has been appointed Roadmaster, 17th District, east of Sand Pit, and 19th District, Port Dalhousie to Port Robinson, Welland Jct. to Port Colborne, vice A. Grills, promoted. Headquarters, Hamilton, Ont.

A. Grills, heretofore Roadmaster at Hamilton, Ont., has been appointed General Roadmaster, Southern Division, vice A. S. Haynes, resigned. Headquarters, St. Thomas, Ont.

G. H. Allen, heretofore section foreman, Ingersoll, Ont., has been appointed Roadmaster, 17th district, west of Sand Pit; 18th district, Komoka to Glencoe, and 19th district, Glencoe to Kingscourt Jct., Middle Division, vice G. Stilson, transferred. Headquarters, Sarnia Tunnel, Ont.

R. Bushby, Eastern Passenger Agent, Cortland, N.Y., has, at his own request, been transferred to other duties.

D. P. Drewery has been appointed Travelling Passenger Agent. Office, 6 Burgess Block, Cortland, N.Y.

Intercolonial Ry.—W. H. Estano, heretofore chief clerk Traffic Auditor's office, has been appointed acting Traffic Auditor, vice J. R. Bruce, Traffic Auditor, who has been placed on the retired list. Office, Moncton, N.B.

Pullman Co.—The following appointments have been made: T. Dunbar, Manager Mechanical Department. C. W. Pflager, Assistant to Manager Mechanical Department. R. Tinsley, Manager Pullman Car Works. F. M. Gunn, Assistant to Manager Pullman Car Works, Chicago, Ill.

Temiskaming and Northern Ontario Ry.—F. Dane, one of the Commissioners, has also been appointed Land Commissioner. Office, Toronto.

Eastern Canadian Passenger Agents' Association.

At the regular meeting in Montreal Jan. 5 reduced fares and uniform arrangements for a number of occasions were considered. In connection with the application for reduced fares, etc., for the Sherbrooke, Que., snowshoe carnival and the Montreal carnival of winter sports to be held in Feb., the following resolution was adopted: Whereas, the extensive advertising of unusual and novel features required to attract any considerable number of visitors to winter carnivals or similar winter events creates wrong or exaggerated ideas regarding winter conditions in Canada, and therefore tends to injure the best interests and permanent growth of the country, it is resolved, that the lines in this Association will not make, or participate in, any special reduced fares for such undesirable enterprises, or otherwise encourage them.

The following officers, etc., were elected for the current year: Chairman, J. W. Hanley; Executive Committee, G. T. Bell, W. Stitt, G. Tombs; Rules Committee, G. T. Bell, W. Stitt, T. Henry, C. Hartigan, E. O. Grundy, F. F. Backus, O. W. Ruggles, J. M. Lyons, and F. E. Barbour. Secretary, G. H. Webster.

BOOKS
for
Railroad Men

PUBLISHED BY

The Engineering News Book Department
220 Broadway NEW YORK

Economics of Railway Operation

By M. L. BYERS
C.E., Ch. Eng. M. of W., Miss. Pac. Ry.

Buckram, 6 x 9 ins.; 672 pages, many figures, diagrams and forms illustrating the best modern practice - $5.00 net

The only publication explaining in detail the operative systems of American railways. Sir William Van Horne says of it: "I regard it as a most useful and valuable book."

Track and Track Work

(Third Edition, Revised and Enlarged)

By E. E. R. TRATMAN
Assoc. M. Am. Soc. C.E.

Cloth, 6 x 9 ins., 520 pages, 232 illustrations, 44 tables and an appendix of statistics of standard track construction on American railways - - $3.50 net

The standard treatise on this subject.

Design of Typical Steel Railway Bridges

By W. CHASE THOMSON
M. Can. Soc. C.E. Assist. Eng. Dominion Bridge Co.

Cloth, 6 x 9 ins., 178 pages, 21 figures, 5 folding plates - - - - $2.00 net

This book has been developed from lectures given by the author, and treats of the commonest types of railway bridges, which were chosen because they seemed best suited to illustrate the problems which occur most frequently to the bridge designer. These include a 60-ft. deck plate girder, a 100-ft. deck Warren girder, a 150-ft. through Pratt truss, a 200-ft. through Pratt truss with curved top chord, a 170-ft. swing bridge and a railway viaduct.

Any of these books will be sent, postpaid, on receipt of price, or further details with full list of contents will be given if desired. We can supply promptly, and at lowest price, any book published

KEEP YOURSELF POSTED ON THE LITERATURE OF YOUR SPECIALTY

For the guidance of technical men we issue, at intervals, notices of **new** and **recommended** books on various subjects, by all publishers. This service is **absolutely free** to all and involves no obligation of any kind whatever.

Mark on the attached coupon the special subjects on which **you** wish to be kept informed regarding **new** publications, adding any subjects not mentioned thereon in which you are interested. Send us this coupon **at once** and we will send you these notices as issued.

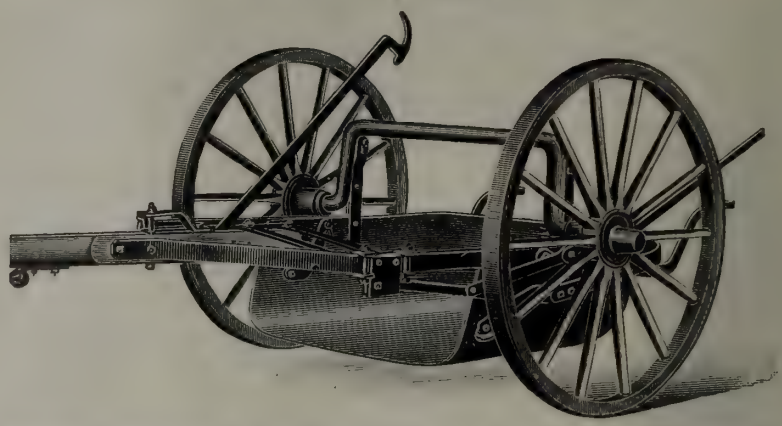
Engineering News Book Dept. R.M.W. '09
220 Broadway, New York

Send me notices of new books on

Engineering:		
..Civil	..Mining	..Commercial Technology
..Electrical	..Municipal	..Contracting
..Marine	..Railroad	..General Science
..Mechanical	..Architecture	..Metallurgy
	..Automobiles	
	..Chemistry	

Name.....
Address.....
.....

THE TORONTO PRESSED STEEL CO.
TORONTO, CANADA LIMITED



Our **SOLID PRESSED BOWL DRAG** and **WHEEL SCRAPERS** are the most satisfactory in the market. They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies, including

PLOUGHS **DUMP CARS**
DUMP WAGONS **DUMP CARTS**
WHEELBARROWS **TRUCKS**
CEMENT MIXERS **WAGONS**
etc., etc.

PROMPT SHIPMENTS **SEND FOR CATALOGUE**

New Trails to the
Canadian Game Lands

Before the six railways of the Canadian Northern System followed the old fur trails into the Canadian game lands, only a hardy few dared to go in. But now, the back places of the woods—wealthy in moose, caribou, deer and bear—may be quickly and easily reached. The Canadian Northern system serves a wide range of undisturbed territories. Here are a few suggestions:

The country between Parry Sound and Sudbury, traversed by the CANADIAN NORTHERN ONTARIO RAILWAY, is a land of lonely muskeg and brulé, the native country of the white-tailed deer. From Sudbury north to Sellwood this same line goes in through a moose hunting territory unequalled in Ontario.

The CANADIAN NORTHERN QUEBEC and QUEBEC AND LAKE ST. JOHN RAILWAYS span the native country of the ouananiche, northern brook trout, and the spruce-shored lakes of the Roberval country, where moose and caribou abound.

The eastern shore of Nova Scotia, from Yarmouth to Halifax, is served by the HALIFAX AND SOUTH WESTERN RAILWAY. On the barrens, slightly inland from the railway, are some of the best places for big moose in the east.

THE CANADIAN NORTHERN RAILWAY from Port Arthur to Edmonton, with many branches, griddles almost undisturbed haunts of moose, caribou, deer, wolves, bear, and all species of four-footed and feathered game.

For Information, General and Special, Address the Information Bureau, Canadian Northern Railway, Toronto

Railway Commissioners' Traffic Orders.

6073. Jan. 13.—In the matter of the application of the Pere Marquette Rd., by its General Freight Agent at Detroit, for permission to refund to Parke, Davis & Co., of Montreal, 8c. per 100 pounds on a shipment of pharmaceutical goods from Walkerville to Montreal. Upon reading what was alleged in support of the application; and upon the report of the Chief Traffic Officer of the Board, it is ordered that the application be dismissed.

BRICK RATES FROM CASSELMAN, ONT.

6096. Jan. 12.—In the matter of the complaint of Hyde & Webster, of Montreal, alleging that the G.T.R. had increased the rate on bricks from Casselman, Ont., to Montreal, from 4½c. per 100 lbs. to 6c. per 100 lbs., for delivery by the C.P.R., and applying for an order directing the G.T.R. to restore its former rate of 4½c. per 100 lbs.: Whereas the G.T.R. has, since the filing of the complaint, established a special joint rate of 5c. per 100 lbs. on brick (except enamelled and glazed), in carloads, from Casselman for C.P.R. deliveries at Montreal, Atwater, Westmount, Montreal Jct., Mile End, and Angus shops, Que. Upon the hearing of Counsel for the G.T.R. and the C.P.R., the complainants appearing in person, the evidence adduced, and what was alleged—It is ordered that the application for a less rate between the said points than the said special joint rate of 5c. per 100 lbs. be dismissed.

DOMINION ATLANTIC RY. STEAMSHIP FARES.

6097. Jan. 18.—In the matter of the complaint of the Board of Trade of St. John, N.B., against the increase by the Dominion Atlantic Ry. of its passenger fare on its steamship line between St. John, N.B., and Digby, N.S., from $1.50 to $1.75 per capita: No one appearing at the hearing on behalf of the complainant, although notified by the Secretary of the Board that the complaint had been set down for hearing at St. John, N.B., it is ordered that the complaint be dismissed.

PULPWOOD RATES, ST. STEPHEN TO MILLTOWN.

6098. Jan. 18.—In the matter of the complaint of I. R. Todd, of St. Stephen, N.B., complaining against the rate charged by the C.P.R. on pulpwood from St. Stephen to Milltown, N.B.: No one appearing on behalf of complainant, although notified by the Secretary of the Board that the complaint had been set down for hearing at St. John, N.B., it is ordered that the complaint be dismissed.

CANADIAN FREIGHT CLASSIFICATION.

6080. Jan. 18.—In the matter of the requirements of the Board in connection with the proposed additions to and changes in the Canadian classification of freight traffic: It is ordered that the following rules be, and they are hereby, prescribed: 1. The printer's proof of the proposed classification or supplement shall show and include: (a) A list of the articles not previously provided for which it is proposed to add to the classification, and the ratings therefor, the said list to be headed "Additions." (b) The proposed advances, reductions, or other changes in the rules, ratings, or minimum weights, and in a parallel column those previously approved by the Board.

2. The Board shall be furnished with at least 10 copies of the aforesaid proof, and in one of these the proposed changes shall be underscored as follows, namely, the advances in black, the reductions in red, and the other changes in green.

3. The Board shall, at the same time, be furnished with the reasons for the proposed advances stated fully and separately in manuscript.

4. The applicants shall arrange for two consecutive publications of the proposed advances in The Canada Gazette, and shall, simultaneously with the submission of the aforesaid proofs, furnish the Board with copies of the communication and enclosure to the King's Printer.

Board of Railway Commissioners.

Since the sittings of the Commissioners with reference to the construction of a viaduct along the waterfront in Toronto, and the consideration of the express rates, both of which are dealt with elsewhere, the Commissioners held sittings at Montreal, Jan. 4; Ottawa, Jan. 12; and Toronto, Jan. 27. The principal case at the last sitting, so far as Toronto is concerned, had to do with the proposal to depress the tracks west of Bathurst St., and other works connected therewith westerly to the Toronto Bolt and Forging Co.'s works at Windermere Ave., and the proposed high level bridge at Queen St. East. These matters are all closely associated with the construction of the viaduct along the waterfront in the central part of the city. Since the order of the Commissioners as to the viaduct was made, there appears to be a disposition on the part of the city council and the railway companies to reach such a settlement as will enable a complete job to be made and to prevent any litigation between the two interests. While there is an appeal pending as to the jurisdiction of the Board to order the construction of a viaduct, the railway companies show a disposition to accept the order, but in doing so they are desirous of having other matters arranged. The whole question is under discussion, and while both sides talk as to rights and privileges, and what action may be taken, they are averse to making an authoritative statement as to the real position of negotiations. Immediately following the sittings at Toronto, some of the Commissioners proceeded to the West, the dates fixed for the holdings of sittings being: Winnipeg, Feb. 1; Regina, Feb. 11; Medicine Hat, Feb. 15; Calgary, Feb. 17; Edmonton, Feb. 18; Vancouver, Feb. 23; Victoria, Feb. 27. The dates for the holding of sittings at Nelson and Lethbridge are to be fixed later.

Railway Commissioners' Districts.

An Ottawa dispatch says the Dominion has been divided into districts, each of which has been placed in charge of one of the members of the Board of Railway Commissioners as to routine applications, Chief Commissioner Mabee having a general supervision over the whole:

Ontario, with exception of Port Arthur and west thereof, and the City of Montreal, under D'Arcy Scott, Assistant Chief Commissioner, with J. Ogilvie and J. Clarke as Inspectors.

Quebec Province, except City of Montreal, New Brunswick, Nova Scotia and Prince Edward Island, under Hon. M. E. Bernier, Deputy Chief Commissioner, with E. C. Lalonde, as Inspector.

Manitoba, Saskatchewan and the portion of Ontario west of and including Port Arthur, under Commissioner S. J. McLean, with W. S. Blythe as Inspector.

Alberta and British Columbia, under Commissioner Mills, with M. J. McCaul as Inspector.

Since the above was put into type we have been officially advised that the dispatch quoted is entirely erroneous and misleading, no such arrangement as that referred to having been made. For the purposes of convenience, the Board's Inspectors of Accidents have been located at the following points to investigate and report on accidents and rolling stock: Calgary, Alta., M. J. McCaul; Winnipeg, W. S. Blyth; Ottawa, J. Ogilvie and J. Clarke; Montreal, E. C. Lalonde.

It is reported from Edmonton, Alta., that D. Marshall, managing editor Edmonton Bulletin, will probably be appointed Railway Commissioner, to carry out the extensive plans of railway development contemplated by the Provincial Government.

The G.T.P.R. Management.

Great surprise was expressed, especially in railway circles, at the announcement made in Montreal, Jan. 22, by C. M. Hays, President Grand Trunk Pacific Ry. Co., that F. W. Morse, Vice-President and General Manager, had resigned. Mr. Morse tendered his resignation to Mr. Hays before leaving Montreal, Jan. 18, for New York, from which port he sailed on Jan. 21, on the s.s. Carmania, for a three months' trip to the Mediterranean, accompanied by his mother, who is in poor health. It was stipulated that the resignation was not to be announced until after he had sailed and he left the following statement to be given to the press:

"Mr. Frank W. Morse has asked to be relieved from his duties as Vice-President and General Manager of the Grand Trunk Pacific and constituent properties, and just before leaving for a trip to the other side tendered his resignation, to become effective at such date as should be decided. He is not prepared to announce what his future plans may be, but that will doubtless be known on his return."

In an interview Mr. Hays expressed regret at Mr. Morse's resignation, but assigned no cause for it. He denied that there was any trouble between himself and Mr. Morse, and said the resignation was purely voluntary. There is a great deal of speculation as to the real reason, friction with the Dominion Government and many other things being guessed at, but no definite information is obtainable.

On Jan. 25, it was officially announced that E. J. Chamberlin, who was General Manager of the Canada Atlantic Ry. at the time of its absorption by the G.T.R., had been appointed to succeed Mr. Morse. He had been in California on a visit, but was wired for and assumed his new position in Montreal, Jan. 26, when he stated that he had not sought the appointment, and that after spending a few days in picking up the ends of the business, the work would proceed as hitherto.

Frank W. Morse entered railway service in 1885, with the Wabash Rd., at Springfield, Ill. Promotions from time to time took him to Quincy, Ill.; Des Moines, Iowa, and St. Louis, Mo. In 1887 he severed his connection with the Wabash and entered the service of the Pan Handle Rd., which was composed of the Denver, Texas and Gulf; Denver, Texas and Fort Worth and Fort Worth and Denver City railroads, at that time being under construction. After it had been completed and successfully operated, he, at the solicitation of C. M. Hays, at the time of the consolidation of the Wabash Western and Wabash railroads into the present Wabash System, returned to that company, and was located at Fort Wayne, Ind., remaining until Mr. Hays called him to Canada in 1896, to become Superintendent of Motive Power, G.T.R. He was appointed Third Vice-President in 1902, and went over the route of the projected G.T.P. Ry. in 1902-03. He was elected Vice-President on the organization of the G.T.P. Ry. Co. in Aug., 1904, and was also appointed General Manager, Jan. 1, 1905.

E. J. Chamberlin, was born at Lancaster, N.H., and entered railway service in 1871, since when he has been consecutively to 1872, timekeeper in car shops; 1872 to 1875, clerk in Paymaster's and Superintendent of Transportation's offices; 1875 to 1876, corresponding secretary to General Superintendent; and 1877 to 1884, private secretary to General Manager Central Vermont Ry., St. Albans, Vt.; April, 1884, to Sept., 1886, Superintendent Ogdensburg and Lake Champlain Rd., and Central Vermont Line steamers running between Chicago and Ogdensburg; Sept. 1, 1886, to Oct., 1905, General Manager Canada Atlantic Ry. Since the absorption of the C.A. Ry. by the G.T.R., he has been connected with lumber, contracting and mining interests.

The Wisconsin Central Railway.

Sir Thos. G. Shaughnessy, President C.P.R., stated, Jan. 15, that the C.P.R. is not acquiring any additional property in the United States, but that the Minneapolis, St. Paul and Sault Ste. Marie Ry., which is closely associated with the C.P.R., has been negotiating for the Wisconsin Central Ry., and that he had every reason to believe the negotiations have reached an advanced stage." This is generally understood to be a diplomatic way of stating that the M., St. P. and S.S.M. Ry., in which the C.P.R. holds a controlling interest, has purchased from N. Erb, of New York, the controlling interest in the Wisconsin Central Rd., an option which he has held for some time past.

The Wisconsin Central Ry. operates 977 miles of railway, and extends from Chicago, Ill., to Minneapolis, Minn., with the following branch lines: Rugby Junction to Milwaukee; Neenah to Manitowoc; Stephens to Portage, with a stub branch to Montello; Marshfield to Nekoosa; Marshfield to Greenwood; Abbotsford to Ashland, with branches from Chester to Hib Lake, and from Melton to Bessemer; from Owen to Ladysmith, and a projected extension from Ladysmith to Superior and Duluth; from Chippewa Falls to Eau Claire. The company also operates over a number of logging spurs.

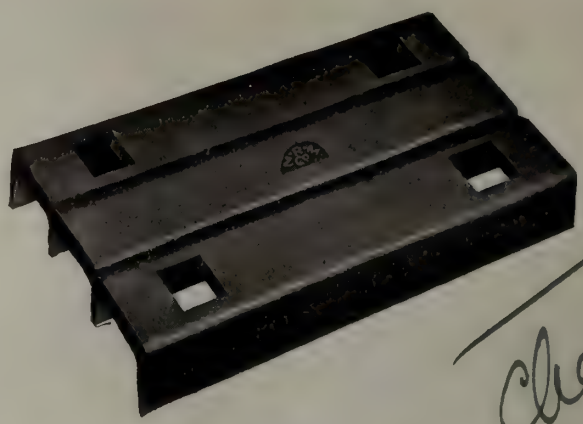
The W. C. Ry. Co. was chartered Dec. 27, 1897, and on July 13, 1899, acquired title of the property of the Wisconsin Central Co.; Wisconsin Central Rd. Co.; Packwaukee and Montello Rd.; Milwaukee and Winnebago Rd.; Chicago, Wisconsin and Minnesota Rd., and Central Car Co., under the plan of reorganization. The Marshfield and Southeastern Rd., 32.61 miles, was purchased May 1, 1901. In July, 1906, the company acquired all the property and rights of the Owen and Northern Ry. Co. and the Lake Superior and Eastern Rd., which was organized to construct an extension from Owen through Ladysmith to Superior and Duluth, a distance of 160.5 miles. The line from Owen to Ladysmith, 45.5, was put in operation Aug. 6, 1906; and the remainder of the line is still uncompleted. The company has also trackage rights over 59.94 miles in Chicago, St. Paul and Minneapolis, under 99-year agreements with the Illinois Central Rd., and the Great Northern Ry., and in Milwaukee, under a five years' agreement with the Chicago, Milwaukee and St. Paul Rd. It has also lake ferry connection from Manitowoc with the Ann Arbor Rd. at Frankford, Mich., and the Pere Marquette Rd. at Ludington, Mich.

Its rolling stock consists of 190 locomotives, 151 passenger cars of all kinds, and 8,661 freight cars of all classes. The Pullman Co. and the National Express Co. operate over the line.

The negotiations by the M., St. P. and S.S. M Ry., for the acquirement of the Wisconsin Central Ry., have been concluded, and at a meeting of directors of the latter company, the following directors resigned: F. T. Gates, W. A. Bradford, G. J. Gould, T. L. Chadbourne jr., G. A. Fernauld and G. W. Webster. The following officers and directors were subsequently elected: President and Chairman of the Board, N. Erb; Assistant Secretary, W. M. Walden; other directors, L. Baldwin, W. J. Wollman, C. D. Simpson, F. H. Prince and E. N. Foss.

The C.P.R., it is reported, is considering the adoption of the "no crop—no payment" plan in the disposal of lands in the irrigated district easterly of Calgary, Alta.

The Orford Mountain Ry. has filed its standard passenger tariff C.R.C., no. 20, with the Board of Railway Commissioners, which has approved of the same. The tariff fixes a maximum passenger fare between all stations on the company's line at 3½c. a mile.



TIE PLATES

Rolled by us 5 inches wide, 5/16 inch thick, cut to any length desired and punched to fit any weight of rail.

We also manufacture

Angle Bars, Track Bolts, Track Spikes, etc.

THE MONTREAL ROLLING MILLS CO.

TORONTO BOLT AND FORGING CO. LIMITED

Manufacturers of

BOLTS AND NUTS

OF ALL KINDS, INCLUDING

Track Bolts
Track Spikes
Lag Screws
Boiler and
Bridge Rivets

TORONTO — CANADA

Steam Railway Track Laid in 1908.

In accordance with our annual custom circulars were sent in December to all railway companies in Canada asking particulars of new track laid during 1908. Below is a compilation of figures showing that the total length of new track, exclusive of second track and sidings, laid during the year on steam railways from which reports have been received, was 1,150.70 miles. No returns have been received from the Canadian Northern and National Transcontinental Railways, so we have from data in our possession estimated the track laid on those lines as 167 and 170 miles respectively, making a total of 1,484.70 miles laid in Canada during 1908.

	Miles.	Miles.
ATLANTIC, QUEBEC AND WESTERN RY.		
Port Daniel to Anse à la Barbe....	5.00	
Grand Pabos to Anse aux Canards..	2.00	
		7.00
CANADIAN NORTHERN QUEBEC RY.		
Garneau to Quebec..	60.90	60.90
CANADIAN NORTHERN ONTARIO RY.		
Connecting track at French River..	7.90	
Orillia branch....	3.60	
		11.50
CANADIAN PACIFIC RY.		
Northern Colonization Ry.—From 2 miles north of Nomining, Que., towards L'Orignal....	30.74	
Georgian Bay and Seaboard Ry.—Coldwater Junction to Victoria Harbor....	11.50	
Walkerton and Lucknow Ry.—Mileage 26.2 to Walkerton, Ont.	11.50	
Tillsonburg, Lake Erie and Pacific Ry.—Code Junction to Embro, Ont....	5.69	
St. Mary's and Western Ontario Ry. From Embro to St. Mary's, Ont..	15.90	
Toronto-Sudbury branch—From Naiscontyong to Pickerel....	25.25	
From Teulon northerly, Man....	2.00	
Mowbray extension, Man....	4.00	
Stoughton-Weyburn Line, Sask....	25.00	
Wolseley-Reston line, Sask....	24.00	
Sheho-Lanigan line, Sask....	46.10	
Pheasant Hills branch, Sask....	74.60	
Moose Jaw northwesterly, Sask....	101.60	
Lethbridge-Macleod line, Alta....	12.00	
		389.88
CENTRAL ONTARIO RY.		
From Maynooth to Lake St. Peter.	8.00	8.00
DELAWARE AND HUDSON CO.		
Quebec, Montreal and Southern Ry.—From Pierreville to St. Philomene....	48.05	48.05
EASTERN BRITISH COLUMBIA RY.		
From McGilvray to Corbin Mines, B.C....	14.00	14.00
GRAND TRUNK PACIFIC RY.		
Lake Superior Branch—Mileage 99.6 to mileage 188.8, Ontario....	89.20	
Winnipeg to Portage la Prairie, Manitoba....	45.00	
Mileage 312 to mileage 414.9, Saskatchewan....	102.90	
Mileage 466.64 to mileage 627.1, Saskatchewan....	160.50	
Mileage 627.1 to mileage 685, Alberta....	57.90	
Mileage 786.6 to mileage 791.6, Alberta....	5.00	
		460.50
GREAT NORTHERN RY. (U.S.)		
Between International boundary and Olivers, B.C., 11.33 miles, less 0.86 in 1907....	10.47	
Between Olivers and Brownsville, B.C., 9.72 miles less 5.22 laid in 1907....	4.50	
Between Cloverdale and Sumas, B.C., 29.28 miles, less 1.38 laid in 1907....	27.90	
These mileages were laid on the line known as the Vancouver, Victoria and Eastern Ry....		
		42.87
INTERNATIONAL RY. OF NEW BRUNSWICK.		
From end of mileage 35 to 62...	27.00	27.00
SYDNEY AND LOUISBURG RY.		
From Grand Lake Jct. to Colliery 12	7.00	
From No. 14 Jct. to Colliery 14....	2.00	
		9.00
TEMISKAMING AND NORTHERN ONTARIO RY.		
From Wateybeag to Cochrane, Ont.	44.00	
From Englehart to Charlton, Ont..	8.00	
From Cobalt to Kerr Lake, Ont....	4.00	
From milepost 110 to Moore's Cove on Lake Temiskaming, Ont.....	2.00	
		58.00
WINNIPEG CITY POWER PLANT LINE.		
Lac du Bonnet to Point du Bois, Man....	24.00	24.00
		1,150.70

The estimated totals of single track laid by the Canadian Northern Ry. and the National Transcontinental Ry., from which no returns have been received are:

	Miles.	Miles.
CANADIAN NORTHERN RY.		
Saskatoon to Zealandia, Sask.....	75.00	
Dalmeny to Laird's, Sask.....	28.00	
Extension of Pas Mission branch...	20.00	
Rossburn to Russell, Man.....	23.00	
Swan River, Man., to end of track.	21.00	
		167.00
NATIONAL TRANSCONTINENTAL RY.		
Moncton, N.B., westerly.....	37.00	
Chipman, N.B.....	3.00	
Bellaire, Que., 7 miles e. to 11 miles w.....	18.00	
St. Thickle, Que., 16 miles w. to 17 miles e.....	33.00	
La Tuque, Que., 16 miles e. to 15 miles w.....	31.00	
Winnipeg to Superior Jct.....	48.00	
		170.00

C.P.R. SUBSIDIARY LINES IN UNITED STATES.

	Miles.	Miles.
DULUTH, SOUTH SHORE AND ATLANTIC RY.		
Branch to Boston-American mine, 1.50 miles east of Humboldt, Mich.	2.00	
Ahmick mine track to Kearsarge mine, No. 4 shaft (Mineral Range Rd.).....	1.00	3.00
MINNEAPOLIS, ST. PAUL AND S. S. MARIE RY.		
From Mississippi River to Moose Lake, Minn.....	91.00	91.00

Freight Car Balances and Performances.

The committee on car efficiency of the American Railway Association issued, Jan. 14, its statistical statement of freight car balance and performance for Aug., 1908. During the period covered by the report the number of surplus cars averaged 267,312 daily; this number being 12.44% of the total cars on all lines included in the statement. There were in addition bad order cars equal to 9.99% of the total cars, making 22.43% of the equipment that contributed nothing to the mileage, tonnage or earnings. Including surplus cars the average miles per day was 20.8; the average ton miles per car per day, 292, and the average earnings per car per day, $1.98; while excluding the surplus cars the figures were 25.1, 354, and $2.40 respectively. There is a marked improvement in the per cent. of loaded mileage, the figure for Aug. reaching 68.8%, the highest since Nov., 1907, and only two points below the average for Aug., 1907. This increase is natural in connection with the outward flow of cars indicated in the car balance figures, which show a continued decrease in the number of cars on their home lines. It is probable, however, that the return to the normal use of foreign equipment will not be brought about until the surplus is practically wiped out or at least quite materially reduced.

The figures relating to the Canadian group show four lines reporting, viz., the C.P.R., G.T.R., Intercolonial, and Toronto, Hamilton and Buffalo. Their figures are revenue freight cars owned, 98,343; average number of system cars on line, 81,073; average foreign railway cars on line, 14,015; private cars on line, 4,032; total cars on line, 99,120; per cent. of cars in shops, 9.67; freight engines owned, 2,120; average cars on line per freight engine owned, 47; total freight car mileage, 67,083,842; average miles per car per day, 22.0; per cent. loaded mileage, 73.6; ton miles of freight, including company freight, 829,103,871; average ton miles (including company freight), per car mile, 12.0; per loaded car mile, 16.7; per car per day, 270; gross freight earnings, $5,901,713. Average daily earnings: per car owned, $1.94; per railway car on line, $2.00; all cars on line, $1.92.

The committee on car efficiency of the American Railway Association has issued its statement of car surpluses and shortages for the period ended Jan. 6. The report shows a total of 333,019 surplus cars, an increase of 110,942 in the figures for the previous two weeks. Taken by groups the increase seems to be general. The large increase in the Canadian group is due to the addition of 5,000 cars reported by a line that had not reported for some time. The totals for the Canadian group showed surpluses of 12,468 box cars, 4,144 flat cars, 110 coal, gondola and hopper cars, and 2,115 other cars, making altogether 18,837 cars, against a total of 3,598 cars on Dec. 23.

Levers for Uncoupling Cars.

The Board of Railway Commissioners for Canada passed the following order 6027, dated Nov. 25, 1908: In the matter of the accident on the Canadian Northern Ry., at Portage la Prairie, Man., on Feb. 19, 1908; and in pursuance of the powers conferred upon it by secs. 30 and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf: Upon the report and recommendation of the Inspector of Accidents of the Board, it is ordered that every railway company subject to the legislative authority of the Parliament of Canada, operating a railway by steam power, equip, within the time hereinafter mentioned, each of its non-platform cars, as for example, ordinary box and mail or baggage cars, with the proper operating lever for uncoupling cars, and dispense with the operating wheel where in use on the ends of such cars for that purpose: (a) In cars to be constructed in the future for use on their said railways, before they are so used; (b) In cars under construction or in shops undergoing repairs, within three months from the date of this order; (c) In cars at present in use on their respective railways, within six months from the date of this order.

And it is further ordered that every such railway company be liable to a penalty of a sum not exceeding $50 for every failure to comply with the foregoing regulations within the time for their coming into force and thereafter.

Dominion Railway Subsidies.

The Dominion public accounts for the fiscal year ended Mar. 31, 1908, issued recently, contain a considerable amount of information with reference to the subsidizing of railways by Parliament. Table 1 gives a list of railways subsidized by money grant. Contracts were made with 132 railway companies, on account of which $59,605,026.64 has been paid, $1,238,989.07 has been cancelled or has lapsed, and there are balances of $1,521.82 of subsidies outstanding on these contracts. There are a number of contracts upon which nothing has been paid, the amount of the subsidy for which the Government is liable is not included in these figures. Table 2 gives a list of four railways, not included in the first table, of fixed amounts payable annually or semi-annually for a fixed period of years, or interest in place of or until the capital granted be paid. These contracts were in respect of 587 miles of line, of which 56 miles, the Kingston, Smith's Falls and Ottawa Ry., has not been constructed. The amount paid under these contracts has been $6,121,950. Table 3 shows that three railways were aided by loans of $815,000, of which $66,374.44 is still undrawn. Table 4 shows that eight railways were aided by the grant of used iron rails valued at $242,661.19, of which there has been repaid $152,305.20, and there is standing as an asset in the public accounts $90,355.79. This table also shows that the Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co., the Calgary and Edmonton Ry., the Lake Manitoba Ry. and the Winnipeg Great Northern Ry., are in receipt of annual subsidies amounting in all to $240,000 on certain conditions, the contracts expiring 1909 and 1910 respectively for the first two, and in 1915 in respect of the last two.

Ontario Railway and Municipal Board.

In reference to newspaper attacks on some of the Board's decisions, the chairman, J. Leitch, K.C., made the following report at a recent sitting: "The Legislature has not seen fit to give this board power to protect ourselves as other courts have been protected for about a thousand years. Our hands are tied, our pens are tied and our tongues are tied. We simply have to take what we get and look happy. There is one thing: We will not be stampeded by Toronto journals or by aldermen, or by anybody else. We are here to administer the law, and we are going to administer it as we understand it. When we don't understand it right, the Court of Appeal may, and then if that Court does not, the gentlemen of the Privy Council have the final say. Nothing will provoke us to say one single word in answer to newspaper criticism or any other criticism. We are going to hew to the line."

Orders by the Railway Commissioners.

The following orders have been passed in addition to those on page 85:

5979. Dec. 30.—Dismissing application of C.N.O.R. for authority to replace its tracks across C.P.R. spur to the Barber Asphalt Co.'s property south of Eastern Ave., Toronto.

5980. Dec. 30.—Authorizing C.N.O.R. to divert concession road between concessions 2 and 3, Albert tp., between mileages 13-14 west from Hawkesbury, Ont.

5981. Dec. 30.—Dismissing application of Vancouver, Westminster and Yukon Ry. for authority to construct a branch line in North Vancouver, from its main line near the mouth of Seymour Creek, on the north shore of Burrard Inlet, to or near Deep Cove, on the north arm of Burrard Inlet.

5982. Dec. 29.—Ordering Chatham, Wallaceburg and Lake Erie Ry. to equip its cars with air brakes within three months.

5983. Dec. 31. Jan. 22. — Authorizing C.N.O.R. to erect a wire across Montreal & Ottawa road in Cumberland tp., Ont., and across Cameron St., near the station grounds.

5984. Dec. 31.—Authorizing Bell Telephone Co. to place wires across C.N.Q.R. at Charlebourg road, ½ mile west of Quebec city.

5985. Dec. 31.—Authorizing Bell Telephone Co. to place wires across C.N.O.R. near Brechin station, Ont.

5986. Dec. 31.—Authorizing Bell Telephone Co. to place wires across C.N.Q.R. at St. Valier Road, 4 miles west of Quebec city.

5987. Dec. 31.—Authorizing Adams River Lumber Co. to lay water pipe under C.P.R., 2 miles west of Shuswap station, B.C.

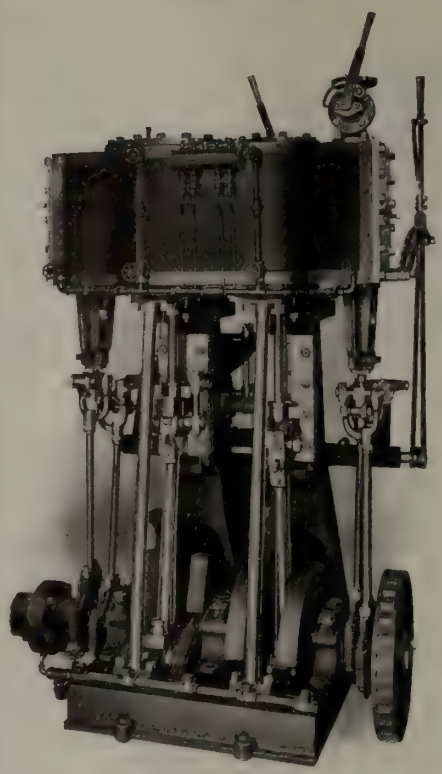
5988. Dec. 31.—Authorizing Byron Telephone Co. to place wires across London & Port Stanley Ry. in Westminster tp., Ont.

5989. Dec. 31.—Ordering G.T.R. to install at crossing of its line with L'Esperance road, Tecumseh tp., Sandwich East, Ont., an automatic electric bell with a cut-off opposite station, subject to terms of order 875, of Dec. 8, 1905.

5990. Jan. 2.—Authorizing the B.C. Telephone Co. to place wires across Esquimalt & Nanaimo Ry. at Duncans, B.C.

5991. Jan. 2.—Authorizing G.T.P.R. to carry freight over its line from Winnipeg to Battle River, Alta., notwithstanding that such portion has not been opened for traffic, according to sec. 261, Railway Act; and rescinding orders 3780, Oct. 11, 1907, and 5917, Dec. 22, 1908.

5992. Jan. 2.—Authorizing G.T.P.R. to carry freight traffic over its line from Fort William to end of track, mileage 0.00 to 188.77



DOTY ENGINE WORKS CO.
LIMITED
Goderich - Ontario

MARINE ENGINES
MARINE BOILERS

For Fresh and Salt Water Service

We Build Steel, Composite and Wood Hulls

WRITE FOR CATALOGUES AND ESTIMATES

THE INTERNATIONAL MARINE SIGNAL CO.
OTTAWA, CANADA

MANUFACTURERS OF

Automatic Acetylene Gas Buoys, Beacons and Fog Signals.

Mariners describe our lighted buoys as "floating lighthouses."

in Ontario, notwithstanding that such portion has not been opened for traffic according to sec. 261, Railway Act; and rescinding order 5918, Dec. 22, 1908.

5993. Jan. 4.—Approving Rutland Rd. Co.'s by-law authorizing F. E. Barbour, G.P.A., and G. Cassidy, G.F.A., to prepare and issue tariffs of tolls to be charged.

5994. Jan. 4.—Authorizing Manitoba Government Telephones to place wires across C.P.R. at Gunton.

5995. Jan. 4.—Authorizing the Merritton Water Commissioners to lay water pipe under G.T.R. at Concession road, Merritton, Ont.

5996. Jan. 4.—Authorizing G. Collinson to place wires across C.P.R. on Broadway St., Killarney, Man.

5997. Jan. 4.—Authorizing Saskatchewan Government Telephones to place wires across C.P.R. between Manor and Carlyle, Sask.

5998. Jan. 8.—Authorizing C.P.R. to construct spur line into W., C. M. and R. Peters' coal yard, Elizabeth and Maria Sts., East Toronto, Ont.

5999. Jan. 4.—Authorizing G.T.R. to construct a branch line to G. Niebergal & Son's premises, Strong tp., Parry Sound district, Ont.; and a through siding, or service track, on C.P.R. property and crossing, John and Main Sts., Sundridge, Ont.

6000. Jan. 5.—Authorizing C.P.R. to operate the Hull trestle, on its Eastern Division, Quebec province.

6001. Jan. 4.—Authorizing city of Winnipeg to lay a pipe under C.P.R. at Polson Ave., Winnipeg.

6002. Jan. 5.—Authorizing Bell Telephone Co. to place wires across G.T.R. at Salisbury St., 200 yds. south of Galt, Ont.

6003. Jan. 7.—Authorizing Erie Telephone Co. to place wires across G.T.R. at overhead bridge, Munsey St., Cayuga, Ont.

6004. Jan. 8.—Approving revision of location of B.C. Southern Ry., Michel branch, from mileage 0.2½ west of Michel, northerly following east bank of Elk River, B.C.

6005. Jan. 8.—Approving location of the C.N.O.R. through Stratton, Barren, Niven, and White tps., Nipissing district, Ont.

6006. Jan. 18.—Approving G.T.P.R. standard passenger tariff, C.R.C. 2, to apply between stations east of and including Edmonton, Alta., on the basis of 3c. a mile.

6007. Jan. 8.—Approving location of M.C. Rd.'s passenger station at Welland, Ont.

6008. Jan. 8. — Approving location of C.N.R. Humboldt-Calgary line, through tps. 29 and 28, ranges 15-21, w. 3rd m., mileage 76.09 to 117.06, southwesterly from Saskatoon, Sask.

6009, 6010. Jan. 8.—Authorizing Bell Telephone Co. to place wires across G.T.R. near Marshville station, Ont.

6011. Jan. 9.—Authorizing Norfolk County Telephone Co. to place wires across G.T.R. at road allowance between cons. 4 and 5, lot 3, Woodhouse tp., Ont.

6012. Jan. 11.—Authorizing B.C. Southern Ry. to construct a crossing to J. Cosovell's premises, Moyie, B.C.

6013. Jan. 9.—Authorizing J. Lortie to lay pipe under Quebec Ry., Light & Power Co.'s tracks at Beauport, Que.

6014. Jan. 9.—Approving C.N.Q.R. by-law authorizing President, General Freight and Passenger Agent, and the chief clerk in office of G.F. & P.A., to prepare and issue tariffs of tolls to be charged.

6015. Dec. 18. — Authorizing Manitoba Government Telephones to place wires across G.T.P.R. and C.N.R., one mile west of Portage la Prairie, Man.

6016. Jan. 9.—Authorizing G.T.R. to open for traffic the portion of its line of an additional track between Hamilton and Port Dover, from the main line between Hamilton and Niagara Falls, at Mary St., to Ferguson Ave., near where the latter crosses Cannon St., Hamilton, Ont.

6017. Jan. 8.—Authorizing New Brunswick Southern Ry. to construct bridge across Lancaster River.

6018. Jan. 9.—Authorizing Wood Bay Telephone Co. to place wires across C.P.R. at Wood Bay, Man.

6019. Jan. 12.—Authorizing G.T.R. to re-construct bridge across Richelieu River, Beloeil, Que.

6020. Jan. 12.—Rescinding order 5493, Oct. 22, 1908, approving Express Classification C.R.C. 1, Tables of Graduated Charges C.R.C. 2, and Money Classification C.R.C. 3; and directing that the express companies notify agents to apply tariffs in existence prior to Jan. 1, until further orders.

6021. Jan. 9.—Authorizing C.P.R. to open for traffic the grade revision of its line between Woodstock and Hartland, N.B., near Newburg Jct., and directing the company to complete fencing along the line not later than May 15.

6022. Dec. 29.—Authorizing C.P.R. to construct public crossing at Gordon Lumber Co.'s private crossing, 231 ft. west of proposed Bay St. crossing, Cache Bay, Ont.; and ordering it to slope the southern side of cut through bluff, 600 ft. west of crossing, from fence to 3 ft. above track, the work to be completed by June 1.

6023. Jan. 4.—Authorizing Toronto and Niagara Power Co. to place wires across Toronto Suburban Ry. at Davenport road, York county, Ont.

6024, 6025. Jan. 8.—Authorizing town of Oshawa, Ont., to construct highways across Oshawa Ry. at Barrie Ave and First Ave..

6026. Jan. 9.—Authorizing city of Hamilton to lay sewer pipe under G.T.R., Port Dover branch, at Sanford Ave., Hamilton, Ont.

6027. Nov. 25.—Directing railway companies to equip their non-platform cars with operating levers for uncoupling cars.

6028. Jan. 13.—Authorizing city of Hamilton, Ont., to lay water main under T.H. & B. Ry. at Wentworth St.

6029. Jan. 12.—Dismissing application of Bay of Quinte Ry. for order settling compensation payable by it to Kingston and Pembroke Ry. in respect of running rights possessed by applicant over K. & P.R., from Harrowsmith to Kingston, Ont.

Aerial Tramway in the Yukon.—A contract is reported to have been closed with a U.S. firm for the construction of an aerial tramway line from tideway at Dyea to the head of Lake Lindeman, Alaska. This latter point connects with the system of lakes which has over 1,000 miles of coast line in the Yukon country, and also connects with the Yukon River as far as Dawson, Yukon. The contract, it is stated, calls for the completion of the line, which will have a length of about 15 miles, by 1909. The promoters state that the actual cost of handling freight over the line will not exceed 25 cents a ton, and that the cost of transportation on the rivers and lakes to any of the camps in the Yukon or Klondike will be nominal. The line will be utilized to carry ore to tidewater. It is claimed that by the operation of this line the cost of living in a large number of the camps can be reduced by from 50 to 75%.

The Chicago, Ill., courts granted an injunction recently on the application of the C.P.R., restraining Nichols Bros. from distributing alleged defamatory circulars concerning the business of the railway company in selling Canadian lands.

ELECTRIC RAILWAYS.

British Columbia Electric Railway Co.

Following are extracts from the 11th annual report for the year ended June 30, 1908, submitted at the last general meeting held in London, Eng.:

The business shows continued and increasing prosperity in all departments. The past year has been one of quiet, steady progress for the cities and districts served by the railway. Large numbers of the best class of settlers have arrived in the country; in a great many instances, men who, having made money in the central provinces of Canada or in the U.S., prefer to live in the more uniform climate of British Columbia. Building has been active in the cities; a number of large and imposing business structures have been erected, and important public improvements have been carried out. During the spring your Managing Director, J. C. M. Buntzen, spent two months in British Columbia carefully investigating conditions and inspecting the company's property, and he entirely confirms the opinion formed by Hon. M. R. Gifford the previous autumn that the increasing business is founded on sound commercial conditions, and may be relied on to continue. For the 12 months to June 30, gross receipts increased $525,218, or 36%, and the net earnings, including income from investments in subsidiaries and after charging renewals, increased $208,749, or 30% over the preceding year. The following charges have been made against revenue account:

Provision for renewals maintenance (from which £11,830-9-11 has been deducted for adjustments and expenditure on renewals during the year)				£	31,161	16 2
Bonus to employes					8,350	14 5
Amount added to capital amortization fund					1,940	9 5
Net profit for year, after making above deductions				£	154,223	13 7
Balance brought forward from last year					3,480	19 6
				£	157,704	13 1
Deduct—						
Interest on debentures and debenture stock to June 30	£33,230	14	2			
Dividends already paid—						
On 5% cumulative perpetual preference stock for the year ended June 30	15,000	0	0			
On preferred ordinary stock for the year ended June 30	19,500	0	0			
On deferred ordinary stock for 6 months to Dec. 31, 1907	16,000	0	0			
					83,730	14 2
Leaving available for further distribution and reserves				£	73,973	18 11

From this the directors have decided to recommend the payment of a dividend on the deferred ordinary stock, including the recent issue of 100,000 deferred ordinary shares of £1 each, at 8% per annum for the 6 months to June 30, 1908, making 8% for the year, £20,000; to transfer to reserve fund (increasing this fund to £140,000), £49,000; total, £69,000; leaving to carry forward to next account, £4,973, 18s. 11d.

The number of lights in use at June 30, 1908, was 287,624, an increase of 70,838 over June 30, 1907. The number of passengers carried during the year was 21,328,180, an increase of 5,046,414. During the year £218,021-6-11 was spent in extensions and improvement of the company's property and equipment.

Your company has been granted valuable rights to conduct a light and power business in perpetuity by the municipalities of South Vancouver, Burnaby, Richmond,

Delta, Surrey, Langley, Matsqui, Sumas and Chilliwack, and the perpetual right—which for 99 years is exclusive—to conduct an electric railway business through the latter five municipalities, under conditions which are in every way satisfactory and equitable to all parties concerned. The acquisition of these important privileges in the districts surrounding and immediately adjacent to Vancouver and New Westminster has been confirmed by the votes of large majorities of the taxpayers. Your directors take especial pleasure in recording their appreciation of the confidence thus reposed in your company and its management, and they will continue their settled policy of doing their utmost to promote the prosperity of the territory served by the company, and of keeping constantly before them the interests of the public. The company has already established a light and power service in South Vancouver, Richmond, Burnaby and Delta, and with the completion of the railway to Chilliwack, will extend this service into the other municipalities. The Westminster and Chilliwack line is the most important railway extension in hand. It will be approximately 63 miles long, and will pass through perhaps the most fertile territory in B.C., namely, the rich lands on the south side of the Fraser River, the proper development of which has up to the present been most seriously retarded by lack of transportation. Already some hundreds of families have settled on the lands adjacent to our new line, and land values have very largely appreciated. A considerable number of industrial works, saw mills, etc., are also being built along the line. Another important and much desired extension is being constructed through the eastern suburbs of Victoria towards Foul Bay. The line will pass the Victoria cemetery and terminate near one of the most beautiful bays of B.C., with a sheltered position, southern aspect and fine sandy beach. It is expected to draw a large amount of summer traffic, as indicated by the number of residences already being built there in anticipation of the railway. The traffic arrangements made with the C.P.R. in 1905 with reference to their line from Vancouver to Steveston, have been extended to their line from New Westminster to Eburne, which line the company having electrified is now commencing to operate. Your company has, in connection with the Chilliwack extension of the railway, acquired through one of its subsidiaries the whole of the shares of the Sumas Development Co., Ltd., which is now actively engaged in protecting by dykes about 35,000 acres of land which have heretofore been subject to periodical overflow by the waters of the Fraser River. The major portion of the cost of these works will be borne by the Dyking Commissioners, and when they are completed they will be maintained by the Commissioners at the cost of the owners of the land benefited. On the completion of the works the company will receive from the Dominion Government a bonus of about 11,000 acres of land, through the centre of which the railway will pass, and which should be very valuable. The carrying out of these works will also provide a better line for the company's railway. Your directors were fortunate enough to foresee the financial troubles which occurred throughout the world last November, and the crisis found the company with large cash reserves with which it was enabled to buy large quantities of supplies in advance, both for ordinary use and for the above extensions, at very low prices.

The Vancouver power installation continues to work satisfactorily, and has delivered all the power required in the Van-

The Meaford Wheelbarrow Co., Limited

MEAFORD ONTARIO

MANUFACTURERS OF

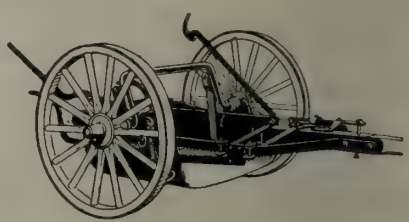
WHEELBARROWS, both wooden and steel

WHEEL SCRAPERS, square box and pressed bowl

ALL STEEL DUMP CARS FOR HAND WORK

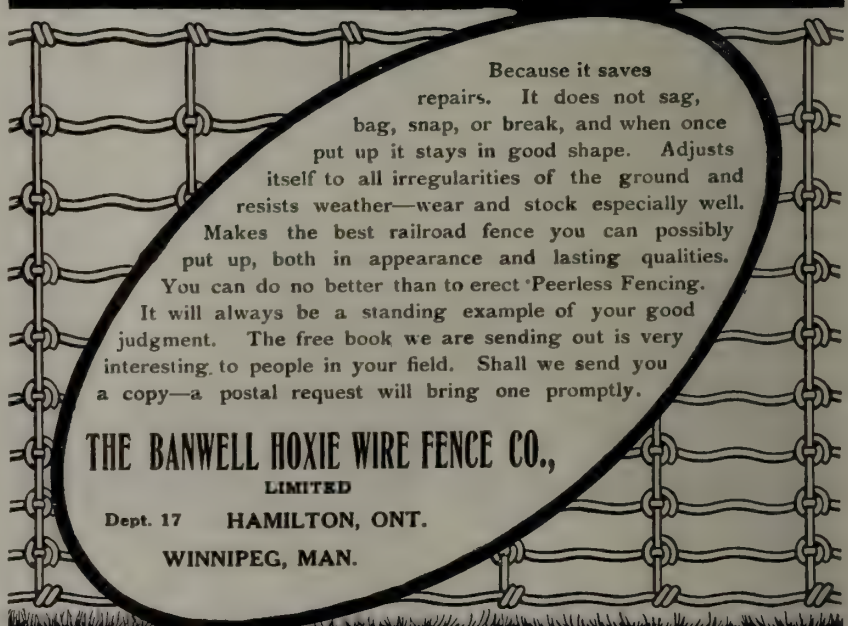
PRESSED STEEL SEAMLESS DRAG SCRAPERS

(Handles either on top or sides)



Newest Patterns
Prompt Shipments
Correspondence Solicited
Send for Catalogue

PEERLESS
The Fence that saves Expense



Because it saves repairs. It does not sag, bag, snap, or break, and when once put up it stays in good shape. Adjusts itself to all irregularities of the ground and resists weather—wear and stock especially well. Makes the best railroad fence you can possibly put up, both in appearance and lasting qualities. You can do no better than to erect Peerless Fencing. It will always be a standing example of your good judgment. The free book we are sending out is very interesting to people in your field. Shall we send you a copy—a postal request will bring one promptly.

THE BANWELL HOXIE WIRE FENCE CO.,
LIMITED
Dept. 17 HAMILTON, ONT.
WINNIPEG, MAN.

STRONGER
Than Stock-Weather and Wear

couver and New Westminster districts. A new electrical unit of 10,500 h.p. has been installed, and came into operation during the year under review. The installation of a further unit of 10,500 h.p. has been commenced and will come into operation during 1909. Certain improvements are being undertaken tending to increase the available water power, which will then be sufficient to meet the company's prospective needs for some years to come. Your directors, fully alive to the possible requirements of the future, have from time to time had practically all the known water powers within possible distance examined by eminent engineers, and, acting on their advice that the falls of the Chilliwack River offer the best available power for future extensions of our system, have secured these water rights with the object of developing them as soon as required. A large increase in the amount of power available for Victoria has become a matter of pressing necessity, which is receiving the earnest consideration of your directors, who have had experienced hydro-electric engineers in the field throughout the summer collecting data on which to base construction plans. The large increase in the volume of business has rendered it necessary to extend the freight yards and sheds, and also the offices and terminus in Vancouver. A large block of land in the heart of the wholesale district of Vancouver has been purchased for the first-named purpose, and the new sheds will be in use before the end of the year. Land adjacent to our present offices has also been secured, and during the current year new office buildings and terminal station will be commenced. It has also been found necessary to increase the capacity for building rolling stock, and large additions to our building yards and shops at New Westminster have been completed.

The directors have much pleasure in recording their appreciation of the services of the company's General Manager, the officers and staff in British Columbia, and their satisfaction with the excellent relations which continue to exist between the company and its employes. The share of profits for the past year distributable among the employes amounts to $40,501.

Since the date of the last report £300,000 further capital has been issued to provide funds to meet the rapid development of business in all departments; the directors now propose to increase the authorized capital by £300,000, leaving the balance of unissued capital at the same figure as last year. In accordance with the stockholders' wishes as expressed at the last two annual meetings this further capital was allotted direct to them, and has constituted a very considerable bonus. Your directors will, whenever possible, continue to offer all underwriting and issues of new capital direct to the stockholders, but in consequence of representations made, which seem well founded, that this course inflicts an injustice on a large number of firms of stockbrokers who have supported the company by their influence in the past, the directors feel that in future they must stipulate that allotments and underwriting on new shares must be taken up by the stockholders through a stockbroker, to whom the usual commission will be paid by the company.

The period of J. Buntzen's engagement as Managing Director has expired, and he having decided to reside permanently in Denmark, is unable to continue in his responsible position. His colleagues are glad to inform the stockholders, however, that they have succeeded in persuading him to retain his seat on the board and to maintain his close supervision and guidance of the board's general policy in a consulting or advisory capacity. The board need not remind the stockholders that Mr. Buntzen's advice, based on his long experience as General Manager, to which much of the company's prosperity is due, is invaluable to his colleagues.

Projects, Construction and Betterments.

Brantford Street Ry.—In connection with the new franchise granted by the Brantford Ont., City Council, on Dec. 21, the company's solicitor informed the council that if the bond of $25,000 was not deposited within the specified time the franchise would not be extended. In addition to the reconstruction of the lines in the city within a year, the new agreement provides that the company will, within two years, proceed with the construction of a line from Brantford to Port Dover. The company is reported to have secured $3,000,000 of capital, sufficient to insure the carrying out of the plans of reconstruction and extension. (Jan., pg. 51.)

British Columbia Electric Ry.—The Provincial Government has given the company permission to extend its car lines through Hastings townsite, upon condition of constructing a line across the townsite on Hastings road, and extending the Powell St. line for about a mile. The work is to be gone on with at an early date.

Application is being made by the Vancouver Power Co., a subsidiary of the B.C. E. Ry. Co., to the Provincial Government for certificates in connection with further construction at the outlet of Coquitlam Lake. It is proposed to construct a further dam 650 ft. long, with a crest width of 20 ft., and a thickness at base of 430 ft., at the upper end of the main upper channel, the dam to be of sufficient height to raise the water level of Coquitlam Lake by about 60 ft., and a spillway channel about 150 ft. wide and 12 ft. deep to carry away the surplus water. (Jan., pg. 51.)

Calgary, Alta.—C. Taylor, of Edmonton, Alta., was in Calgary, Jan. 6. in consultation with the Mayor and city council with respect to the construction of an electric railway there. It is said that the street railway will be completed by July 1. A press report states that the pay-as-you-enter type of cars will be used. Mr. Taylor was asked to make certain investigations on behalf of the council in connection with the construction of the line. On Dec. 26, a car for the street railway arrived in the city, and was hauled over the portion of the tracks already laid, viz., from Second Street East to Fourth Street West. (Jan., pg. 51.)

Tenders were invited Jan. 22 for the installation of the street railway in the city, complete, and also for the extension of the civic power plant, in order to supply power to operate the railway.

Cobourg, Peterborough and Kawartha Lakes Electric Ry.—The Ontario Legislature will be asked to pass an act incorporating a company with this title for the purpose of constructing and operating by electricity, or any other motive power except steam, a railway from Cobourg to the C.P.R. near Havelock, Ont., passing through the townships of Hamilton, Haldimand, Percy, Seymour, and Belmont, and the towns and villages of Campbellford, Trent Bridge, Warkworth, Burnley, Centreton and Baltimore; also a line from Cobourg to the Kawartha Lakes, passing through the townships of Hamilton, South Monaghan, Otonabee and Smith, the villages of Cold Springs, Plainville, Bewdley, Bailieboro, Centreville and the city of Peterborough. It is also desired to have authority to construct branch lines not exceeding in any one instance 30 miles, or to go beyond the boundaries of Northumberland, Durham and Peterborough; and to issue bonds to the amount of $25,000 a mile of line constructed. D. Ewing, Cobourg, Ont., is solicitor for applicants.

Cobourg, Port Hope and Havelock Electric Ry.—Application is being made to the Ontario Legislature to incorporate a company to build an electric railway from Port Hope to Cobourg, and to Havelock, via Hope, Hamilton, Haldimand, Percy, Seymour, Belmont and Methuen, also a branch line from Cobourg to Gore's Landing, and with power to build branch lines of 30 miles each, and issue bonds up to $25,000 a mile. H. A. Ward, Port Hope, Ont., is the solicitor.

Dunnville, Wellandport and Beamsville Electric Ry.—The Ontario Legislature will be asked next session for an act authorizing the company to extend its projected line from Beamsville to Jordan Harbor, Ont. J. R. Roaf, Toronto, is solicitor for applicants.

East Ontario Counties Electric Belt Line Ry.—Application will be made to the Ontario Legislature for an act incorporating a company with this title with power to construct a railway from Lancaster tp., Glengarry county, westerly to Cornwall, thence through the townships of Osnabruck, Williamsburg, Matilda, Edwardsburg, and Augusta, to Brockville; thence to the western boundary of Elizabeth tp., and through the tps. of Young and Darling, to the boundary of Lanark, to connect with the Lanark County Electric Ry., which company was incorporated in 1897; also from Morrisburg northerly to Winchester, Kenmore and Ottawa, to connect there with the Lanark County Electric Ry.; and a branch from Kenmore to Russell, connecting with the Ottawa and New York Ry. It is also desired to have power to enter into agreements with the Cornwall Electric Street Ry., or to amalgamate with or purchase the same; and to issue bonds to the extent of $20,000 a mile of railway constructed. F. Iveson, Ottawa, is solicitor for applicants.

A meeting was held at Ottawa Dec. 30, when the project was discussed, and it was decided to proceed with the application to the Legislature for the act, and to go on with the applications for franchises from the municipalities. The line, which would have a total length of about 200 miles, would connect Ottawa with Arnprior, Renfrew, and other towns, on the way to Brockville, along the St. Lawrence River and back to Ottawa.

Hamilton Street Ry.—A press report states that the company has decided to proceed with the work of relaying the track on James St., Hamilton, Ont.

The Hull Electric Co. has under consideration the question of constructing the following extensions: From Bridge St. to Laurier Ave., Hull, Que., three miles; and from Hull station to the toll gate on Chelsea road, 4,000 yards.

Huron and Ontario Ry.—Application will be made to the Dominion Parliament for an act extending the time within which the projected lines may be constructed, and giving the company power to issue bonds to a larger amount than it is now authorized to do.

Moncton Street Ry., Heat and Power Co.—Representatives of this company have held several meetings with the special committee appointed by the city council, to discuss the question of the construction of a street railway within Moncton, N.B. Considerable progress is reported to have been made, and it is expected that a complete understanding will be arrived at, so that when the company's application for an extension of franchise comes before the Legislature, there will be no fighting to be done in committee.

Montreal and Southern Counties Electric Ry.—A public meeting of the inhabitants of St. Lambert, Que., held Dec. 29, passed a resolution asking the town council to pass the by-law granting the company a franchise in the town, and on Dec. 30 the town council approved of the by-law. W. B. Powell, representing the company, said $200,000 had been expended upon the project, and the necessary capital for construction had been secured. A vote of the taxpayers on the by-law was taken Jan. 21.

Morrisburg Electric Ry.—Application will be made to the Ontario Legislature for an act amending the company's act, chap. 130, of the statutes of 8th Edward VII, by authorizing the extension of the main line to Ormond in Winchester tp., Dundas county, and on through the tps. of Winchester, Osgoode and Gloucester to Ottawa, passing through or near Kenmore, Metcalfe and Greeley, then along the Gloucester macadamized road; and also by extending the line from St. Therese in Winchester tp., to connect with the main line in Osgoode tp. I. Hilliard, Morrisburg, Ont., is solicitor for applicants.

Mount McKay and Kakabeka Falls Ry.—A press report states that construction will be resumed on this line in the spring. When work ceased for the winter about three miles of track had been laid. The line is projected to connect Fort William, Ont., and Kakabeka Falls on the Kaministikwia River, a distance of about 20 miles. The portion of the line immediately under construction will connect the city with an amusement park, which the company is laying out about six miles from the city. G. R. Duncan, Fort William, is the company's engineer.

Ontario Inter-Urban Ry.—Application will be made to the Ontario Legislature for an act extending the time within which the company may construct the various lines which it is authorized to construct by its act of incorporation. S. S. Martin, Toronto, is solicitor for the applicants.

Ontario West Shore Electric Ry.—Application will be made next session of the Ontario Legislature for an act changing the name of this company to that of the Ontario West Shore Ry., and declaring valid a contract between the company and the Maitland River Power Co., for the supply of light, heat and power for 30 years from July 1, 1908; and confirming an agreement with the Toronto General Trusts Corporation with respect to an issue of bonds.

People's Ry.—The Ontario Legislature will be asked to pass an act incorporating a company with this title to construct a railway to be operated by electricity or

---

NOTICE.—The Canadian Pacific Railway Company will apply to the Parliament of Canada at its next session for an Act:—

I.—Extending the time within which it may construct (a) the railway which it was authorized by Chapter 52 of the Statutes of 1902 to construct from a point at or near Piles Junction, thence to Shawinigan Falls, and thence to Grand Mere; (b) the railways which it was authorized to construct by Section 3 (a), (b), (c), (d), (f), (g) and (i), of Chapter 74 of the Statutes of 1907.

II.—Authorizing it to construct a line from a point on the revision of the Crow's Nest Pass Branch in Township 9, Range 22 West 4th, in a northerly and northwesterly direction to a point of junction with the Macleod Branch of the Calgary & Edmonton Railway at or near Aldersyde, in the Province of Alberta, a distance of about 85 miles; and for other purposes.

WALTER R. BAKER,
Secretary.

DATED at Montreal, January 20th, 1909.

The Salt Breath of the Sea Brings Health

GALEN HALL ATLANTIC CITY, N.J.

Hotel and Sanatorium

New Stone, Brick and Steel Building, with every convenience, luxuriously furnished and superior table. ALWAYS OPEN. ALWAYS READY. ALWAYS BUSY. Half an acre of Medicinal and other Baths, with trained operators and attendants.

F. L. YOUNG - - General Manager

CHALFONTE

AND

ATLANTIC CITY

A combination to satisfy the most exacting; to please the most particular; to suit young and old. The ocean, the board walk, the yachts, from the one; a quiet, restful and elegant home in the other. Write for reservations to

THE LEEDS COMPANY

Always Open On the Beach

other motive power from Woodstock, via Plattsville, New Hamburg, Baden, Berlin, Guelph, Fergus, and Elora, to Arthur, Ont., with a branch from New Hamburg, via Tavistock, to Stratford. Power will also be asked to construct lines connecting these lines with other electric railways, to issue bonds not exceeding $20,000 a mile of line constructed; to enter into agreements with other companies for the operation of its railways, and to acquire other railway lines or branches in the district served by its lines. J. R. Roaf, Toronto, is solicitor for applicants.

N. R. and W. A. Bugg, of Toronto, who are active in the promotion of the company, were in Stratford, Jan 7, to explain the project to the city council there. The question will likely be considered at a public meeting to be called jointly by the city council and the Board of Trade. (See Woodstock to Guelph, Jan., pg. 55.)

Peterborough Radial Ry.—Application will be made to the Ontario Legislature for an act extending the time for the completion of the lines already authorized, and granting permission to construct an extension of the line from Clear Lake through Douro, Dummer and Smith tps., or either of them, to Stoney Lake.

Port Arthur, Ont.—Provision was made in a by-law voted on at the recent municipal elections at Port Arthur, for the expenditure of $25,000 upon improvements of the street railway system within the city boundaries.

Regina Inter-Urban Tramway Co.—Application will be made to the Saskatchewan Legislature for an act incorporating a company with this title, with power to construct a tramway line without the city of Regina, but connected with the city. Mackenzie, Brown, Thom and Frame, Regina, are solicitors for applicants.

A press despatch from Regina says the project aimed at by the promoters of the company is to construct a railway from Regina to Long Lake, and a line from that point circling Regina. Surveys are reported to be in progress, and it is said that construction will be started in the spring. Among those interested in the formation of the company are: J. L. R. Parsons, W. M. Logan, J. F. Frame, of Regina; R. R. Barber, Georgetown, Ont.; C. J. Harris, Brantford, Ont.; H. H. Houser, Toronto.

St. Albert, Alta.—Application will be made to the Alberta Legislature by the municipal council of St. Albert, for power among other things to grant a franchise, exclusive or non-exclusive, for running within the limits of the town a street railway, to be operated by steam, electricity or other motive power; of granting a bonus for the construction of such a railway, and of borrowing the money required to provide the bonus by means of debentures or otherwise.

Sarnia St. Ry.—During 1908 the company completed 1.25 miles of line from uptown to the Pere Marquette Rd. station. It has been decided to construct a second track for about 2,000 ft. on Front St. during the coming season.

Sydney-East Bay Electric Tram Ry.—Application has been made to the county council of Cape Breton for a franchise for an electric railway from Sydney to the southern end of East Bay, with branches and spurs, the whole to have a length of about 17 miles. The proposal is being supported by the Cape Breton Electric Co., and the surveys made show a route along the main highway for the entire distance. If this route is adopted it will enable the line to follow the shore line of the river from near Gibbons' bridge to the Forks or Barnes Lake. There are extensive gypsum deposits at the end of the projected line, which are being developed by the Dominion Ry. and Plaster Co., which is promoting the construction of the railway. W. Crowe, K.C., explained the proposals of the promoters at a meeting of the county council at Sydney, Jan. 13, and asked that a guarantee of the principal and interest of $500,000 of the company's bonds be given. A committee was appointed to investigate the company's plans and propositions.

Toronto and York Radial Ry.—The Metropolitan Division has been placed in operation for an additional distance of 1.50 miles, viz., from Jackson's Point to Sutton, Ont. The new roadbed was recently inspected by F. H. Wyse, engineer for the Ontario Railway and Municipal Board, and an order was issued by the Board Dec. 31, authorizing its operation for traffic.

Toronto, Niagara and Western Ry.—Application will be made to the Dominion Parliament for an act extending the time for the commencement and completion of the company's railways, viz., Toronto to Niagara Falls, Ont.; Toronto to Windsor, Ont.; St. Catharines to Port Colborne, Ont. It is also desired to have power to increase the amount of bonds to be issued. Royce and Henderson, Toronto, are solicitors for applicants.

Preliminary work has been started at Niagara Falls, N.Y., in connection with the construction of this company's line, which will give a through electric railway connection with Toronto. Surveys have also been started on the New York side of the river for the approaches of the projected bridge which is to connect the railway with the electric railway on the U.S. side, and more particularly with the Buffalo, Lockport and Rochester Electric Ry., which is controlled by allied interests. The President of the International Ry., Buffalo, says the work in progress is in no way connected with that company's operations.

The Toronto Ry. has completed arrangements for the construction of large barns on the west side of Lansdowne Ave., north of Bloor St. The plans show a brick and concrete structure, 100 ft. by 350 ft., with accommodation for over 100 cars. By an arrangement with the city council new tracks will be laid on the Arthur St. line, between Bathurst St. and Ossington Ave., at the same time as the street is being repaved.

The city council has given notice that it will make application next session of the Ontario Legislature for authority to raise $135,000 by means of debentures, or to use that amount from the revenue received from the T. Ry. Co., to provide the bridges, grading, etc., required for the eastern entrance to the Exhibition Grounds without obtaining the assent of the ratepayers. The Legislature threw out a similar application in 1908, as a popular vote had declared against it.

Windsor, Essex and Lake Shore Rapid Ry.—Application is being made to the Dominion Parliament for an act extending the time for the commencement and completion of the construction of the balance of the authorized line.

Electric Ry. Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for Nov., 1908, $202,378; operating expenses, $124,621 (including $30,000 in respect of the estimated cost of the accident of Nov. 7); net operating earnings, $77,757; renewal funds, $14,443; net earnings, $63,314; income from investments, $13,550; net income, $76,864, against $180,851 gross earnings; $84,054 working expenses; $96,797 net operating earnings; $10,750 renewal funds; $86,047 net earnings; $11,036 income from investments; $97,083 net income for Nov., 1907. Gross earnings for 5 months ended Nov. 30, 1908, $937,589; net earnings, $433,074, against $814,290 gross earnings and $407,476 net earnings for same period 1907.

The Vancouver city treasurer recently received $2,720.19, being the percentage due the city on the company's Nov. earnings. This is $860.76 more than was paid for Nov., 1907. The amount paid to Vancouver during the 11 months ended Nov., 1908, was $20,276.66, against $14,232.51 for same period 1907.

Chatham, Wallaceburg and Lake Erie Ry.—The city council of Chatham, Ont., will apply to the Ontario Legislature for an act reviving and confirming a by-law passed in 1904, authorizing the corporation to lend $50,000 to the company, and to authorize the issue of debentures to provide the sum. It is also desired to have a by-law of 1908 confirmed, by which the interest to be paid upon the sum is fixed at 5% instead of 4%, as previously authorized; declaring the debentures issued valid and providing for the levying of rates to meet the instalments of principal and interest, as they become due.

Detroit United Ry.—It is said that the D.U.R. Co. is arranging to issue $2,500,000 of consolidated first mortgage 5% bonds in London, Eng., with the object of retiring $1,000,000 of short term notes which fall due in March, and providing funds for various purposes. The company owns the Sandwich, Windsor and Amherstburg Electric Ry. and the Windsor and Tecumseh Ry. in Canada.

Hull Electric Co.—Application will be made at the current session of the Dominion Parliament for an act authorizing the company to change the date of the annual meeting of shareholders.

London St. Ry.—Gross earnings for Dec., 1908, $20,558.16; expenses, $14,848.66; net earnings, $5,709.50; interest, $2,544.56; surplus, $3,164.94; against $19,494.24 gross earnings; $14,524.54 expenses; $4,969.70 net earnings; $2,329.80 interest; $2,639.90 surplus for Dec., 1907. Gross earnings for 12 months ended Dec. 31, 1908, $235,032.40; expenses, $167,566.72; net earnings, $67,465.68; interest, $28,454.74; surplus, $39,010.94; against $232,376.59 gross earnings; $168,024.88 expenses; $64,351.71 net earnings; $27,228.64 interest; $37,123.07 surplus for same period 1907.

Montreal St. Ry.—Gross earnings for Dec., 1908, $304,884.84; expenses, $205,818.97; net earnings, $99,065.87; city percentage on earnings, $12,275.79; interest on bonds and loans, $15,306.25; rent leased lines, $444.46; surplus, $71,039.37; against $294,640.17 gross earnings; $192,310.26 expenses; $102,329.91 net earnings; $11,275.50 city percentage on earnings; $16,719.31 interest on bonds and loans; $339.93 rent leased lines; $73,995.17 surplus for Dec., 1907. Gross earnings for 3 months ended Dec. 31, 1908, $935,071.10; expenses, $557,295.02; net earnings, $377,776.08; standing charges, $82,463.93; surplus, $295,307.15, against $902,723.02 gross earnings; $539,522.94 expenses; $363,200.08 net earnings; $83,253.80 standing charges; $279,946.28 surplus for same period 1907.

St. Thomas Electric Ry.—At a recent meeting of the City Commissioners managing the local electric railway, the question of leasing the line to the Southwestern Traction Co. was raised. The Chairman of the Commission, W. E. Idsardi, was authorized to communicate with the S.W.T. Co. on the matter, and arrange for a conference.

Toronto Ry.—Car earnings for Dec., 1908, $313,057.15, against $286,944.68 for Dec., 1907. Total earnings for 12 months ended Dec. 31, 1908, $3,531,693.68, against $3,384,788.08 for 1907.

FENCE TALK No. 1

There are two kinds of fence wire in use, the common hard drawn wire of low carbon —about 0.10. The other is the high carbon steel—0.30 carbon. The former, the low carbon, is, of course, the cheaper. It is the kind used by other fence manufacturers for reasons best known to themselves. We use both kinds. For the discerning trade that is willing to pay a cent or two more per rod, so as to save four or five times as much in completed fence, we make "Page" and "Page Empire" fences, out of high carbon wire made especially for ourselves according to our own specifications. For others we make our "Star" fences from hard drawn wire.

But common sense and simple arithmetic can show you the economy of high carbon fence as against our hard drawn or any other fence there is.

Common sense will show you that because high carbon fences are—by actual test —fully one-third stronger than the best of other fences.

Common sense shows you that the stronger fence is the better fence—because it can be stretched tighter, and will stand up to its work longer.

Page Fences, with their high carbon (tougher, harder) steel nine-gauge horizontal wires, are a third stronger than the best of the other kinds. By harsh tests, this high carbon wire stands a strain of 2,400 lbs. The "hard drawn" horizontals in the other kinds break at 1,800 lbs. strain.

Simple arithmetic will show you that the high carbon fences, costing maybe a cent more a rod than the half-as-strong kinds, is actually five cents and more a rod cheaper—because fewer posts will keep them in better shape.

Figure it yourself. Using high carbon fences, say, you can safely set the posts half as far apart again as you'd dare to with ordinary wire fencing. That means two posts for high carbon fence to three for the other kind.

What does it cost to dig post holes? What do fence-posts cost? Figure out the saving for yourself—it is easy to do.

These are but part of the reasons why a railroad can't afford to buy other than the Page Fences—no matter what you pay. Let us send you a booklet (free) that shows you how to prove fence value. The Page Wire Fence Co., Limited, Walkerville, Toronto, Montreal, St. John.

"PAGE FENCES WEAR BEST"

NOTICE.—The Kootenay and Arrowhead Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways which it has been authorized to construct by section 7 of chapter 70 of the Statutes of Canada of 1901; and for other purposes.

H. C. OSWALD,
Secretary.

Dated at Montreal, 13th January, 1909.

NOTICE.—The Manitoba and Northwestern Railway Company of Canada will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways which it has been authorized to construct by section 9 of chapter 52 of the Statutes of 1893, and by section 2 of chapter 104 of the Statutes of 1907; and for other purposes.

H. C. OSWALD,
Secretary.

Dated at Montreal, 13th January, 1909.

NOTICE.—The British Columbia Southern Railway Company will apply to the Parliament of Canada, at its next session, for an Act—

I. Extending the time within which it may construct:

(a) the extension of its railway to the 49th parallel and the Tobacco Plains, which it was authorized to construct by chapter 55 of the Statutes of 1899;

(b) the western section of its railway and the branches to Nelson and Martin Creek as described in section 1 of chapter 52 of the Statutes of 1900.

II. Authorizing it to construct, acquire and operate a branch line from a point at or near Michel in a northerly direction through Kananaskis Pass to a point of junction with the main line of the C.P.R. at or near Kananaskis, a distance of about 120 miles; and for other purposes.

H. C. OSWALD,
Secretary.

Dated at Montreal, 13th January, 1909.

TURNBUCKLES

FORGINGS
OF ALL KINDS

CLEVIS NUTS

CLEVELAND CITY FORGE & IRON CO.
Cleveland, Ohio, U.S.A.

THE CANADIAN BRIDGE CO., LIMITED
WALKERVILLE, ONTARIO

MANUFACTURERS OF

LOCOMOTIVE TURNTABLES ROOFS STEEL BUILDINGS

Railway and Highway
BRIDGES

STRUCTURAL IRON WORK OF ALL DESCRIPTIONS

The Windsor, Essex and Lake Shore Rapid Ry. Co. is applying to the Dominion Parliament for authority to issue further bonds in connection with its railway constructed or to be constructed, so that they may amount in the whole to $25,000 a mile. It is desired that the bonds with coupons for interest may be payable in Toronto, Montreal, New York, or London, Eng., interest being at the rate of 5%, and that it be payable in Canadian currency or sterling exchange.

Winnipeg Electric Ry.—Gross earnings for 1908 $899,632.61, an increase of $37,775.19 over 1907. The city receives 5% of gross earnings, $44,981.63, and $20 for each of the 176 cars operated, making a total payment to the city of $48,501.63, against $46,252.87 for 1907. The gross earnings are made up as follows: Tickets, $697,342.05; cash fares, $198,880.80; sundry earnings, $3,409.76. Since 1902 the gross earnings have increased from $199,738.75.

Several conferences have taken place between representatives of the company and the city council to discuss a proposal to acquire the Street Ry. Co.'s property, franchises, etc. It was stated Jan. 9 that the company had signified its willingness to sell the property. D. D. Mann, representing the company, met the city council Jan. 16, and the reports state that the price asked on behalf of the company was such an amount as would pay 6% on a capitalization of about $16,000,000. At a further gathering Jan. 18, the city council decided to reject the offer, and to proceed with the construction of its own power plant. The company's offer was to sell its railway, lighting plant, gas plant, and all its assets, rights and undertakings as a going concern.

Electric Railway Notes.

The Grand Valley Ry. has received one 50-ft. double-truck car from the Preston Car and Coach Co., Preston, Ont.

The Toronto Ry.'s property in Toronto has been assessed for the purposes of local taxation in 1909 at $2,646,311, against $2,624,833 in 1908.

—. Stengel has been appointed acting Passenger Agent International Ry., Buffalo, N.Y., vice G. Chambers, who is now General Agent with charge of taxes, land, etc.

The Kingston, Portsmouth and Cataraqui Ry.'s car barns were destroyed by a fire which occurred at Kingston, Ont., Jan. 13. All the cars but two were saved. The loss is estimated at $10,000.

The Montreal St. Ry. recently acknowledged the receipt of $1 conscience money. It would be of interest to learn how far the "pay-as-you-enter" system may stimulate a troubled conscience.

E. A. Bredenberg, a London, Eng., mining engineer, who was injured in the accident on the Ottawa Electric Ry. Britannia line, in May, 1908, and had a leg amputated, was awarded $30,000 damages Jan. 12.

R. J. Fleming, General Manager Toronto Ry., has also been appointed General Manager of the Electrical Development Co. of Ontario, Ltd. The affairs of both companies will be administered from the Toronto Ry. Co.'s offices.

The Court of Review, sitting in Montreal, has confirmed the judgment of Recorder Weir, directing the Montreal Street Ry. to pay to the city $39,691.80 for taxes alleged to be in arrears on rolling stock. The company will make a further appeal to a higher court.

The Toronto Ry.'s car shops have been closed except for repairs. The General Manager says there are all the cars on the routes that can be handled on the existing lines, and that until the question of the construction of additional lines is finally settled, it would be useless to build more cars.

The Quebec Courts have reserved judgment on some points raised in the action brought by the Montreal City Council to recover from the Montreal Street Ry. half the cost of the clearing of snow from streets used by the company. Among other things the company alleges that the work was not properly done, and cost more than was necessary.

A New York despatch, Jan 8, says T. A. Edison has invented a storage battery for power propelled cars which will enable them to run 100 miles continuously. The batteries are placed under the seats of the cars, and they can be sufficiently charged at existing power houses to run all day. No new power houses or poles or tracks will be needed.

The Cape Breton Electric Co. is issuing a series of illustrated advertisements in the local press, showing how accidents are likely to happen on street railways, at crossings and other points. The series will doubtless serve a useful purpose in directing public attention to the cases which frequently occur, when a little exercise of thought and care would prevent a catastrophe.

By-laws in favor of the operation of street cars on Sundays were carried at the recent municipal elections at London, St. Thomas and Port Stanley, Ont. The question will probably be raised during next session of the Ontario Legislature, as it is held that a section in the Ontario Railway Act prohibits towns in which street cars were not being operated on Sundays at the time of the passing of the act from securing the privilege.

The Edmonton Radial Ry. has ordered 4 double-truck cars, to be built on the "pay-as-you-enter system," from the Preston Car and Coach Co., Preston, Ont. Following are the chief particulars: Length of body, 28 ft.; width over all, 8½ ft.; "Pay-as-you-enter" platforms at each end, with P.C. and C. Co.'s patent alternate sliding door arrangement on the end bulk-head; interior finish, stained birch; automatic folding door on each side of each vestibule; bottom framing, combination steel and wood; drop platform; single steps; roof with bullnose extending to points of vestibules; P. C. and C. Co.'s positive sand boxes; short wheel base trucks; seating capacity for 44 passengers, with 2 longitudinal seats at each end, and 18 walkover seats of spring cane. The cars will be supplied with double-end equipment and four G.E. 80 motors.

Grain Elevator Notes.

The Alberta Pacific elevator at Red Deer, Alta., recently shipped a carload of wheat to Mexico, via Vancouver, B.C.

A press report states that the Atlas Elevator Co. will erect 25 elevators along the G.T. Pacific route during the year.

Three elevators are under construction at Outlook, Sask., a town which commenced its existence in Aug., 1908, when the C.P.R. branch line from Moose Jaw reached the place.

The Vancouver Milling and Grain Co.'s elevator was destroyed by fire Jan. 4. The loss is estimated to reach $100,000. It is said to be the company's intention to rebuild as soon as possible.

The Western Milling Co.'s elevator and warehouse at Calgary, Alta., together with about 25,000 bush. of wheat and 3 cars of flour, were destroyed by fire Jan. 2. The loss is estimated at $50,000, which is covered by insurance.

A deputation representing various Ontario milling interests waited on members of the Dominion Government Jan. 8, regarding the question of mixing and grading at terminal elevators. The advisability of Government ownership of terminal elevators was also urged.

In the Saskatchewan Legislature, Mr. Langley, M.P.P. for Redberry, Sask., in a speech Jan. 6, advocated the empowering of rural municipalities to erect, own and operate grain elevators for loading, cleaning and storage purposes, but prohibiting them from dealing in grain.

The new agreement which was signed Dec. 15 between the C.P.R. and the city of Fort William, Ont., provides, among other things, that the company shall provide a cleaning elevator at the port within the next three years. At present the cleaning elevator at the head of the lakes is at Port Arthur, and is in private hands.

The proposal to ship Alberta grain westward to Pacific coast ports has been endorsed by the Vancouver Board of Trade. The concensus of opinion is that though the scheme is not likely to be carried out in the immediate future, preparations should be commenced at Pacific coast ports for the construction of elevators and other grain handling facilities.

The Grand Trunk Pacific Elevator Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $1,000,000 and office at Winnipeg, to lease and operate the terminal elevator now under construction at Mission River, Fort William, Ont. The provisional directors are: F. W. Morse, Vice-President and General Manager G.T.P.R., Montreal; J. E. Dalrymple, Assistant Freight Traffic Manager G.T.P.R., Winnipeg; H. H. Palethorpe, W. K. Chandler, T. Gillespie, J. A. Stevenson, and H. Phillips, Winnipeg.

The result of the recent conference of the Premiers of Manitoba, Saskatchewan and Alberta, as to the owning and operation of elevators by the provincial governments, was expected to be announced at the end of Jan. Premier Scott, of Saskatchewan, is reported to have said, at Regina, regarding a dispatch from Winnipeg, Jan. 3, to the effect that the proposals had been vetoed owing to the heavy financial obligations involved, that there was no truth in such a report. Premier Roblin, of Manitoba, estimated recently that about $14,000,000 would be necessary to acquire the elevators by purchase, and stated that such a procedure was unlikely, but that some system of government control was more probable. The full reply of the Premiers to the Grain Growers' Association has been drafted and was signed by Premier Roblin Jan. 16, after which it was sent to Premiers Scott and Rutherford in turn.

The Thunder Bay Elevator Co., has let a contract for the construction of an elevator, with 1,500,000 bush. capacity, at Port Arthur, Ont., to the Barnett-McQueen Co., Fort William. The site on which the elevator will be constructed is on the east boundary of Port Arthur, about midway between the dual ports. The contract price is stated to be $550,000, including the cost of site and trackage, but excluding the cost of a concrete dock which it is proposed to construct as a part of the plant. The plans show three unloading tracks, each with capacity for three cars, and there will be nine pits, each with a capacity of 2,000 bushels. The handling machinery will enable 200 cars to be dealt with each 10 hrs., and the grain to be loaded into vessels at the rate of 50,000 bush. an hour. The plant is to be ready for operation by Sept. 15. The officers of the Thunder Bay Elevator Co. are: President, W. H. McWilliams; Vice-President, G. R. Crowe; Secretary-Treasurer, C. Piper.

MARINE DEPARTMENT.

The All-Red Route.

On the subject of the proposed all-British route to the Antipodes by way of Canada, Lord Strathcona recently said: "Another point upon which I wish to touch is the question of steamship communication, and especially that part of it relating to the opening of the route between Great Britain, Australia and New Zealand by way of Canada. I am quite prepared to admit that a great deal is being done by the existing companies in that direction, but we want something more. Fast communication between the United Kingdom and Canada means a great deal to the relations of the two countries. It must inevitably lead to more emigration, more general passenger travel, and more business. There is a splendid train service between the Atlantic and Pacific through Canada, over the C.P.R.—which is capable of acceleration if required; and before very long the G.T. Pacific and the Canadian Northern Railways will be in operation from one end of the Dominion to the other, opening up new country for settlement and for commercial enterprise. A line of steamers is already plying regularly across the Pacific to China and Japan, largely owing again to the initiative of the very go-ahead C.P.R.; and also a line to Australia and New Zealand. But it cannot be questioned that better and faster steamers on both the Atlantic and Pacific portions of the route would benefit very considerably the different parts of the Empire concerned, while in all probability they would soon pay their way. If the necessary capital cannot easily be obtained by the existing companies, and investors are not ready to face the risks that are believed in some quarters to be involved in the provision of new fast services, the countries to be benefited must step in and take the responsibility. The funds needed might be provided by means of a subsidy, by a direct guarantee of the interest on the capital, or, if thought more advisable, by advancing the necessary funds at a reasonable rate of interest, such as was done in connection with the building of the magnificent Cunard liners, the Lusitania and the Mauretania. Surely, if this was considered desirable in order to promote communication with another nation which is not British, it is worth while to adopt a similar policy in bringing closer together some of the leading countries which are part and parcel of the great Empire to which we belong, and which, I trust, we all desire to perpetuate."

Proposed Grain Clearing House.

At a meeting of the Dominion Marine Association Executive Committee at Montreal, Dec. 31, 1908, the proposals for the installing of a clearing house for grain cargoes were discussed, and unanimously

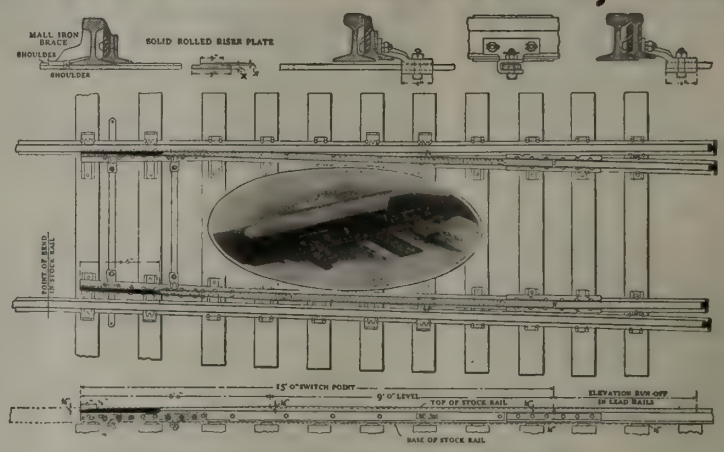
---

NOTICE is hereby given that application will be made by the Grand Trunk Pacific Railway Company to the Parliament of Canada, at its next session, for an Act to ratify and confirm an agreement, dated the 22nd day of December, 1908, made between the Grand Trunk Pacific Railway Company and His Majesty King Edward the Seventh, represented by the Treasurer of the Province of Ontario, entered into in accordance with the provisions of sections 3, 20, 21 and 22 of an Act passed by the Legislative Assembly of the Province of Ontario, being 4 Edward VII, chapter 18.

D'ARCY TATE,
Assistant Solicitor,
Grand Trunk Pacific Railway Company.

Dated at Montreal, this 7th day of January, A.D. 1909.

FOR HARD SERVICE, USE THE



It Will Save You Both Labor and Money

CORRESPONDENCE SOLICITED

RAMAPO MANGANESE POINTED SWITCH.- STYLE No. 12

MANUFACTURED BY

CANADIAN RAMAPO IRON WORKS, Limited
NIAGARA FALLS, ONT.

THE CLIFTON HOTEL
NIAGARA FALLS, CANADA.

Rates $4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

THE ONLY HOTEL THAT COMMANDS AN UNRIVALLED VIEW OF BOTH FALLS

HOW TO REACH THE CLIFTON HOTEL

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes.

Arriving on Michigan Central Rd., Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make CANADA plain in the address.

The **"DILLON"** is a Hinge-Stay fence made of extra quality wire, either all No. 9, or lighter if required.

"MONARCH" fence is made of No. 9 Hard wire throughout, and is of the regular straight-stay style.

ENQUIRY SOLICITED

The Owen Sound Wire Fence Co.
LIMITED

OWEN SOUND, ONTARIO

endorsed. It was given as the opinion of several of those present that such a plan would not only save about 4 days in the loading, but would tend to obviate the trouble over shortages.

A. A. Wright, President, and F. King, Secretary-Treasurer, of the Association, were instructed to attend a meeting of all the interests concerned, which was held at Winnipeg Jan. 7. The object of the meeting was to arrange if possible for the establishment of a clearing house, The representatives of the terminal elevators declared themselves as opposed to the proposal, so far as a clearing house for grain was concerned. An arrangement was, however, made for the establishment of a clearing house for documents at Winnipeg, whereby the loading at Fort William and Port Arthur will be greatly facilitated. Under this arrangement shippers will pass their documents through the clearing house, and the loading will be concentrated in as small a number of elevators as possible. A committee was appointed to arrange the details of the scheme.

The Association has decided to take the necessary steps to have removed from the grain bill of lading the clause whereby the carrier assumes liability for shortage in outturns of cargoes. It was resolved to adopt the flax seed clause, which limits the liability to one half-bushel per thousand, and agrees to look for no payment for over-runs. The Lake Carriers' Association was asked to join with the Dominion Marine Association, and the matter was discussed at its annual meeting at Detroit, Mich., Jan. 20.

Atlantic and Pacific Ocean Marine.

A report of a conference in Melbourne, Australia, Jan. 5, states opinions expressed there were strongly in favor of the proposed all-British route via Canada.

The Furness Line's s.s. London City arrived at St. John's, Nfld., Jan. 4, with a fire in her hold, which had been burning for 5 days. The cargo consisted chiefly of phosphorous.

Joint arrangements are reported to have been made whereby the Norddeutscher Lloyd, Holland American, Hamburg and White Star Lines, will run one vessel each, weekly from Antwerp to Montreal.

The Cairn Steamship Line is reported to have placed an order at Wallsend-on-Tyne, Eng., for a steamship for the St. Lawrence route, to take the place of the s.s. Latona, which was run down on her first voyage.

Andrew Weir & Co., owners of the steamships Suveric and Kumeric, will, it is stated, build two steel cargo steamers for the Puget Sound and Victoria trade. They will be operated by the Bank Steamship Line.

Current reports credit the G.T.R. with having made a working agreement with the White Star Line in connection with the inauguration of its St. Lawrence service in conjunction with the Dominion Line, in the spring.

An arrangement is reported to have been made, whereby the C.P.R., Dominion, Allan and other steamship lines operating across the Atlantic, will make a series of international wireless meteorological reports, commencing with Feb.

It was recently announced in Montreal that the General Transatlantic Steamship Co. of France has decided to run a service between Havre, France, and Montreal, with four vessels, named Chicago, La Gascoigne, La Touraine and La Bretagne.

The number of sailings from St. John, N.B., from the commencement of the winter season of navigation to Dec. 31, 1908, was 21, against 18 for the similar period of 1907. The values of outward cargoes were $3,783,246, against $3,754,418 for the periods of 1908 and 1907, respectively.

The Elder-Dempster Co.'s s.s. Dahomey, from Newport News to Vera Cruz, has been beached at Nassau, in a leaking condition. She was built at Middlesbrough, Eng., in 1891; her dimensions are: Length, 312 ft.; breadth, 40 ft.; depth, 24½ ft.; tonnage, 2,850 gross, 1,828 net.

A cablegram from Christiania, Norway, states that a buoy containing a notice that it was set adrift near Cape Bathurst, 284 miles northeast of the Mackenzie River, July 24, 1900, has been driven ashore at Soeroe. The conclusion arrived at is that it has been carried across the Arctic Ocean and between Greenland and Spitzbergen.

P. F. Fraser, captain of the Quebec Steamship Co.'s s.s. Bermudian, has been presented by the U.S. Government with a gold watch; J. F. Walsh, formerly second officer, with a gold watch; and four seamen of the same vessel with gold medals, for rescuing the crew of the schooner Mary L. Newhall, in Feb., 1908, when she was discovered dismasted and in a sinking condition, 260 miles northwest of Bermuda.

The s.s. Stikklestad, which sailed from Glasgow, Scotland, Nov. 23, 1908, for Sydney, N.S., has been given up as lost. She was in charge of Capt. Axelsen, who is well known in Sydney, N.S. The s.s. Falco, which left Glasgow five days later, arrived at Sydney, N.S., recently, without having sighted her. The former vessel was chartered to the Dominion Iron and Steel Co., and the latter to the Nova Scotia Steel and Coal Co.

W. Becket Hill, Managing Director Allan Steamship Line, Liverpool, Eng, whose death was announced in our Jan. issue, joined the Allan Line in 1867 as Freight Manager, and while still at Liverpool, he designed the first twin-screw tug, which was such a success that both it and its two successors were purchased by the Admiralty. The building of big twin-screw ocean-going steamers on the same principle and the use of higher pressures was his next achievement. He was thus the initiator of the immense twin-screw mail boats which opened a new era in speed and safety. Allan Bros. ultimately made him a partner, with the control of the London house. The New York and Canadian business in Leadenhall St. forms a striking monument of his administrative power. He did much to settle the great dock strike of 1889. Though a keen supporter of the strikers' demand for the abolition of the middleman, he was one of the founders of the Shipping Federation. He gave evidence on the subject before the Labor Commission, and was foremost in obtaining from the Board of Agriculture the removal of restrictions onerous to the ocean cattle-carrying traffic, while the shipping interest is indebted to him for concessions from the Board of Trade in the measurement of cattle deck tonnage. He likewise exposed the anomalies of the incidence of the light dues.

Maritime Provinces and Newfoundland.

N. Randell has been appointed Government wharfinger at Sturgeon, P.E.I.

The crew of the Liverpool, N.S., schooner Annie, which was wrecked near Honduras in Nov., 1908, were landed in New York recently, and proceeded to their homes.

Capt. W. R. Lugar is delivering a series of free lectures in Halifax on matters connected with ships and navigation, at the instance of the Dominion Marine Department.

The schooner W. W. McLaughlin, of St. John, N.B., bound for New York, was driven ashore at Cape Cod Jan. 8. She was subsequently floated and towed to Province Town. She was not seriously damaged.

The schooner J. Arthur Lord, of St. John, N.B., struck on the Stone Horse Shoal during squally weather, Jan. 8. She was floated and towed to Vineyard Haven, Mass., where she was beached in a sinking condition.

The s.s. Turret Bell, on which salvage work has been proceeding for some time, has been successfully floated off the rocks near St. Peter's, P.E.I., and was reported early in Jan. as floating in 7½ ft. of water.

W. H. Price, Assistant General Passenger Agent Eastern Steamship Co., Boston, Mass., having resigned, the position has been abolished, and its duties incorporated with those of the General Passenger Agent.

The schooner Argina was launched at Shelburne, N.S., recently by J. McGill, this making the seventh launched during 1908. The dimensions of the latest vessel are: Length, 98 ft.; breadth, 24 ft.; depth, 24 ft.; tonnage, 98 register.

An order-in-council was passed Jan. 15 amending the order of Nov. 28, 1908, which prohibited ships leaving U.S. ports carrying live stock from touching at Canadian ports, by adding after the words "live stock," the words "with the exception of horses."

The crew of the Newfoundland schooner Red Gauntlet, which was wrecked while bound from Portugal to St. John's, Nfld., were landed at Halifax, N.S., Jan. 9, from the Allan Line s.s. Grampian. They were rescued in the open sea by a French steamer.

The Halifax and Inverness Steamship Co., of Halifax, N.S., has under construction at Mahone Bay, a steamer of about 130 ft. long, for service between Halifax and Cape Breton and Prince Edward Island ports. It is understood that a subsidy has been applied for.

Tenders for the construction of an extension to the breakwater at Tennycape, N.S., were received by the Dominion Public Works Department, but we are advised that no action has been taken on the lowest tender, and that it is probable the work will not be immediately proceeded with.

The St. John Forwarding Co.'s annual meeting was held at St. John, N.B., Jan. 12. Following are the officers and directors for the current year: President, H. H. McLean, M.P.; other directors, A. Gibson, A. Gibson, Jr., J. S. MacLaren, G. W. Massey; Secretary-Treasurer and Manager, A. Rowley.

The bark E. A. O'Brien, which put in at Barbados recently in a damaged condition, has been sold for the benefit of the owners. She carried no insurance. She was built at Noel, N.S., in 1891, her dimensions being: Length, 185 ft.; breadth, 37.4 ft.; depth, 21.3 ft.; tonnage, 1,037 register. G. A. Slawenwhite, of Mahone Bay, N.S., was the managing owner.

An action has been taken in the Supreme Court to compel delivery in Sorel, Que., of the cargo of the schooner H. J. Logan, at present berthed at Halifax, N.S. The vessel, bound from Mobile to Sorel towards the end of 1908, met bad weather, and was considerably damaged. She put in at Halifax, where repairs were made, but in the meantime navigation of the St. Lawrence was closed.

The Valley Steamship Co., Annapolis, N.S., is reported to have ordered a steamboat to be constructed by J. McGill, Shelburne, N.S. Her dimensions will be: Length, 107 ft.; breadth, 22 ft.; depth of hold, 9 ft. She will be fitted with electric light, steam steering gear, and have a powerful searchlight. It is intended to operate her on the Annapolis-St. John route, in place of the Granville, which has been sold to Conners Bros., Black River, N.B. The Granville will be run between St. Andrews and St. John when the new vessel is ready for service.

The Sincennes-McNaughton Co., Ltd., has been awarded $1,500 as damages for a

breach of agreement by the owners of the steamboat Dandy, of Sorel, Que. The Sincennes-McNaughton Co. sold a tug on the condition that so long as she remained in the condition in which she was sold, or retained any of her essential parts, she should not be operated below the Lachine locks except for the purpose of coaling at Montreal, under a penalty of $20 for each trip. The machinery of the tug was placed in the Dandy, and she was operated between Sorel and Montreal in competition with the plaintiff's boats.

Established 1849

BRADSTREET'S

Capital and Surplus $1,500,000

OFFICES THROUGHOUT THE CIVILIZED WORLD

EXECUTIVE OFFICES

NOS. 346 and 348 BROADWAY, N.Y. CITY, U.S.A.

THE BRADSTREET COMPANY gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

CORRESPONDENCE INVITED

OFFICES IN CANADA:

Halifax, N.S.	Hamilton, Ont.	London, Ont.
Montreal, Que.	Ottawa, Ont.	Quebec, Que.
St. John, N.B.	Toronto, Ont.	Vancouver, B.C.
Calgary, Alta.		Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

Canadian Northern Quebec Railway.

NOTICE is hereby given that application will be made to the Parliament of Canada, at the next session thereof, for an Act extending the times for commencement and completion of the following lines of railway, namely, the lines authorized by—

(*a*) Section 2 of chapter 73 of the Statutes of 1907, namely, in brief: Rawdon to Lake Archambault;

(*b*) Section 3 of chapter 70 of the Statutes of 1887, namely, from Quebec, or a point on the Quebec & Lake St. John Railway, to James Bay, with a branch to Chicoutimi, and from thence to the St. Lawrence near Tadousac.

GERARD RUEL,
Chief Solicitor.

Toronto, 31st Dec., 1908.

DIVIDEND NOTICE.

The Northern Navigation Company of Ontario, Limited. Notice is hereby given that a dividend of eight per cent. per annum, for the year ending Dec. 31st, 1908, has been declared upon the paid-up capital stock of the company.

The same will be payable on January 20th, 1909, to shareholders of record January 14th, 1909.

The transfer books will be closed from the 14th to the 26th of January, both days inclusive.

By order of the board.

H. H. GILDERSLEEVE,
Manager.

Toronto, Jan. 7th, 1909.

C.P.R. LANDS

THE CANADIAN PACIFIC RAILWAY COMPANY have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10 W., 4th Meridian (generally)	8.00 " "
Map No. 5—South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta—Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre.

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160 Acres at	$ 8.00	per acre,	cash payment	$191.70	first year's interest	$65.28	and nine instalments of	$160.00
" "	9.00	"	"	215.70	" "	"	73.46	"	"	180.00
" "	10.00	"	"	239.70	" "	"	81.62	"	"	200.00
" "	11.00	"	"	263.60	" "	"	89.78	"	"	220.00
" "	12.00	"	"	287.60	" "	"	97.96	"	"	240.00
" "	13.00	"	"	311.55	" "	"	106.10	"	"	260.00
" "	14.00	"	"	335.60	" "	"	114.32	"	"	280.00
" "	15.00	"	"	359.50	" "	"	122.44	"	"	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-settled districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

Coaches
All Classes
Parlor
Combination
Baggage
Mail
Express
Private
Show Cars
For Sale

HOTCHKISS, BLIZE & CO.

RAILWAY EQUIPMENT

241 RAILWAY EXCHANGE

CHICAGO

Locomotives
Steam
Shovels
Freight
Box
Flat
Gondola
Dump
Refrigerator
Cars
For Sale

RE-BUILT AND SPECIAL CARS TO MEET ANY REQUIREMENTS

RAILWAY SPRINGS

Locomotive, Tender and Passenger Car Springs of every description

Equalizing, Draw-bar, Buffer and Spiral Springs of all kinds

Street Railway Springs from the largest to the smallest

Manufactured by

B. J. COGHLIN & CO., 432 St. Paul St., Montreal, Can.

WIRE ROPE

BALLAST PLOUGH ROPES
WRECKING ROPES
SWITCH ROPES
DERRICK ROPES
SEMAPHORE STRANDS
STANDARD AND LANG'S PATENT LAY, ETC.

The B. GREENING WIRE CO., Limited

HAMILTON, ONT. MONTREAL, QUE.

Province of Quebec Marine.

A. Russell has been appointed Port Warden for Quebec harbor.

A Montreal press report, dated Jan. 18, states that a large shipyard and dry dock is being projected there by Montreal and Toronto people.

The tender of Quinlan, Robertson and Haney, Montreal, for closing the gap in the Carillon dam, has been accepted by the Department of Railways and Canals.

The Dominion Public Works Department has decided not to enter into a contract at present for the construction of a breakwater at Longue Point, for which tenders were recently invited.

We are advised that no action has been taken on the lowest tender recently received by the Dominion Public Works Department, for the construction of a wharf at Three Rivers, and that it is improbable the work will be immediately proceeded with.

The centenary of steam navigation in this country will be celebrated this year. It is claimed that the steamboat Accommodation, built by Hon. J. Molson, was the first steam vessel to be operated outside Great Britain entirely built in this continent. The Accommodation was built at Montreal, and her engines and boilers, etc., made at Three Rivers, Que.

The St. Maurice River Boom and Driving Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $25,000 and office at Three Rivers, Que., with power, among other things, to build, purchase or otherwise acquire and operate steam and other vessels, wharves, docks, etc. The provisional directors are: R. F. Grant, J. M. Dalton, A. Baptist, V. Burrill, Three-Rivers; G. Chahoon, Jr., Grandmere; and J. H. Biermans, Shawinigan Falls, Que.

The Canadian General Development Co., Montreal, has ordered from the Montreal Locomotive Works, a 4-yard dipper dredge, capable of working in depths of from 8 ft. to 30 ft., and dumping the dipper at a maximum radius of 45 ft. from the centre. The hull will be of steel, about 90 ft. long by 31 ft. wide, and 9 ft. deep at the front end in the centre. Accommodation will be provided for living, with the necessary galley, storeroom, etc., and the vessel will be fitted with electric light. Construction of this nature is an entirely new departure for the Montreal Locomotive Works.

Ontario and the Great Lakes.

Capt. A. Hicks, a well-known navigator of the Bay of Quinte, died Jan. 3, at Picton, Ont., aged 59.

Capt. W. Craig, a well-known lake navigator, who retired from the service some time ago, died at Goderich Jan. 18.

W. A. Esson, a former Manager of the Toronto Ferry Co., now of Chicago, Ill., was married in Toronto, Jan. 2, to Miss Boyd.

A report is current that the Government dry dock at Kingston is about to be taken over by private interests, but enquiries have so far failed to confirm this.

W. F. Toner has been appointed Harbor Master at Collingwood, succeeding H. Foreman, who has been appointed Measuring Surveyor of Shipping at that port, vice G. Watson, resigned.

The steam barge Tecumseh was burned to the water's edge at Goderich, Jan. 16. She was insured for $15,000, which is said to be about two-thirds of the loss sustained. The owners are given as Trethewey & Son, of Goderich.

The officers and directors of the Turbine Steamship Co., for the current year, are: President, J. C. Eaton; other directors, J. Moodie, J. Knox, A. Leitch, Hamilton; C. R. Simpson, H. McGee, J. J. Vaughan, Toronto; Manager, J. A. Goodearle, Toronto.

Imperial service medals have been awarded to the following Government employes for long and meritorious service: F. H. Hill, lighthouse keeper, Lancaster, Ont.; F. Lay, lockmaster, Welland Canal; G. Shannon, Grosse Point lighthouse, Valleyfield, Que.

During the navigation season of 1908, a total of 1,885 vessels arrived at and departed from Fort William, the aggregate tonnage being 3,530,450 tons; a decrease of 4 in the number of vessels for 1907, but an increase in the tonnage of about 1,300,000 tons.

L. Henderson, who has been for about 10 years Local Manager, Montreal Transportation Co., at Kingston, having succeeded his father in the position, has been appointed General Manager of the company, with headquarters at Montreal, succeeding the late J. A. Cuttle.

An order-in-council was issued recently, amending subsection b, art. 28, of the Canadian Rules of the Road for the Great Lakes, which provides that a danger signal shall be several short and rapid blasts, not less than four, of the whistle or syren of a steam vessel, to read several short and rapid blasts of the whistle not less than five.

The Muskoka Lakes Navigation Co.'s annual meeting was held at Toronto recently, when a satisfactory report of the past season was made. Following are the officers and directors for the current year: President, J. S. Playfair; Vice-President, F. J. Phillips; other directors, H. C. McLean, J. Playfair, M. S. Wilson, R. A. Lucas; Manager and Treasurer, W. F. Wasley.

The Farrar Transportation Co.'s annual meeting was held at Collingwood Jan. 12. Following are the officers and directors for the current year: President, D. D. Lewis, Sault Ste. Marie, Ont.; Vice-President, T. I. Thompson, Owen Sound; Managing Director and Secretary-Treasurer, G. E. Fair, Collingwood; other directors, E. R. Wayland, W. E. Allen, W. R. Rowland, E. Stubbs, M. Snetsinger, C. A. Farrar, and F. Scott.

Press reports state that plans are practically complete for the purchase of the Detroit and Buffalo Steamship Co. by the Detroit and Cleveland Navigation Co. The price stated as being paid is $1,000,000, of which $900,000 is to be in cash. The capital stock of the new company, it is said, will be increased by $4,000,000. The companies operate on Lakes Erie and Huron, the latter making connections with the Duluth, South Shore and Atlantic Ry.

Forwarders Ltd., a company recently incorporated under the Dominion Companies Act, with a capital of $500,000, and office at Kingston, is reported to be about to take over Moore's elevator there, and to order suitable steam and other barges for the transportation of grain from Kingston to Montreal. W. G. Craig, Kingston, is President of the company; others interested being W. H. Comstock, —. Mallory, Brockville; —. Schmidt, Pembroke, and M. J. Galvin, Detroit, Mich.

The U.S. lake survey reports the levels of the Great Lakes for Dec., 1908, in feet above tidewater, as follows: Superior 602.01; Michigan and Huron, 580.16; Erie, 571.38; Ontario, 245.49. As compared with the average December levels of the past 10 years, Superior is 8½ ins.; Michigan and Huron, ¾ in.; Erie, 10½ ins.; and Ontario 10 ins., lower. The anticipated levels during Jan., 1909, are: Superior, 4 ins.; Michigan and Huron, 1¾ ins., lower; Erie, ¼ in., and Ontario, 1½ ins., higher than those of Dec., 1908.

We are advised that the vessel being built at Detroit, Mich., for the Inland Navigation Co., Hamilton, is a steel bulk freight steamer, 500 ft. long over all, 56 ft. beam. She will be equipped with triple expansion engines and Scotch boilers, and will have patent water-tight steel hatch covers, automatically operated; the hatches will be 12 ft. from centre to centre; construction will be on the modern arch principle, with vertical side tanks, and the general equipment, and passengers' and crew's quarters, will all be modern in every respect. She will be ready for operation early next season.

The transfer of the Hamilton Steamboat Co. to the interests which control the Turbinia Steamship Co., viz., the T. Eaton Co., Ltd., Toronto, was consummated at a special meeting held at Toronto Jan. 15. The two companies will not, as stated in the daily press, be merged, but will be operated independently as hitherto. The Hamilton steamboat owns two vessels, the Macassa, built at Port Glasgow, Scotland, in 1888, and reconstructed at Collingwood, Ont., in 1905, and the Modjeska, built at Yoker, Scotland, in 1889. Following are the new officers and directors: President, J. C. Eaton; Vice-President, R. Y. Eaton; Secretary-Treasurer, J. J. Vaughan; Manager, W. E. Bishop; other directors, H. McGee, C. Booth, and A. McCrea. The former officers and directors were: President, Æmilius Jarvis; Vice-President, H. G. Nicholls; Secretary, C. E. A. Goldman; Manager, W. E. Bishop; other directors, A. Angstrom, A. Bruce, K.C., and H. B. Whitton.

Manitoba, Saskatchewan, Alberta, Etc.

The North West Ranching and Packing Co. is applying to the Alberta Legislature for an act of incorporation with power among other things to own and operate steam tugs and other vessels in connection with its business, with headquarters at Edmonton, Alta.

The Commissioner of the Hudson's Bay Co. reported recently that he had received information that the company's barque Stork, which was reported from London as overdue from James Bay, was wrecked at Lisbon Shoals, Hudson Bay. The crew and passengers were saved and reached Moose Factory safely. The captain and a portion of the crew reached the railway line, and are proceeding to London.

The Northern Fruit Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of $50,000 and office in Winnipeg, to carry on a general fruit business, and in connection therewith to own and operate wharves, docks, etc., and to build, purchase or otherwise acquire and operate steam and other vessels, and other means of transportation, except that nothing in its act of incorporation shall be held to authorize it to carry on the business of a railway company. W. K. and F. P. Nash, H. B. Finch, Grand Forks, N.D.; F. H. Decamp, Winnipeg; and F. M. Waldron, Saskatoon, Sask., are provisional directors.

A small steamboat has recently been shipped by the Polson Iron Works, Toronto, to Craven, Alta., where it has been laid up for the winter, and will in the spring be transported to McKillop's Landing, or some other convenient point on the Last Mountain Lake, for use by the Dominion Government in dredging and clearing harbors at various points on the lake where towns and settlements have been located. Navigation on this lake has been going on for about four years, a steamer owned and operated by W. Pearson Co., of Winnipeg, with capacity for 150 passengers, and freight, plying between Port Hyman, Lake View Park, Wilkes Bay, Arlington Beach, Watertown and other points.

LIMA LOCOMOTIVES

Consolidation Locomotive. Cylinders, 15″ x 20″ —20″ x 26″. Weight on drivers, 76,000 lbs. to 140,000 lbs. Builders of all other types of DIRECT CONNECTED. All weights and sizes. Any gauge.

CATALOG "V"

THE LIMA LOCOMOTIVE & MACHINE CO., 108 Third St., LIMA, OHIO

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.

BRIDGES

TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

THE LATROBE COUPLER

MADE ONLY IN STEEL

POSITIVE LOCK

POSITIVE LOCK SET

EFFECTIVE KNUCKLE THROWER

LATROBE STEEL AND COUPLER CO.

MAIN OFFICE: 1200 GIRARD B'D'G, PHILADELPHIA

Works: MELROSE PARK, ILL.

BRANCH OFFICE: 1720 OLD COLONY B'D'G, CHICAGO

DOMINION BUREAU

ROBERT W. HUNT & CO.

ENGINEERS

BUREAU OF INSPECTION
TESTS AND CONSULTATION

CHEMICAL AND CEMENT LABORATORIES, MONTREAL

NORFOLK HOUSE, CANNON ST., LONDON

CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

OCEAN STEAMSHIP OFFICES

AMERICAN LINE

Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.

Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE

New York—London
Sailing from New York Saturdays.

WHITE STAR—DOMINION LINE

Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Docks
(Bristol and Antwerp)

RED STAR LINE

New York—Antwerp—Paris
Sailing from New York Wednesdays.

WHITE STAR LINE

New York—Liverpool—Queenstown—
Sailing from New York Saturdays.

N.Y.—Plymouth—Cherbourg—Southampton
Sailing from New York Wednesdays.

Boston—Queenstown—Liverpool
Regular Departures

NEW YORK AND BOSTON MEDITERRANEAN SERVICE

Azores—Gibraltar—Naples—Genoa

Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured

H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO,
41 KING ST. EAST, TORONTO.

B.C. and Pacific Coast Marine.

Navigation on the Skeena River was brought to a standstill during the early part of Jan., owing to a spell of cold weather.

Press reports state that the C.P.R. purposes building barges for use on B.C. inland waters in the conveyance of loaded cars of fruit, etc., to facilitate shipment.

The steam tug Lottie N., owned by J. E. Gilmore and others, of Prince Rupert, was sunk at Port Essington, by floating ice. It is anticipated that she will be refloated without much damage.

T. H. Horne, Victoria, has deposited with the Dominion Public Works Department, plans of wharf, which he proposes to construct there, and has applied to the Governor-General in Council for approval.

The North Vancouver Ferry Co. is moving to restrain the North Vancouver Motor Boat and Transportation Co. from carrying passengers across Burrard Inlet between Vancouver and North Vancouver.

The Steamer H. C. Henry, Ltd., has been incorporated under the B.C. Companies Act, with a capital of $10,000, to build, equip and manage steam and other vessels, and to carry on the business of shipowner in all its branches.

The C.P.R., as owners of the s.s. Princess Royal, and the owners of the Japanese s.s. Fukui Maru, have entered actions against each other for damages sustained in the collision between the two vessels, Nov. 8, 1908. The C.P.R. claims $15,000.

The Vancouver Colonization Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $50,000, to act as a colonization company, and in connection therewith to build, purchase or otherwise acquire steam and other vessels, etc.

The Victoria Board of Trade Council has been assured by Capt. J. W. Troup, Superintendent C.P.R. Pacific Coast Service, that the fortnightly service with the Queen Charlotte Islands will be continued throughout the winter and not reduced to a monthly service as was feared.

The Dominion Marine Department has issued a descriptive list of the beacons in the North Arm, Fraser River, giving their locations, height, color and description, with comments on the positions, etc. Two of the five Dolphin lights, numbered 3 and 4, are quoted as missing.

The C.P.R. s.s. Princess Charlotte, which was described in our Aug., 1908, issue, and illustrated in our last issue, arrived at Victoria, Dec. 30, from Glasgow, Scotland, by way of Cape Horn. Calls for coaling purposes were made at Teneriffe, Montevideo, Coronel, and Callao. She was in charge of Capt. C. Troup.

Various press reports have been current recently, supposed to emanate from London, Eng., regarding the transfer of Esquimalt from Imperial to Dominion control. These are generally misleading. Esquimalt fortress and works have been maintained since 1906, by the Dominion. Regarding the formal transfer of the docks, it has been ascertained that it can only be accomplished by a special act, and it is hoped to introduce a bill embodying the terms of such transfer into the British Parliament during the next session.

It is said that tenders for the repairs considered necessary on the C.P.R. s.s. Glenfarg, as a result of its grounding in the Vancouver Narrows in Dec. last, amount to nearly $30,000. The repairs include the renewal of 12 plates, the removal and fairing of 10 plates, and the setting up of 73 frames and floors. If it is decided to make permanent repairs, the work will be carried out at Esquimalt, but it has been suggested that temporary repairs only may be undertaken to enable the vessel to carry out the terms of the time charter under which she is being operated by the C.P.R.

Capt. J. W. Troup, Superintendent C.P.R. Pacific Coast Service, is reported to have stated recently on his return from a conference with the western lines management at Winnipeg, that all the C.P.R. vessels engaged on the Pacific coast will be equipped with wireless telegraph apparatus; and also that among the recommendations which have been forwarded to Montreal for consideration is the building of two steamships for the Victoria-Prince Rupert service. We were officially advised Jan. 11, that it had not then been decided to build a steel passenger steamer for the B.C. Coast, but that the matter was under consideration.

A London, Eng., press correspondent, who recently visited Prince Rupert, is quoted as saying: "The harbor is the finest in Canada. It is formed by a perfectly protected curved inlet 16 miles long, a mile broad, and 25 fathoms deep on an average. The bottom has good holding for anchors, and there is 30 ft. of water at the lowest tide, by the temporary wharves. The nature of the approach from seaward has been criticized in certain quarters, but all such criticisms have been finally disposed of by Capt. J. F. Parry, R.N., of H.M.S. Egeria, which is making the admiralty survey of the entrance. He says: 'It is no breach of etiquette on my part to state that the result of the survey is entirely satisfactory in so far as the approach to Prince Rupert from seaward is concerned.'"

St. Lawrence and Chicago Steam Navigation Co., Ltd.

The following report was presented at the annual meeting in Toronto Jan. 16: The season of 1908 on the lakes was a very unsatisfactory one, rates of freight ruling very low throughout the entire season. The new steamer E. B. Osler was completed and delivered to the company on May 16, 1908, and went into commission at once. The company's steamships met with more than their share of accidents during the season. The E. B. Osler and G. R. Crowe each had two serious strandings, which materially reduced the profits of the year, although being fully covered by insurance, no direct loss was sustained. The directors from the earnings of the season have paid a dividend of 7% on the capital stock, and have carried forward $415.32 to the credit of profit and loss, leaving a balance at the credit of that amount of $102,383.55.

ASSETS.

Five steamships, Algonquin, Iroquois, W. D. Matthews, G. R. Crowe, E. B. Osler	$950,000.00
Insurance unexpired	11,000.00
Accounts receivable	5,050.12
	$966,050.12

LIABILITIES.

Capital	$855,700.00
Dominion Bank	7,966.57
Balance of profit carried forward	102,383.55
	$966,050.12

PROFIT AND LOSS.

Balance forward, Jan. 2, 1908		$101,968.23
Steamships' earnings	$114,299.85	
Interest	2,249.30	
		116,549.15
		$218,517.38
Insurance		$ 43,494.97
Cost of management: salaries, taxes, office rent, directors' and auditors' fees, etc.		12,759.86
Dividend, 7% payable Jan. 2, 1909		59,899.00
Balance carried forward		102,383.55
		$218,517.38

The officers and directors were re-elected for the current year as follows: President, W. D. Mathews; other directors, E. B. Osler, J. H. G. Hagarty, S. Crangle, C. S. Gzowski, G. F. Hagarty, G. R. Crowe, Jas. Carruthers.

Notices to Mariners.

The Department of Marine has issued the following notices:

No. 126. Dec. 31.—317. British Columbia, colors of lighted beacons. 318. British Columbia, Vancouver Island, Juan de Fuca Strait, Port San Juan, color of lighted and whistling buoy changed. 319. British Columbia, Strait of Georgia, Burrard Inlet, Spanish Bank, bell buoy replaced by spar. 320. British Columbia, Strait of Georgia, Sister Rocks, fog bell discontinued. 321. British Columbia, Queen Charlotte Sound, new channel, Christie Passage, Balaklava Island, Scarlett Point, fog bell established at light station. 322. British Columbia, northern waters, Skeena River, Port Essington, entrance to Ecstall Inlet, buoy withdrawn. 323. British Columbia, Chatham Sound, Brown Passage, islets, shoals, directions. 324. British Columbia, Chatham Sound, Lucy Island light, arc of visibility. 325. British Columbia, Chatham Sound, Cunningham Passage, Hankin Reefs, change in position of buoy.

No. 1. Jan. 8.—1. British Columbia, Fraser River, changes in buoyage.

No. 2. Jan. 9.—2. New Brunswick, Bay of Fundy, south of Grand Manan Island, local magnetic disturbance. 3. New Brunswick, north coast, Chaleur Bay, Caraquet harbor, gas buoys established.

No. 3. Jan. 14.—4. British Columbia, Vancouver Island, west coast, Somass River, buoys discontinued. 5. British Columbia, Vancouver Island, Nanaimo harbor, numbers on buoys. 6. British Columbia, Vancouver Island, east coast, Qualicum River, buoy discontinued. 7. British Columbia, Johnstone Strait, Camp Point, beacon erected.

No. 4. Jan. 20.—8. Nova Scotia, south coast, Halifax approach, experimental fog signal buoys. 9. Nova Scotia, Cabot Strait, St. Paul Island, temporary light.

Vessels Removed from the Register.

During Dec., 1908, the following vessels were removed from the Canadian register for the reasons assigned: Steam—Alice, Pictou, N.S., 11 tons, unseaworthy; Donney, Vancouver, B.C., 10 tons, lost; Emma Nott, New Westminster, B.C., 46 tons, broken up; Esperanza, Toronto, 11 tons, burned; Minerva, Hamilton, Ont., 3 tons, out of existence; Nellie, Hamilton, Ont., broken up; Philadelphia, Sault Ste. Marie, Ont., 88 tons, stranded; Quick, Dawson, Y.T., 67 tons, out of existence; Tusket, Yarmouth, N.S., 2 tons, broken up. Sailing—Abeona, Lunenburg, N.S., 499 tons, transferred to Barbados; Annie, Liverpool, N.S., 193 tons, wrecked; Erie, St. John, N.B., 119 tons, abandoned at sea; Esmé, Lunenburg, N.S., 5 tons, registry surrendered; Guior, St. Andrews, N.B., 17 tons, sold to foreigners; Hope, Barrington, N.S., 22 tons, wrecked; Hugh G., Parrsboro, N.S., 430 tons, sunk in collision; Ida May, St. John, N.B., 120 tons, wrecked; Lizzie Burrill, Windsor, N.S., 1,185 tons, lost; Oriole, Halifax, N.S., 43 tons, lost; Prosperare, Yarmouth, N.S., 379 tons, lost; S. G. Marshall, Halifax, N.S., 51 tons, lost; Senator, St. Andrews, N.B., 33 tons, broken up; Stanley, Quebec, 34 tons, out of existence; Stella Maris, Quebec, 70 tons, broken up; Stroller, Charlottetown, P.E.I., 12 tons, broken up; Temperance Bell, St. John, N.B., 77 tons, condemned.

During Nov., 1908, 9 navigation employes were killed and 5 injured, while engaged in Canadian waters. Of the fatalities, 5 were due to falls and 2 each to drowning and to the explosion of a boiler. Of the non-fatal accidents, 2 each were caused by falls and by falling material and one by machinery.

GASOLINE ENGINES

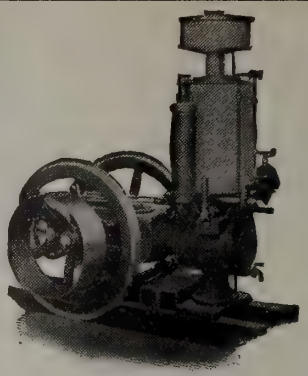
The "STICKNEY" ENGINE is something unique

The most ECONOMICAL ENGINE for RAILWAY PUMPING

The GOVERNOR is so sensitive that it never wastes fuel

Constructed without any useless frills but made to stand hard work.

Sizes from 1 H.P. to 25 H.P.



We state size of Cylinder and are prepared to guarantee power developed.

ONTARIO WIND ENGINE AND PUMP CO. LIMITED

WINNIPEG, MAN. TORONTO. MONTREAL, QUE.

WILLIAM ABBOTT

334 St. James Street

MONTREAL

SOLE AGENT IN CANADA FOR

"NOVO" "INTRA" CRUCIBLE STEEL

DRILLS, TOOLS, ETC.

CRUCIBLE SAW AND SHEET STEEL

MADE BY

JESSOP STEEL CO.

Washington, Pa., U.S.A.

TOOL STEEL

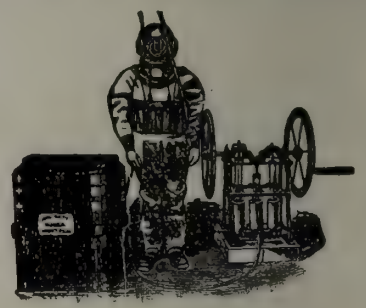
The old reliable Jessop Steel. The very best for making all kinds of Tools

JESSOP'S "ARK" HIGH SPEED AIR HARDENING STEEL

is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings

WILLIAM JESSOP & SONS, LTD., SHEFFIELD, ENG.

Chas. L. Bailey, Agent, 80 Bay Street, Toronto, Ontario



JOHN DATE

MANUFACTURER OF

DIVING APPARATUS

FOR SALE OR HIRE

BRASS FOUNDER & COPPERSMITH

152 Craig St. West, MONTREAL

JOHN S. METCALF CO.

ENGINEERS AND CONTRACTORS FOR

GRAIN ELEVATORS ONLY

CONCRETE——STEEL——WOOD

Plans and Specifications our Specialty

MIDLAND, ONTARIO CHICAGO, ILL.

UNIFORM CAPS

For officials and employes of Railway, Steamship, Express, Telegraph and other companies, Yacht Clubs, Etc.

Helmets and Uniform Caps for Police, Firemen, Bands, Societies, Etc.

Embroidery in Gold and Silver Bullion.

W. H. CODDINGTON

HAMILTON - - ONTARIO

MALLEABLE IRON CASTINGS

of Superior Quality

CALT MALLEABLE IRON CO., LIMITED CALT, ONT.

STEEL, PEECH & TOZER,

LIMITED,

SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL.

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada.

SOLE AGENTS:

James Hutton & Co., Montreal.

Navigation of Vancouver Narrows.

While we have no wish to injure the reputation of the port of Vancouver, it would seem that underwriters must eventually take cognizance, to the extent of advancing rates, of the frequent disasters, as shown by the experience of the past two years, dating from the collision of the Princess Victoria with the Chehalis, in connection with the navigation of Vancouver Narrows and the entry to and exit from Vancouver harbor, particularly in a dense fog, conditions now being very different to a decade ago, when traffic was much less. We shall, therefore, await with interest the report of the investigation of the Department of Marine into the collision cases of the Princess Royal and the Fukui Maru, the s.s. Charmer with tug Bermuda and tow, and the stranding of the s.s. Glenfarg, as possibly suggesting amendments to navigation rules or suggesting special rules, insuring greater safety, governing the navigation of Vancouver harbor. It would be unfair to offer these suggestions without commending the caution and skill displayed by the masters and licensed officers of the coasting fleet of the C.P.R. and of the s.s. Iroquois in their frequent entries and exits to and from Vancouver harbor, in a dense fog, the number of accidents being disproportionate to the difficulties thereof, but nonetheless, there is no evading the fact that under such conditions the risks are great, and, although underwriters presume to cover risks, it is doubtful if they really appreciate how great the risk is. The public of Vancouver, as well as its shipping interests, should insist upon a thorough investigation to finally determine whether, as suggested at the time of the Victoria-Chehalis disaster, it is possible to make rules providing for greater safety.—Pacific Marine Review.

Several suggestions have been made as to improvements which ought to be undertaken for the betterment of harbor entrance, among them being the removal of Parthia and Burnaby shoals; dredging in the narrows to allow of a straight course inward and outward bound; and the establishment of 4 occulting lights in the narrows, with fog bells attached; buoys and lights in the harbor; semaphore signals at Brockton and Prospect Points, and telephone connections between the lighthouses there.

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING DEC., 1908.

Name.	No.	Where and When Built.	Engines, etc.	Length	B'dth.	Depth.	Gross tons.	Reg. tons.	Port of Registry.	Owners.
Bellwood	126,262	Bellwood's Sid., Ont., 1908	Screw 1 N.H.P.	44.0	11.6	5.8	23	13	Toronto	C. Mickle, Gravenhurst, Ont.
Eng.B.Roam'r	126,326	Vancouver, B.C., 1908	" 3 "	45.9	10.8	4.6	18	12	Vancouver, B.C.	W. Simpson, Vancouver, B.C.
Escoumains	126,000	Escoumains, Que., 1907	" 17 "	76.0	16.0	6.0	74	42	Quebec, Que	A. Mercier, Les Escoumains, Que.
Ethelda	126,325	Vancouver, B.C., 1908	" 3 "	35.4	9.7	5.0	15	10	Vancouver, B.C.	A. R. Baker, Vancouver, B.C.
Hugh D	122,582	Shelburne, N.S., 1908	" 24 "	80.0	18.0	7.6	71	20	Yarmouth, N.S.	H. B. Cann, M.O., Yarmouth, N.S.
Jack C	126,263	Fesserton, Ont., 1907	" 3 "	43.0	10.0	4.0	19	13	Toronto	W. W. Carter, Fesserton, Ont.
John Bull	122,271	Selkirk, Man., 1903	" 1 "	35.0	9.5	3.5	13	9	Winnipeg	Dominion Fish Co., Winnipeg.
Kuitz	126,328	Vancouver, B.C., 1907	" ½ "	23.4	6.0	2.6	4	2	Vancouver, B.C.	H. E. Davies, Bowen Island, B.C.
Maud L	126,265	Parry Sound, Ont., 1901	" 8 "	75.0	15.0	5.5	48	33	Toronto	C. E. and E. S. Pratt, J.O., Parry Sound, Ont.
Nahma	126,044	Superior, Wis., 1898	" 2 "	34.0	7.8	4.0	7	5	Port Arthur, Ont.	A. J. McComber, Port Arthur, Ont.
Ogistoh	126,282	St. John, N.B., 1908	" 1 "	29.2	7.1	4.2	6	4	St. John, N.B.	F. A. Dykeman, St. John, N.B.
Pannah	126,148	Sorel, Que., 1908	" 5 "	31.5	6.3	3.0	3	2	Sorel, Que	P. Lavalle and O. Paul, Sorel, Que.
Ralph C	126,264	Fesserton, Ont., 1908	" 3 "	32.0	8.6	4.0	12	7	Toronto	W. W. Carter, Fesserton, Ont.
Robt. Downey	112,191	Buffalo, N.Y., 1893	" 8½ "	58.0	14.5	7.0	37	25	Chatham, Ont.	C. S. Boone, Toronto.
Sooner	126,327	Vancouver, B.C., 1908	" 1 "	33.7	6.8	5.3	10	7	Vancouver, B.C.	C. J. and G. Everitt, J.O., Vancouver, B.C.
Udal	126,180	N. Westminster, B.C., 1908	" 5 "	50.0	12.0	5.2	22	11	N. Westminster, B.C.	W. Oliver, Skidegate, B.C.
*Valdes	126,324	Seattle, Wash., 1896	" 2 "	33.5	11.6	4.2	12	8	Vancouver, B.C.	R. Martin, Vancouver, B.C.
Verda Belle	121,956	Pt. Stanley, Ont., 1908	" 4 "	55.5	13.6	6.4	34	23	Port Stanley, Ont.	J. R. and H. L. Moore and W. S. Stanton, J.O., Port Stanley, Ont.

*Formerly Rona.

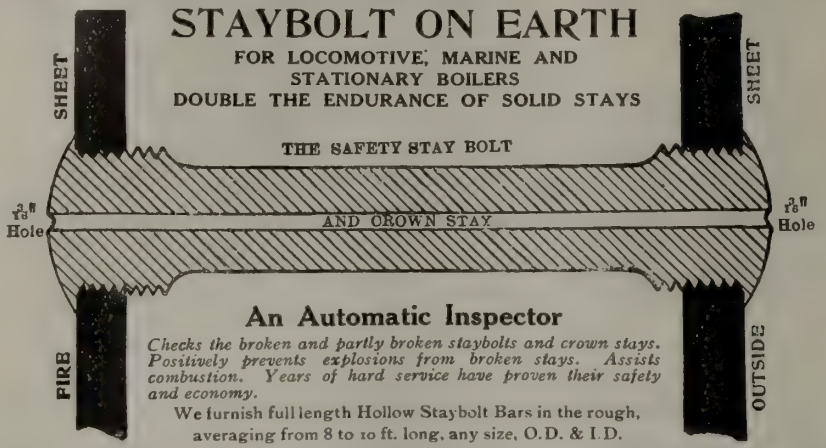
LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING DEC., 1908.

Name.	No.	Where and When Built.	Rig.	Length	B'dth.	Depth.	Reg. tons.	Port of Registry	Owners.
Allans No. 4	126,168	Montreal, Que.,*——	Barge	105.5	30.6	9.0	152	Montreal	H. M., H. A. and A. A. Allan, Montreal, and B. Allan, Boston, Mass.
" No. 5	126,169	" 1908	"	117.0	29.6	5.0	105	"	" " " "
" No. 6	126,170	" 1908	"	117.8	29.1	7.9	172	"	" " " "
Asp	126,283	Gagetown, N.B., 1906	Dred.	60.5	20.7	5.3	82	St. John, N.B.	J. S. Gregory, St. John, N.B.
B.C.S. & G. Co., No. 1	126,234	Sidney, B.C., 1908	Barge	90.0	30.7	8.0	166	Victoria	B.C. Sand & Gravel Co., Victoria
C.P.R. No. 2	126,235	Vancouver, B.C., 1908	"	106.0	30.0	8.5	221	"	C.P.R. Co., Montreal.
Central City	126,302	Cornwall, Ont., *1905	Dred.	79.0	26.8	6.6	157	Montreal	L. Cohen, Montreal.
Championess	126,320	Lachine, Que., 1902	Scow	120.7	30.8	8.3	263	"	Dominion Bridge Co., Lachine, Que.
Dombrico No. 1	126,319	" 1908	"	123.1	39.3	9.4	352	"	" " "
Hattie Hutt	112,190	Sangatuck, Mich., 1873	Schr.	130.0	26.0	9.0	188	Chatham, Ont.	F. Granville, Chatham, Ont.
Kathleen W	126,136	Dartmouth, N.S., 1908	"	47.0	14.3	7.0	22	Halifax, N.S.	R. J. Slaunwhite, Terence Bay, N.S.
L. C. & S. No. 2	126,303	Hawkesbury, Ont., *1908	Scow	55.4	14.6	3.7	22	Montreal	L. Cohen, Montreal.
" No. 3	126,304	Cornwall, Ont., *1908	"	79.0	20.0	5.4	91	"	" "
" No. 4	126,305	Lachine, *1904	Barge	65.7	14.0	3.5	26	"	" "
" No. 5	126,306	Cornwall, Ont., *1904	"	45.6	13.7	2.6	20	"	" "
" No. 6	126,307	" 1904	"	60.1	16.3	4.5	35	"	" "
" No. 8	126,308	" *1908	Scow	79.7	24.6	8.0	120	"	" "
" No. 9	126,309	" 1908	"	82.3	24.6	7.7	127	"	" "
" No. 10	126,310	" 1908	"	78.3	21.0	8.0	106	"	" "
" No. 11	126,311	" *1906	"	70.9	20.9	7.4	86	"	" "
" No. 12	126,312	" *1907	"	55.2	17.6	5.8	43	"	" "
" No. 13	126,313	" *1906	"	70.6	20.2	7.2	84	"	" "
" No. 14	126,314	" *1905	"	61.5	16.5	5.0	39	"	" "
" No. 15	126,315	" *1906	"	55.3	17.6	4.8	39	"	" "
" No. 16	126,316	" *1906	"	63.9	18.8	6.1	55	"	" "
" No. 17	126,317	" *1906	"	66.6	17.3	6.0	55	"	" "
" No. 18	126,318	" 1906	"	61.0	16.8	5.6	43	"	" "
Lime Light	126,065	Souris, P.E.I., 1908	Schr.	94.0	26.0	9.2	155	Charlottet'n, P.E.I.	T. Kickham, Souris West, P.E.I.
Maberly	127,357	Sorel, Que., 1907	Scow	83.5	22.9	5.3	110	Montreal	L. Cohen, Montreal, Que.
Marg't Kathleen	126,291	White Haven, N.S., 1907	Schr.	40.3	13.0	6.0	16	Canso, N.S.	P. J. Conway, White Haven, N.S.
Marie St. Laurent	125,999	Isle-aux-Coudres, Que., '08	"	52.3	15.8	5.9	31	Quebec, Que	J. and M. Harvey, J.O., Isle-aux-Coudres, Que.
May Flower	96,840	Summerside, P.E.I., 1890	"	61.5	21.6	8.0	60	Charlottet'n, P.E.I.	W. Wightman, Montague, P.E.I.
Minion No. 1	126,355	Lachine, Que., 1899	Scow	100.8	26.7	7.5	177	Montreal	Dominion Bridge Co., Lachine, Que.
" No. 2	126,356	" 1899	"	100.2	26.7	7.6	180	"	" " " "
Miramichi, No. 1	126,351	Baie Verte, N.B., 1902	"	80.0	26.0	7.5	156	"	" " " "
" No. 2	126,352	" 1902	"	80.0	26.0	7.5	156	"	" " " "
" No. 3	126,353	" 1902	"	84.2	26.7	7.3	130	"	" " " "
" No. 4	126,354	" 1902	"	84.2	26.8	7.5	130	"	" " " "
Nina S	126,135	Tancook, N.S., 1908	Schr.	44.0	12.2	6.2	19	Halifax, N.S.	J. Slaunwhite, Terence Bay, N.S.
S. M. Columba	126,134	Shelburne, N.S., 1908	"	72.0	21.0	9.6	63	"	J. Hayes, M.O., Halifax, N.S.
Sakotis	126,342	Clark's Harbor, N.S., 1908	Sloop	33.0	12.0	5.7	11	Barrington, N.S.	B. Newell, West Head, Cape Island, N.S.
W. F. 1	126,323	Vancouver, B.C., 1908	Scow	80.6	30.1	7.5	163	Vancouver, B.C.	W. B. Fox, Vancouver, B.C.
W. Bibeau	126,301	Notre Dame de Pierreville, Que., 1903	Sloop	108.8	22.8	7.6	119	Montreal	W. Bibeau, Notre Dame de Pierreville, Que.

*Rebuilt.

THE MOST ECONOMICAL AND SAFEST STAYBOLT ON EARTH

FOR LOCOMOTIVE, MARINE AND STATIONARY BOILERS
DOUBLE THE ENDURANCE OF SOLID STAYS



An Automatic Inspector

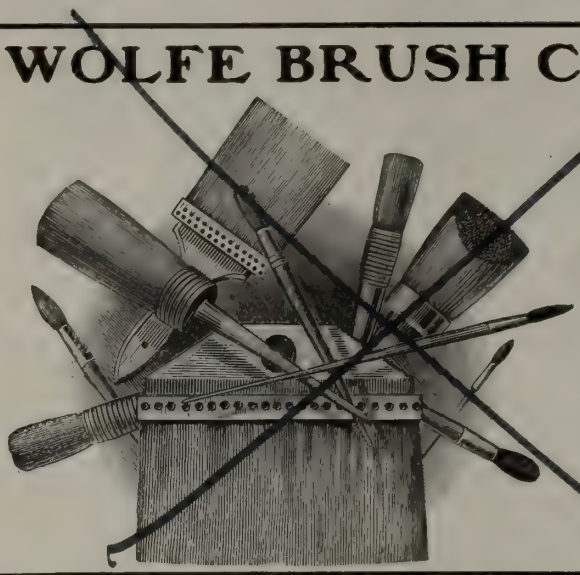
Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO

WOLFE BRUSH COMPANY



JOHN H. HULTS, PRESIDENT

Successors to
WOLFE, WALKER & CO., LTD.

General Offices and Factory:
South 15th and Bingham Streets
Retail Store, 505 Liberty Street
PITTSBURG, PA.

Manufacturers of Superior
Brushes
Especially Designed For
Rail Roads

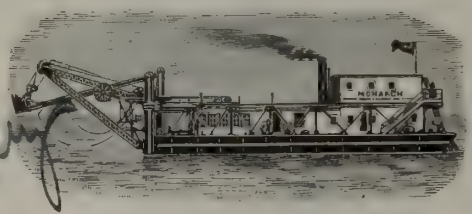
New and Relaying RAILS

FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.

LOCOMOTIVES, CARS, AND OTHER EQUIPMENT.

John J. Gartshore
83 Front Street West - TORONTO

M. BEATTY & SONS, LIMITED
WELLAND ONTARIO



DREDGES, DITCHERS
DERRICKS
STEAM SHOVELS
SUBMARINE ROCK
DRILLING MACHINERY

HOISTING ENGINES, CENTRIFUGAL PUMPS FOR WATER AND SAND, STONE DERRICKS, CLAM-SHELL BUCKETS, STEEL SKIPS, COAL AND CONCRETE TUBS AND OTHER CONTRACTORS' MACHINERY.

E. L. DREWRY

REDWOOD BREWERY
WINNIPEG, MANITOBA.

MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE, EXTRA STOUT AND REDWOOD LAGER.

ALSO THE.. GOLDEN KEY BRAND
ÆRATED WATERS.

REAMERS
ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

THE PARRY SOUND LUMBER CO.
Limited
13-15 TRADERS BANK BLDG., TORONTO
MANUFACTURERS OF
PINE, HEMLOCK, LUMBER, BRIDGE TIMBER
RAILWAY TIES, TELEGRAPH POLES,
LATH, SHINGLES, BOX SHOOKS

Northern Navigation Co. of Ontario.

Following are extracts from the report for the year 1908, presented at the annual meeting in Toronto, Jan. 26:

Navigation opened on Lake Superior on April 27, and the Georgian Bay on May 2, for the company's steamers, which was a few days later than in 1907. Our statement shows a falling off of about $100,000 in the gross receipts, and $39,000 in the net receipts, as compared with the previous year. This was occasioned by the general depression in trade, which did not revive and reach its normal conditions until late in the season.

The North Shore route between Collingwood Parry Sound, Byng Inlet and French River has been abandoned, and the steamer Britannic operating on it has been sold because of the volume of traffic having been diverted from Collingwood by the new rail lines. Your directors, feeling that the needs of the Midland, Penetang and Parry Sound route required a fast and up-to-date steamer, disposed of the steamer City of Toronto, and have contracted for a new steamer, which will be put in commission on June 15.

Last year 10 steamers appeared in the balance sheet, valued at $905,696; this year it shows eight steamers valued at $887,955. This difference is accounted for by the sale of the two steamers mentioned above, and by some machinery being installed in the steamer Ionic. The gross earnings of the company were $531,554.18, and the expenditure $428,915.42, which with the balance at credit of profit and loss account Dec. 31, 1907, of $55,996.20, leaves a balance of $158,634.96, less appropriations for directors, $460, and for Secretary-Treasurer, $700. Out of this amount your directors have made the following appropriations: Claims for 1907 paid in 1908, $3,820.74; interest on renewal and insurance funds, $2,701.82; renewal fund, $24,000; repair and maintenance fund, $10,000, and dividend at the rate of 8% per annum amounting to $67,315.31, leaving a balance to be carried forward at the credit of profit and loss account of $49,637.09. The reserve funds now stand as follows: Renewal account, $68,058.73: marine insurance fund, $15,285.20; profit and loss credit, $49,637.09; total, $132,981.02. The percentage of expenses of gross earnings (not including claims paid for previous years) are as follows: 1903, 94.16%, 1904, 89.71%: 1905, 80.73%; 1906, 77.73%; 1907, 77.63%; 1908, 80.73%.

Your directors are pleased to report that the construction of the s.s. Hamonic is progressing favorably, and she will be completed and ready to go into commission between Sarnia, Sault Ste. Marie, Port Arthur, Fort William and Duluth on June 15 next. We have paid on the construction of this steamer so far $282,152.00. When this ship goes into commission she will be the finest, fastest and best equipped vessel of her class on the Upper Lakes.

Your directors hope to be able to resume payment of semi-annual dividends this year.

The continued illness of our President during the past year has been a source of deep regret to your directors.

ASSETS.

Eight steamers	$887,955.88	
Buildings, furniture, etc.	12,867.58	900,823.46
Fuel and supplies	20,295.78	
Insurance unexpired	12,211.60	
Accounts receivable	43,168.18	
Stocks and bonds	1,500.00	
Bills receivable	3,000.00	
Hamonic, new steamer	282,152.59	
Repair and maintenance	11,855.61	374,183.76
		$1,275,007.22

LIABITITIES.

To Shareholders:		
Capital stock	$843,600.00	
Renewal fund	68,058.73	
Marine insurance fund	15 285.20	
Dividend at 8% per annum on paid-up capital	67,315.31	
Balance profit and loss	49,637.09	1,043,896.33
Brought forward		$1,043,896.33
To the Public:		
Bills payable	214,059.85	
Traders Bank of Canada	17.051.04	231,110.89
		$1,275,007.22

PROFIT AND LOSS ACCOUNT.

Balance from 1907	$ 55,996.20	
Appropriation for directors' fees, including Secretary-Treasurer's salary	1,160.00	$ 54.836.20
Dividend on stocks and bonds		85.00
Rent of diving suit		180.00
Gross earnings of steamers	531,289.18	
Less total expenditure	428,915.42	102,373.76
		$157.474.96
Interest one year on renewal fund, $52,475.00, at 3½%	$ 1,836.62	
Steamers' renewal fund	24,000.00	
Interest one year on marine insurance fund, $14,420.00, at 6%	865.20	
Repair and maintenance	10,000.00	
Claims 1907, paid 1908	3,820.74	
Dividend 8%, on paid-up capital	67,315.31	
Balance	49,637.09	
		$157,474.96

The Vice-President, W. J. Sheppard, who took the chair at the annual meeting, stated that the beloved President, H. C. Hammond, had been unconscious for several days and had only a few hours to live. Mr. Sheppard congratulated the shareholders on the satisfactory season's business, considering the unfavorable trade conditions which prevailed. He referred to the traffic contract made with the G.T. and G.T. Pacific Ry. Cos. for a period of years, in accordance with which the shareholders would be asked to elect a G.T.R. representative as a director. The following were elected directors for the current year: W. J. Sheppard, C. E. Stephens, W. E. Davis, F. A. Lett, C. D. Warren, H. B. Smith, Hon. J. S. Hendrie, H. Y. Telfer, W. D. Matthews. The only change in the Board is the substitution of W. E. Davis, Passenger Traffic Manager G.T.R. and G.T.P.R., for H. C. Hammond.

At a subsequent meeting of directors, W. J. Sheppard, of Waubashene, Ont., heretofore Vice-President, was elected President, to succeed H. C. Hammond; H. Y. Telfer, of Collingwood, was elected Vice-President, and C. E. Stephens, of Collingwood, was re-elected Secretary-Treasurer.

Regulations for Marine Engineers.

The following amendments to the Canada Shipping Act have been made by order of the Governor-General in Council, on the recommendation of the Board of Steamboat Inspection:

1. That the following paragraph be added to section 1, part VI: (i) When satisfactory evidence is produced that the person has (previous to the year 1909) served 36 months as assistant engineer on the watch in the engine room of a steamboat having an engine of over 10 n.h.p., if a single cylinder engine, or 20 n.h.p. if of the compound type, paragraph (g) may be omitted and the practical knowledge as specified by paragraph (h) may be expressed orally and the result can be entered on the examination forms by the examiner.

2. That the following paragraph be added to section 2, part VI: (f) When satisfactory evidence is produced that the person has (previous to the year 1909) served 36 months as chief engineer on a steamboat having an engine of over 10 n.h.p., if a single cylinder engine, or 20 n.h.p. if of the compound type, together with 12 months' service on the lesser sized engines as specified by paragraph (c), paragraph (e) may be omitted and the practical knowledge as specified by paragraph (d) may be expressed orally and the result entered on the examination forms by the examiner.

3. That under the section "Interpretation," part VI, the third paragraph thereof be rescinded, and the following substituted therefor: The term "engineer on the watch" means the person in charge of the propelling engines and boilers, and responsible for the bells or signals while on duty under way. And service as fireman or engineer on steam dredges, or floating elevators, may be accepted as qualifying for fourth class if the engine is of the required nominal horse power as defined by sec. 1 of the regulations, and for third or second class, one-half of such service may be accepted if the engine is of the required nominal horse power as defined by secs. 2 and 3 of the regulations. The other half shall be service as engineer on steamboats.

Niagara Navigation Company, Ltd.

The following report for the year ended Nov. 30, 1908, was presented at the annual meeting in Toronto, Jan. 12: "The net earnings are slightly in excess of those for 1907. No expense has been spared to maintain the steamers at the highest degree of efficiency. Following the policy of past years the directors have written off a further sum of $25,000 from the valuation of steamers, and have placed $10,000 to a renewal and betterment fund. An opportunity having recently arisen to purchase the Lewiston wharf and land adjoining at a cost of $25,000, the directors have considered it wise to secure the property, subject to title being found satisfactory. Payment will be made out of cash on hand. After providing for the dividend, interest on debentures, writing off steamer values, and placing $10,000 to a renewal and betterment fund, the balance to credit of profit and loss account stands at $133,394.48."

ASSETS.

Steamers	$884,725.33	
Less written off	25,000.00	$859,725.33
Real estate, wharves, etc		50,000.00
Accounts receivable		1,829.31
Cash in Dominion Bank		91,820.34
		$1,003,374.98

LIABILITIES.

Capital stock authorized	$1,000,000.00	
Subscribed and paid		$701,700.00
Debentures outstanding 4½%	$125,000.00	
Accrued interest on same	2,343.75	127,343.75
Reserve for renewals and betterments		10,000.00
Accounts payable		2,868.75
Dividend 4% payable Jan. 2, 1909		28,068.00
Balance at credit of profit and loss		133,394.48
		$1,003,374.98

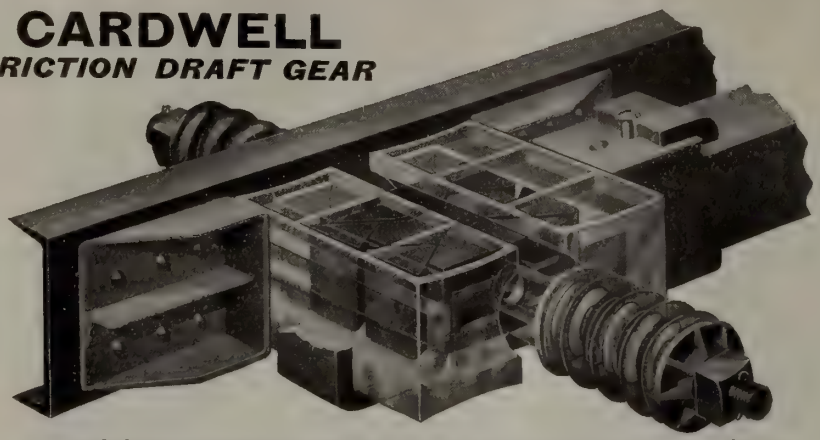
PROFIT AND LOSS ACCOUNT.

Balance Dec. 1, 1907		$129,692.16
Net earnings for year		102,510.28
		$232,202.44
Interest on debentures		$ 5,625.00
Written off steamers		25,000.00
Reserve for renewals and betterments		10,000.00
Stores written off		2,046.96
Dividend 4% paid July 2, 1908	$28,068.00	
Dividend 4% payable Jan. 2, 1909	28,068.00	56,136.00
Balance carried forward		133,394.48
		$232,202.44

The President, E. B. Osler, in moving the adoption of the report, expressed the hope that a continuance of good business would, in a short time, enable the company to redeem its outstanding debentures. He and the Vice-President, Barlow Cumberland, expressed warm approval of the work done by B. W. Folger, General Manager.

The directors were all re-elected. The officers and directors for the current year are: President, E. B. Osler; Vice-President, Barlow Cumberland; other directors, Hon. J. J. Foy, C. Cockshutt, J. Bruce Macdonald, W. D. Matthews, Hon. J. S. Hendrie; General Manager, B W. Folger; Treasurer, R. H. McBride: Secretary, J. M. Sullivan.

CARDWELL
FRICTION DRAFT GEAR



Furnishes greatest protection to cars and locomotives.
CARDWELL MFG. COMPANY, CHICAGO, ILL.
Manufacturers of CARDWELL ROCKER SIDE BEARINGS.

SHERIFFS
MANUFACTURING CO.

MILWAUKEE, WIS., U.S.A.
ESTABLISHED 1854

Here 'tis

The "USE-EM-UP" Drill Socket

Grind a flat on those drills with twisted tangs and "USE-EM-UP"

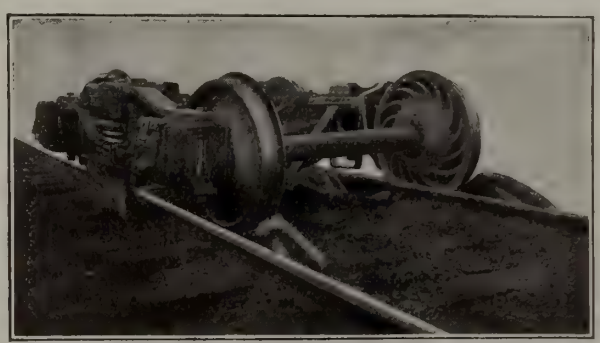
AMERICAN SPECIALTY CO., CHICAGO
All makes of drills furnished to fit it

JAMES T. GARDNER
RAILWAY EQUIPMENT
615 Railway Exchange
CHICAGO, ILL.

Has on Hand at all times
First-Class Freight and Passenger Locomotives
Also
Contractor's Locomotives Cars, Rails, Etc.

Specifications with Prices on Application

The Alexander Car Replacer



60,000 PAIRS IN USE.

Manufactured at **Montreal, Que.**, and **Scranton, Pa.**, of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY
F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

CAR FITTINGS
For Electric and Steam Railway Equipment

Door Fixtures, Steel Steps, Couplers, Anti-Rattlers, Steel Gongs, Sash Springs, Fenders, Car Trimmings, Etc.

Wallace Supply Company
CHICAGO—NEW YORK

"PERFECTOL" The *Perfect* CAR CLEANER
Sold By
THE MODOC SOAP CO. OF OHIO
HENRY ROEVER, President and Manager.
Philadelphia Office—228 North Fourth Street, Philadelphia, Pa.

WOOD PATTERNS
— ALL KINDS —
High Grade. Right Prices. Prompt Delivery.
THE HAMILTON PATTERN WORKS
HAMILTON, ONT.

Coasting Regulations for Foreign Vessels.

The following order-in-council was passed Dec. 31, 1908: Whereas applications have been made to permit foreign steamships now under charter in the Canadian coasting trade on the Atlantic to continue in such coasting trade for a short period, pending new traffic arrangements, it is ordered that steamships of foreign countries which had been admitted to, and were under charter to engage in, the coasting trade of the Dominion, on Dec. 21, 1908, shall be permitted to continue in the said coasting trade, in the carrying of goods and passengers coastwise, in the provinces of Nova Scotia, New Brunswick, Prince Edward Island, and Quebec, on the same terms and conditions as are applicable to Canadian vessels, until July 1, 1909, notwithstanding anything in the order-in-Council of Dec. 17, 1908, respecting the coasting trade of Canada.

The order-in-council dated Dec. 17, 1908, was given in full in our Jan. issue.

Canadian Light for Messina Straits.

The International Marine Signal Co., of Ottawa, Ont., has loaned a portable light-house beacon to the Italian Government for the Straits of Messina, to temporarily replace the lighthouse destroyed in the recent earthquake. The beacon has been gratefully accepted by the Italian Government, and the signal has been shipped to the scene of the earthquake from Birmingham, Eng., where one is constantly kept on exhibition. "It will take six months for the Italian Government to erect another lighthouse in the Straits of Messina," said John Bain, General Manager of the I.M.S. Co., recently. "We are loaning this light until they have one built. The beacon may be put up on any high elevation. It cannot be broken if it falls, and it only takes three or four hours to fix it in position."

Among the Express Companies.

N. W. Sterie has been appointed agent Canadian Northern Ex. Co., Prince Albert, Sask., vice C. A. Edgley.

The Dominion Ex. Co. recently reported that it carried 924 deer and 57 moose from Ontario, during the season; and the Canadian Ex. Co. reported 2,589 deer.

The Canadian Northern Ex. Co. has closed the following offices: Hilton, Myrtle, Rounthwaite, Man., Jameson and Odessa, Sask., Lake Joseph and Sudbury, Ont., and has opened an office at Mafeking, Man. Warroad, Minn., has been made a common point with the Great Northern Ex. Co.

Cancellation of Express Tariffs.

J. P. Mabee, Chief Railway Commissioner, on the conclusion of the evidence in the enquiry into the tariffs and classifications of express companies, Jan. 11, cancelled the present tariffs, and ordered the companies to revert to the tariff in force prior to Jan. 1, 1909. His judgment is as follows:

"It is not denied that this classification, which came into force on Jan. 1, 1909, will materially increase the receipts of the express companies. It is not on an inconsiderable volume of traffic that the rates have been increased through the charges on returned empties, and the adoption of the weight and measurement rule. It has been shown that the movement under these heads is large and considerable. The increases, it is said, will run up to nearly 100%. When this inquiry began, before I became a member of the Board, an undertaking was given on behalf of the express companies that, pending the inquiry, no increases of tolls should be made by them. I think it is the duty of the Board to require that this undertaking be carried out. When this classification was proven, I understood that such changes as were made were small, and that upon the whole, there was a reduction and not an increase. There was, therefore, some surprise, when it was found that these general increases had been attempted.

"There was no notification of any kind given to the public of these changes, and no opportunity to shippers to adapt their business to such changes as might be reasonable. I would not have signed the order approving of this classification upon an ex parte application of the express companies had I been in possession of the facts now before us, but would have required public notice to be given in order that those who have to pay these tolls should have an opportunity to present their views. Many and important rules have been changed; those that I have carefully considered are mostly changes in favor of the companies. These have not yet had sufficient investigation nor is the full purport of them yet understood by the Board.

"I am free to confess that this matter was not given the consideration it was entitled to when the order of Oct. 18, 1908, was made, my understanding being that it was for the convenience and not for the profit of the express companies, and that tolls were not, upon the whole, being increased. It is said the disallowance now of this new tariff and the classification will be a hardship upon the express companies, requiring reprinting of the old classification and its distribution. I regret that this is so, but the present confusion was brought about by reason of the companies' action in filing and asking approval of a classification that materially increases tolls when it was understood that this should not be done, and if an order had been inadvertently issued that should not have been made it is the plain duty of the Board to recall it, and its so doing in this case only reinstates conditions that shippers are perfectly familiar with, and upon which they have been doing business for many years.

"Complaint is made that this course casts an imputation of bad faith upon the companies. I do not say and have not said that there was any bad faith, or deliberate intention to deceive, or mislead, the Board. The traffic officers of the companies discussed matters very fully with the Chief Traffic Officer of the Board, who was of opinion that upon the whole those changes would reduce instead of raise the receipts of the companies, but so far as the evidence given before us goes, the contrary is the case. It is, I think, unfortunate that this proposed change in the classification and rules had not been brought to the attention of counsel for the Government who have had charge of this whole inquiry from its inception, and had this course been taken, it is fair to assume that after inquiry as to the effect of the proposed changes approval would have been for the present withheld. This omission I regard as as oversight and not design.

It is represented to me that some shippers were defrauding the express companies by shipping full packages by freight and returning the empties by express, taking advantage of the rule allowing empties to return free. To stop this, they proposed to charge 50% of the merchandise rate, and in some instances a specific charge on the returned empties. The facts now show that the effect of this upon the business of only some 18 or 20 shippers would be to cause an increase of between $25,000 and $30,000 in express tolls upon the volume of business in 1908. I did not understand when approving this change that the companies were protecting themselves in this way. Many cases in the U.S. and England, and followed here, held that a long established rate is regarded as reasonable unless shown to be too low. It would not be proper to permit a general increase in rates through the medium of imposing a toll upon returned empties without requiring the companies to show affirmatively that the outward rate was not sufficient to cover the transport of the returned empties free of charge. Of course, we do not at this time deal with the suggestion that the practice involves discrimination.

"The weight and measurement rule is creating a disturbance, but could all have been avoided if public notice had been given so that shippers could have adjusted themselves to it if it were thought a proper rule to introduce, as to which we have nothing to say at present.

"We are of opinion that the order approving this classification of Jan. 1, 1909, must be rescinded and this classification and variation of its old rule disallowed as a final disposition of the matter, which merely leaves everything connected with the express business as it stood prior to Jan. 1. All evidence applicable to the subject given upon the inquiry will be treated as given for the purpose of obtaining allowance of this classification and amended rules, some of which appear at present not to be unreasonable.

"The companies must at once notify all their agencies to alter the tariff and rules to those in existence prior to Jan. 1, and in all respects carry on their business in compliance with rates and rules prior to that date until further disposition of this hearing.

"Cancellation of the tariff filed, and above referred to, shall not necessarily give rise to claims for separation as to any shipments occurring within the next 10 days, but such claims if made shall be dealt with individually, regard being had to the steps taken by the companies to inform agents of the above cancellation."

An order putting the judgment into effect was promulgated Jan. 12.

Telegraph and Cable Matters.

The C.P.R. Telegraph Department owns and operates 65,000 miles of land lines.

W. H. Crandall, local manager Western Union Telegraph Co. at Moncton, N.B., was presented with a writing desk by the local staff recently.

The telegraph commercial night rate between Winnipeg, Man., and Vancouver, B.C., and all points west, has been reduced to 50c. for ten words.

The Dominion Government cable and telegraph system has been stated recently as embracing 380.50 miles of cable, 6,829.25 miles of land lines, and 382 offices.

The Great Northwestern Telegraph Co. owns 49,686 miles of land lines, 406 miles of cable, 1,360 offices, 894 of which are exclusive, and 1,183 of which are in Canada.

The Kingston and Pembroke Ry. telegraph operators have nominated J. G. O'Donoghue to represent them in the enquiry into their complaints. J. L. Whiting, K.C., will represent the company.

Following are the officers and directors of the Marconi Wireless Telegraph Co. of Canada for the current year: President, A. A. Allan; Vice-President, G. Marconi; other directors, J. N. Greenshields, R. Bickerdike, and J. Bottomley.

At a recent meeting of the Prince Rupert, B.C., Board of Trade, a proposal to ask the Dominion Government to construct a telegraph line from Aberdeen to Port Essington; to extend the present line from Prince Rupert to Port Simpson via Georgetown, and to abandon the existing line between Aberdeen and Port Simpson, was adopted. It was suggested that the line be constructed so as to be suitable for both telegraph and telephone.

A press dispatch sent out from Toronto recently states that railway telegraph operators throughout Canada, the U.S. and Mexico, are said to be preparing for a struggle with the companies in an effort to better their working conditions. According to local officials a petition asking the Dominion Government to establish an eight hour day is being largely signed, while individual members of Parliament are being approached on the matter. The operators say they have to work anywhere from 12 to 18 hours out of the 24, and in the case of small stations to perform various other duties as well as looking after the running of the trains. This has been a bone of contention for many years. The men's action, however, is said to be more like a protest against the telephone than anything else.

Montreal Telegraph Company.

The 62nd annual meeting was held Jan. 14. The report shows assets of $2,293,495.68; consisting of telegraph lines in Canada and the U.S., $1,625,890; cables in Canada and the U.S., $33,487.39; offices and equipment, $212,500; real estate, $279,946.46; cash, accounts receivable, etc., $141,671.83. The liabilities are: Shareholders' capital, $2,000,000; excess in value of property operated by G.N.W. Tel. Co. over shareholders' capital, $151,823.85; dividend payable Jan. 15, $40,000; unclaimed dividends, $1,943.40; contingent fund, $99,728.43; total, $2,293,495.68. The company's property is operated and maintained by the G.N.W. Telegraph Co., and the operation and maintenance is guaranteed by the Western Union Telegraph Co., under an agreement for 97 years from July 1, 1881, which guarantees payment of dividends of 8%. During the past year $160,000 was paid in dividends, and a bonus of $5,000.

A Telegraph Company's Suit.

Judgment was delivered in the Ontario Exchequer Court, Jan. 18, in the case of the North American Telegraph Co. vs. the Bay of Quinte Ry. Co., in which the plaintiff claimed free transportation by all passenger trains on the defendant's railway for its men when travelling for any purpose whatsoever, and asked for the return of sums paid for railway fares. The defendant company admitted a limited right to free transportation. The B. of Q. Ry. counterclaims for damages (a) on account of the failure of the Telegraph Co. to keep the telegraph lines in proper working order; (b)

PROVINCIAL STEEL CO., LTD.

COBOURG, ONT.

JAMES THOMSON, Pres. and Mang. Director. J. G. ALLAN, Director. JAMES A. THOMSON, Vice-President. ALEX. L. GARTSHORE, Secretary. Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED

MANUFACTURERS OF

CAST IRON PIPE

3 inches to 60 inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER

HAMILTON, ONT.

Ticket Agts. Please Note

ILLINOIS CENTRAL RAILROAD — CENTRAL MISSISSIPPI VALLEY ROUTE

Where ILLINOIS CENTRAL RAILROAD COMPANY has through car service both Coach and Sleeper and Free Chair Cars,

Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California,

New Orleans Route to the Pacific Coast
Mardi Gras, Feb. 22-23

Tourist rates to Arizona, Mexico, and California, liberal stopover privileges. Rates via New Orleans as low as via any other route.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Passenger Agent
305 ELLICOTT SQUARE, BUFFALO, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

OUR RAILROAD FENCES

We can furnish Light or Heavy Fencing, Hinge or Straight Stay, to meet all conditions.

We are adding to and improving our plant each year, and our customers can depend on securing something better than we had previously furnished.

We are prepared to furnish all material and labor, and turn out to the Railroad a complete job, as we have a number of experienced fence builders always in our service.

Send us your Specifications and we shall be pleased to furnish prices either by mail or otherwise.

Steel and Wood Frame Gates for Railroads at special prices.

New Brunswick Wire Fence Company, Limited
Moncton, New Brunswick

Delaware & Hudson
RAIL AND STEAMER LINES
Shortest, Quickest and Best Rail Line between
MONTREAL AND NEW YORK

Trains leave Montreal 8.45, 10.55 a.m., and 7.40 p.m. Steamers through Lake Champlain the Magnificent and Lake George the Beautiful, which connect with trains to Albany via Saratoga Springs.

D. I. ROBERTS, Gen. Can. Pass. Agent.
W. H. HENRY, Can. Pass. Agent, 286 St. James Street, Montreal, P.Q.
A. A. HEARD, Gen. Pass. Agent, Albany, New York.

for not erecting and maintaining a telegraph line between Tweed and Bannockburn, and on two other claims which were disallowed.

Chief Justice Mulock in delivering judgment said: "In my opinion, the words, 'construction and maintenance' qualify the words, 'inspectors, linemen and repairers,' and also the words, 'their tools and stores.' If such is not the legal interpretation of the clause, then it would provide two different kinds of free transportation, namely, unlimited transportation for the men, and limited transportation for the tools and stores. It does not, I think, admit of such interpretation. The only object of such free transportation is clearly stated, namely, construction and maintenance. I think the defendants were not bound to furnish unlimited passes, as demanded by the plaintiffs, but only such free transportation as was reasonably necessary in connection with the plaintiff's work of construction and maintenance. There is no evidence to show that the fares paid and here sued for were for trips in respect of which the plaintiffs are entitled to free carriage for their employes. For this reason alone the action must fail. But, even if this were shown, are there any circumstances in this case which would entitle the plaintiffs to succeed in an action for money had and received, which is in substance the nature of this action? For reasons stated, I am of opinion that the plaintiffs are not entitled to recover the moneys in question, and that their action fails. As to the counterclaim: As to item (a), damages because of failure on the part of plaintiffs to keep their telegraph lines in working order, as proved by the evidence, for three years, I award defendants $900. As to item (b), namely, damages because of plaintiffs not erecting and maintaining a telegraph line between Tweed and Bannockburn, I find the defendants are entitled to $7,736.24 damages. On payment of this amount, the line built by defendants will become the property of plaintiffs, subject to the rights of defendants under the agreements; until payment of this sum, the plaintiffs to continue liable to pay to the defendants the cost of maintenance of the line and interest on $4,509.24. Owing to the divided success in respect of the counter-claim, no costs of the counter-claim are awarded either party."

Cheaper Cablegrams.

In a contribution to a British magazine, Lord Strathcona says, on the question of lower cable rates: "While the ideal of a penny a word may be a good thing to work for, especially in trans-Atlantic messages, a reduction of a far less drastic character even there would be welcomed by all classes of the community. But such low rates will hardly be possible, for a long time to come, to other parts of the world where cable lines are longer, where transfers are necessary from one line to another, where the expenses are obviously greater and the telegraph business less voluminous. But, be this as it may, upon the general question of the current cost of telegraphing, there is only one opinion—that it might be reduced with great advantage to the public, and perhaps with a prospect of gain to the cable companies. It has often occurred to one that as a beginning some system might be established similar to that which obtains with the telegraphs and long-distance telephones in Canada and the U.S., and more recently introduced in the telephone systems of the United Kingdom, of a differential rate for day and night messages. A concession of that kind would be regarded most favorably, and as an indication of the desire of the cable companies to meet the wishes of their customers so far as it can be done; subject, of course, to the proper safeguarding of the interests of their shareholders, to the provision of reserve funds for meeting debenture debts, and for providing new cables when required. The cry for lower rates has come to stay, but, on the other hand, we cannot expect too many concessions regardless of vested interests and their rights. If we want lower rates than the companies are willing to give, having regard to a fair return on the capital invested, the countries concerned must be prepared to pay for it, or at least to guarantee the companies against loss, which, in most cases, would be but a contingent liability. This is only fair and reasonable, and it is a consideration which must not be overlooked in connection with the discussions that are taking place."

The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Supplies, &c.

Accident Insurance
Canadian Ry. Accident Ins. Co.....Ottawa, Ont.

Aerated Waters
E. L. Drewry.....Winnipeg.

Air Brakes and Fittings
Canada Foundry Co.....Toronto.
Canadian Westinghouse Co.....Hamilton, Ont.

Ales
E. L. Drewry.....Winnipeg.

Alloys
Goldschmidt Thermit Co.....Toronto.

Angle Bars
Hamilton Steel & Iron Co.....Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.

Anti Rail Creepers
Belle City Malleable Iron Co.....Racine, Wis.
N. J. Holden & Co.....Montreal.

Automobiles
Polson Iron Works, Ltd.....Toronto.

Axes
James Smart Mfg. Co.....Brockville, Ont.

Axe Steel
Montreal Steel Works.....Montreal.

Axles
James Hutton & Co.....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Beacons
International Marine Signal Co.....Ottawa.

Bearings, Side
Cardwell Mfg. Co.....Chicago, Ill.
Chicago Railway Equipment Co.....Chicago, Ill.
Dominion Car and Foundry Co.....Montreal.

Blankets and Bedding
The Hudson's Bay Co.....

Blasting Powder
Standard Explosives Limited.....Montreal.

Boilers
Babcock & Wilcox (Ltd.).....Montreal.
Polson Iron Works.....Toronto.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Portable
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Stationary and Marine
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd.....Amherst N.S.

Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.

Boilers, Steam
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Water Tube
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Tubes
Jas. W. Pyke & Co.....Montreal.

Bolsters
Dominion Car and Foundry Co.....Montreal.

Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.

Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Box Car Loaders
Mussens Limited.....Montreal.

Brake Beams
Chicago Railway Equipment Co.....Chicago, Ill.
Dominion Car and Foundry Co.....Montreal.

Brake Shoes
American Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.
N. J. Holden Co., Ltd.....Montreal.

Brass and Copper Cloth
The B. Greening Co.....Hamilton, Ont.

Bridge Numbers
Acton Burrows Limited.....Toronto.

Bridges
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Buckets, Coal, Ore and Concrete
Canadian Fairbanks Co., Ltd.....Montreal.

Bumping Posts
McCord & Co.....Chicago, Ill.

Buoy Lighting
Safety Car Heating and Lighting Co..New York.

Buoys
International Marine Signal Co.....Ottawa.

Cables, Electric and Feeder
E. F. Phillips Electrical Works, Ltd.....Montreal.
The Wire and Cable Co.....Montreal.

Caps
W. H. Coddington.....Hamilton, Ont.

Car Castings
American Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.

Car Cleaner
Modoc Soap Co.....Philadelphia, Pa.

Car Closets
Duner Co.....Chicago, Ill.

Car Curtains and Fixtures
N. J. Holden Co., Ltd.....Montreal.

Car Fittings
Wallace Supply Co.....Chicago, Ill.

Car Heating
Canadian Gold Car Heating & Light'g Co.Montreal.
Safety Car Heating and Lighting Co..New York.

Car Lighting
Canadian Cold Car Heating & Light'g Co.Montreal.
Safety Car Heating and Lighting Co..New York.

Car Movers
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Car Replacers
Alexander Car Replacer Mfg. Co....Scranton, Pa.
N. J. Holden Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.

Car Wash Brushes
Wolfe Brush Co.....Pittsburg, Pa.

Cars
American Car and Equipment Co....Chicago, Ill.
Canada Car Co. (Ltd.).....Montreal.
Canadian Fairbanks Co. Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Dominion Car and Foundry Co.....Montreal.
J. T. Gardner.....Chicago, Ill.
Hart-Otis Car Co. (Ltd.).....Montreal.
Hotchkiss, Blue & Co.....Chicago, Ill.
Ottawa Car Co., Ltd.....Ottawa.
Preston Car and Coach Co., Ltd...Preston, Ont.
Rhodes, Curry & Co.....Amherst, N.S.
Silliker Car Co., Ltd.....Halifax, N.S.

Car Windows
O. M. Edwards.....Syracuse, N.Y.

Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
Standard Steel Works Co.....Philadelphia, Pa.

Castings, Brass
Canadian Bronze Co.....Montreal.
Canada Iron Corporation, Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited

MONTREAL, CANADA.

BARE AND INSULATED ELECTRIC WIRE

Electric Light Line Wire, Incandescent and Flexible Cords,

RAILWAY FEEDER AND TROLLEY WIRE

Americanite, Magnet, Office and Annunciator Wires,
Cables for Aerial and Underground Use.

NICKEL

THE CANADIAN COPPER COMPANY

NICKEL FOR NICKEL STEEL

THE ORFORD COPPER COMPANY

WRITE US FOR PARTICULARS AND PRICES

General Offices: 43 Exchange Place, NEW YORK

SECOND-HAND EQUIPMENT

ALL CLASSES REBUILT

FREIGHT AND PASSENGER

CAR REPAIRS

AMERICAN CAR & EQUIPMENT CO., 1538 Monadnock, Chicago, Ill.

THE HIRAM L. PIPER COMPANY, LIMITED

MANUFACTURERS MONTREAL 17 to 23 NORMAND ST.

RAILWAY Lamps, Signals and Supplies.
MARINE Lamps, Search Lights and Supplies.
ELECTRIC Reflectors for Store Lighting.

THE CANADIAN BRONZE COMPANY, LTD.

BRASS WEARING PARTS FOR LOCOMOTIVES.
JOURNAL BEARINGS FOR FREIGHT AND PASSENGER SERVICE.
BABBITTS MISCELLANEOUS BRASS CASTINGS FOR RAILROADS.

Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

DUNER CAR CLOSET

ENAMELED IRON WET OR DRY CLOSET

DUNER CO. 116 SO. CLINTON ST., CHICAGO

THE PRESTON CAR & COACH CO.

PRESTON, ONT. Limited

MANUFACTURERS OF

Steam and Electric Railway Cars

For Neatness and Quality in

PRINTING

WE HEAD THE LIST

THE HUNTER ROSE CO., Limited

12-14 Sheppard St. Toronto

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS' MACHINERY, address

THE ROBERTSON MACHINERY CO.

WELLAND, ONT. Limited

FOR TICKET CASES AND COMMERCIAL FURNITURE

Of all descriptions to stock or special design, Apply to

The Canadian Office and School Furniture Co. Limited

Preston, Ontario

IMPERIAL BANK

OF CANADA

CAPITAL AUTHORIZED	$10,000,000.00.
CAPITAL PAID UP	5,000,000.00.
REST	5,000,000.00.

HEAD OFFICE - - TORONTO

AGENTS—London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.

Sterling exchange bought and sold. Letters of credit issued available in any part of the world.

SAVINGS DEPARTMENT—Interest allowed on deposits at current rate from date of deposit.

A general Banking business transacted.

Branches throughout the Dominion of Canada

Anti-Rail Creepers

Made under Laas & Sponenburg, Canadian patents Nos. 97586, 97268, 97269. Shipments made from Walkerville, Ontario.

Belle City Malleable Iron Co.

RACINE, WIS.

MAIL JOB PRESS TORONTO

TRANSPORTATION PRINTING

FOR STREET PAVING MATERIAL

SCORIA BLOCKS

are the cleanest, most noiseless and, durability considered, the cheapest yet discovered. And the supply is unlimited.

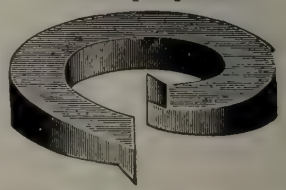
FOR ALL INFORMATION ADDRESS

W. H. KNOWLTON

Aberdeen Building, Toronto,
or Merchants Bank Building, Montreal

THE POSITIVE LOCK WASHER

Is the BEST Nut LOCK for all purposes



WE ALSO MAKE PLAIN COILS AND TAIL NUT LOCKS

The Positive Lock Washer Co.

Sole Mfrs., Newark, N.J.

F. H. HOPKINS & CO., Agents, MONTREAL

Castings, Iron
Canada Car Co., Ltd.....Montreal.
Canada Iron Corporation, Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Castings, Iron and Steel
American Brake Shoe & F'dry Co—Mahwah, N.J.

Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.

Castings, Steel
Canada Iron Corporation, Ltd.....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry & Co.....Amherst N.S.

Cast-Steel Hammers
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cast Steel Track Tools
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cast Steel Wrenches
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cement Machinery
Jas. W. Pyke & Co.....Montreal.

Chains
B. J. Coghlin & Co.....Montreal.

Charcoal Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.

Clevis Nuts
Cleveland City Forge & Iron Co....Cleveland, O.

Coal Haulage Ropes
The B. Greening Co.....Hamilton, Ont.

Compressors, Air
Canadian Rand Co.....Montreal.

Concrete Mixers and Rock Crushers
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Construction
Cleve-Mor Engin'ing & Cons'tion Co.Cleveland, O.

Contractors' Machinery and Plant
American Car and Equipment Co....Chicago, Ill.
American Hoist and Derrick Co...St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Canadian Fairbanks Co., Ltd.....Montreal.
J. T. Gardner.....Chicago, Ill
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Toronto Pressed Steel Co.....Toronto.

Contractors' Supplies
F. H. Hopkins & Co.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Conveyors, Coal and Ash
Babcock & Wilcox (Ltd.).....Montreal.

Copying Presses
James Smart Mfg. Co.....Brockville, Ont.

Corrugated Furnaces
Continental Iron Works.....Brooklyn, N.Y.

Counter Dusters
Wolfe Brush Co.....Pitttburg, Pa.

Couplers, Car and Locomotive
Acme Railway Equipment Co..Philadelphia, Pa.
Dominion Car and Foundry Co.....Montreal.
Latrobe Steel & Coupler Co....Philadelphia, Pa.
McConway & Torley Co.....Pittsburg, Pa.
National Malleable Castings Co..Cleveland, Ohio.
Taylor & Arnold.....Montreal.
Washburn Steel Castings & Coupler Co.,
.....Minneapolis, Minn.

Cranes
Canadian Fairbanks Co., Ltd.....Montreal.

Cranes, Electric
Babcock & Wilcox.....Montreal.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.

Cranes, Locomotive
American Hoist and Derrick Co....St. Paul, Minn.

Cross Arm Braces
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Crossing Gates
The N. L. Piper Railway Supply Co....Toronto.

Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Culvert Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co..Hamilton.

Cuts
Acton Burrows Limited.....Toronto.

Derailing Devices
Hayes Track Appliance Co.....Geneva, N.Y.

Derrick Ropes
Dominion Wire Rope Co.....Montreal.
The B. Greening Co.....Hamilton, Ont.

Derricks
American Hoist and Derrick Co....St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Miller Bros. & Toms.....Montreal.
Mussens Limited.....Montreal.

Dies
Butterfield & Co.....Rock Island Que.

Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.

Doors (Ex-Platform Trap)
O. M. Edwards.....Syracuse, N.Y.

Door Signs
Acton Burrows Limited.....Toronto.

Draft Gear
Cardwell Mfg. Co.....Chicago, Ill.
Farlow Draft Gear Co.....Baltimore, Md.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.
Waugh Draft Gear Co.....Chicago, Ill.

Dredges
M. Beatty & Sons.....Welland, Ont.

Drills
W. Abbott .....Montreal.

Drills, Air
Canadian Rand Co.....Montreal.

Drill Sockets
American Specialty Co.....Chicago, Ill.

Dry Goods
The Hudson's Bay Co.....

Dump Cars (Contractors')
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Dust Guards
Harrison Dust Guard Co.....Toledo, O.

Dynamo and Electric Castings
American Brake Shoe & F'dry Co..Mahwah, N.J.

Economizers
Babcock & Wilcox (Ltd.).....Montreal.

Electric Car Route Signs
Acton Burrows Limited.....Toronto.

Electric Ry. Brake Shoes
American Brake Shoe & F'dry Co..Mahwah, N.J.

Electrical Fuses
Standard Explosives Limited.....Montreal.

Enameled Iron Signs
Acton Burrows Limited.....Toronto.

Engineering
Cleve-Mor Engin'ing & Cons'tion Co.Cleveland, O.

Engines, Automatic
Robb Engineering Co., Limited....Amherst, N.S.

Engines, Corliss
Robb Engineering Co., Limited....Amherst, N.S.

Engines, Gasolene
Canadian Fairbanks Co.....Montreal.
Ontario Wind Engine and Pump Co.....Toronto.

Engines, Hoisting
American Hoist and Derrick Co...St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Canadian Fairbanks Co., Ltd.....Montreal.
Robertson Mfg. Co.....Welland, Ont.

Engines, Stationary and Marine
Polson Iron Works.....Toronto.
Robb Engineering Co., Limited....Amherst, N.S.

Explosives
Standard Explosives Limited.....Montreal.

Express Office Signs
Acton Burrows Limited.....Toronto.

Feedwater Heaters
Robb Engineering Co., Limited....Amherst, N.S.

Fencing
McGregor Banwell Fence Co....Walkerville, Ont.
New Brunswick Wire Fence Co....Moncton, N.B.
Owen Sound Wire Fence Co..Owen Sound, Ont.

Fire Brick
Mussens Limited.....Montreal.

Flags
The Hudson's Bay Co.....

Flour
The Hudson's Bay Co.....

Fog Signals
International Marine Signal Co.....Ottawa.

Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co....Cleveland, O.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton, Ont.
Standard Steel Works Co.....Philadelphia, Pa.

Foundry Appliances
Goldschmidt Thermit Co.....Toronto.

Frogs
Canadian Ramapo Iron Wks, Ltd..Niagara Fs, Ont.

Fuse Batteries
Standard Explosives Limited.....Montreal.

Fuse Detonators
Standard Explosives Limited.....Montreal.

Gaskets
McCord & Co.....Chicago, Ill.

Gas Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co..Hamilton.

Gates
McGregor Banwell Fence Co....Walkerville, Ont.
Owen Sound Wire Fence Co...Owen Sound, Ont.

Glue Brushes
Wolfe Brush Co.....Pittsburg, Pa.

Grain Elevators
John S. Metcalfe Co.....Chicago, Ill.

Groceries
The Hudson's Bay Company.....

Hammers
James Smart Mfg. Co.....Brockville, Ont.

Handcars
Canadian Fairbanks Co., Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel C .....Toronto.

Hardware
The Hudson's Bay Co.....
Rice Lewis & Son.....Toronto.

Hats
W. H. Coddington .....Hamilton, Ont.

Headlights
The N. L. Piper Railway Supply Co....Toronto.
Pyle National Electric Headlight Co..Chicago, Ill.

Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.

Hoisting Machinery
American Hoist and Derrick Co...St. Paul, Minn.
Brown Hoisting Machinery Co...Cleveland, Ohio.
Canadian Fairbanks Co., Ltd.....Montreal.

Hoists, Electric
American Hoist and Derrick Co....St. Paul, Minn.

Hoists (Pneumatic)
Taylor & Arnold.....Montreal.

Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.

Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.

Hydrants
Canadian Fairbanks Co., Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Illustrations
Acton Burrows Limited.....Toronto.

Inspections
R W. Hunt & Co.....Montreal.

Interlocking Plant and Signals
Montreal Steel Works.....Montreal.
Saxby and Farmer Ltd.....Montreal.

Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton Ont.

Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton, Ont.

Iron Signs
Acton Burrows Limited.....Toronto.

Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.

Jacks
Canadian Fairbanks Co., Ltd.....Montreal.
H and E Lifting Jack Co.....Waterville, Que.
F. H. Hopkins & Co., Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.

Japans
McCaskill, Dougall & Co.....Montreal.

Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.

Journal Boxes
N. J. Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Kalsomine Brushes
Wolfe Brush Co.....Pittsburg, Pa.

Lager Beer, &c.
E. L. Drewry.....Winnipeg.

Lamps, Incandescent
Canadian Westinghouse Co.....Hamilton, Ont.

Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Railway Supply Co....Toronto.

Launches
Polson Iron Works.....Toronto.

Lights, Contractors' and Wrecking
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Locomotive Cranes
American Hoist and Derrick Co....St. Paul, Minn.

Locomotive Driver Brake Shoe
American Brake & Shoe F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.

Locomotive Gauges
Taylor & Arnold.....Montreal.

Locomotive Lagging and Covering
Taylor & Arnold.....Montreal.

Locomotive Pop Valves
Taylor & Arnold.....Montreal.

Locomotives (Compressed Air)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.
Montreal Locomotive Works (Ltd.)....Montreal.
H. K. Porter Co.....Pittsburg, Pa.

Locomotives (Geared)
Lima Locomotive Co.....Lima, O.

Locomotives (Electric)
Burnham, Williams & Co.....Philadelphia, Pa.
Montreal Locomotive Works (Ltd.).....Montreal.

Locomotives (Logging)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.
H. K. Porter Co.....Pittsburg, Pa.

Locomotives (Rack)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.
Montreal Locomotive Works (Ltd.).....Montreal.

Locomotives (Steam)
American Car and Equipment Co.....Chicago, Ill.
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Fairbanks Co., Ltd.....Montreal.
Canadian Locomotive Co.....Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hotchkiss, Blue & Co.....Chicago, Ill.
Lima Locomotive Co.....Lima, O.
Montreal Locomotive Works (Ltd.).....Montreal.
H. K. Porter Co.....Pittsburg, Pa.
Vulcan Iron Works.....Wilkesbarre, Pa.

Locomotive Staybolts
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.
Flannery Bolt Co.....Pittsburg, Pa.

Lubricators
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.

Lumber
Parry Sound Lumber Co.....Toronto.

Machine Tools
W. Abbott.....Montreal.

Machinery, Marine
Sheriffs Mfg. Co.....Milwaukee, Wis.

Machinery Special
Miller Bros. & Toms.....Montreal.

Machinery, Transmission
Miller Bros. & Toms.....Montreal.

Machinery, Wood and Iron Working
Canadian Fairbanks Co., Ltd.....Montreal.

Manganese Steel Castings
Montreal Steel Works.....Montreal.

Manhole Frames and Covers
American Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.

Marine Repairs
Goldschmidt Thermit Co.....Toronto.

Marine Supplies
Rice Lewis & Son.....Toronto.

Measuring Tapes
Lufkin Rule Co.....Saginaw, Mich.

Metals
Goldschmidt Thermit Co.....Toronto.

Milepost Numbers
Acton Burrows Limited.....Toronto.

Milling Cutters
W. Abbott.....Montreal.

Motors
Canadian Fairbanks Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Nickel
The Orford Copper Co.....New York.

Nickel for Nickel Steel
The Orford Copper Co.....New York.

Numbers
Acton Burrows Limited.....Toronto.

Nut Locks
Positive Lock Washer Co.....Newark, N.J.

Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Oakum
The Hudson's Bay Company.....

Office Fittings
Canadian Office & School Furniture Co.Preston,Ont.

Office Signs
Acton Burrows Limited.....Toronto.

Oil Tanks
S. F. Bowser & Co., Limited.....Toronto.

Oils
Galena Signal Oil Co..Franklin, Pa., and Toronto.

Packing
Canadian Fairbanks Co., Ltd.....Montreal.
The N. L. Piper Railway Supply Co.....Toronto.

Paint Brushes
Wolfe Brush Co.....Pittsburg, Pa.

Painters' Dusters
Wolfe Brush Co.....Pittsburg, Pa.

Painters' Scrubs
Wolfe Brush Co.....Pittsburg, Pa.

Painters' Wall Brushes
Wolfe Brush Co.....Pittsburg, Pa.

Patterns
Hamilton Pattern Works.....Hamilton, Ont.

Pinch Bars
The N. L. Piper Railway Supply Co.....Toronto.

Pipe Stocks
Butterfield & Co.....Rock Island, Que.

Platforms, Steel
Standard Coupler Co.....New York City.

Ploughs, Contractors'
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Pneumatic Tools
N. J. Holden Co., Ltd.....Montreal.

Porter
E. L. Drewry.....Winnipeg.

Portable Boilers
Babcock & Wilcox (Ltd.).....Montreal.

Printing
The Hunter-Rose Co.....Toronto.
The Mail Job Printing Company.....Toronto.

Propeller Wheels
Sheriffs Mfg. Co.....Milwaukee, Wis.

Pumps
S. F. Bowser & Co., Limited.....Toronto.
Canadian Fairbanks Co.....Montreal.
Ontario Wind Engine and Pump Co....Toronto.
James Smart Mfg. Co.....Brockville, Ont.

Pumps (Centrifugal)
M. Beatty & Sons.....Welland, Ont.

Rail Benders, Roller
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

Rails (new)
Dominion Iron & Steel Co.....Sydney, N.S.
Drummond, McCall & Co.....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co.....Montreal.

Rails (for relaying)
F. H. Hopkins & Co.....Montreal.
J. J. Gartshore.....Toronto.
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.

Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada.....Montreal.

Railway Pile Drivers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Railway Supplies
Canadian Fairbanks Co.....Montreal.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Railway Supply Co....Toronto.
Rice Lewis & Son.....Toronto.

Ranges
Stearnes Steel Range Co.....Chicago, Ill.

Reamers
W. Abbott.....Montreal.
Butterfield & Co.....Rock Island, Que.

Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Rolled Wheels
Standard Steel Works Co.....Philadelphia, Pa.

Roof Trusses
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Co.....

Rotary Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.

Sash Balances
O. M. Edwards.....Syracuse, N.Y.

Sash Locks
O. M. Edwards.....Syracuse, N.Y.

Saw Steel
Montreal Steel Works.....Montreal.

Scales
Canadian Fairbanks Co., Ltd.....Montreal.

Scoria Blocks
W. H. Knowlton.....Toronto.

Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

BABCOCK & WILCOX
LIMITED

PATENT WATER-TUBE BOILERS
(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes, MONTREAL

BRANCH—TRADERS BANK BUILDING, TORONTO

The Purchasing Agents' Guide—Continued.

Screw Plates
Butterfield & Co. ..... Rock Island, Que.

Screws, Coach and Lag
Montreal Rolling Mills Co. ..... Montreal.
Toronto Bolt and Forging Co. ..... Toronto.

Semaphore Arms
Acton Burrows Limited ..... Toronto.

Semaphores
The N. L. Piper Railway Supply Co. ..... Toronto.
Saxby and Farmer Ltd. ..... Montreal.

Sewer Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co. . Hamilton.

Shade Rollers
O. M. Edwards ..... Syracuse, N.Y.

Shafting, Hollow
Falls Hollow Staybolt Co. . Cuyahoga Falls, Ohio.

Shaking Grates
Babcock & Wilcox (Ltd.). ..... Montreal.

Ship Lamps
The Hiram L. Piper Co. ..... Montreal.
The N. L. Piper Railway Supply Co. ..... Toronto.

Ships
Polson Iron Works ..... Toronto.

Shops
The Hudson's Bay Co. .....

Signal House Numbers
Acton Burrows Limited ..... Toronto.

Signals
The Hiram L. Piper Co. ..... Montreal.
N. L. Piper Railway Supply Co. ..... Toronto.
Saxby and Farmer, Limited. ..... Montreal.

Signs
Acton Burrows Limited ..... Toronto.

Skylights
A. Edgcumbe Rendle ..... Montreal.

Slack Adjusters
Chicago Railway Equipment Co. ..... Chicago, Ill.

Sledges
James Smart Mfg. Co. ..... Brockville, Ont.

Snow Ploughs
Crossen Car Mfg. Co. ..... Cobourg, Ont.
Rhodes, Curry & Co. ..... Amherst, N.S.

Speedicut High Speed Steel
Montreal Steel Works ..... Montreal.

Spikes, Railway, Ship or Pressed
Hamilton Steel and Iron Co., Ltd. . Hamilton, Ont.
F. H. Hopkins & Co. ..... Montreal.
Montreal Rolling Mills Co. ..... Montreal.
Toronto Bolt and Forging Co. ..... Toronto.

Spreader Cars
F. H. Hopkins & Co. ..... Montreal.

Spring Dampeners
McCord & Co. ..... Chicago, Ill.

Springs
B. J. Coghlin ..... Montreal.
F. H. Hopkins & Co. ..... Montreal.
Montreal Steel Works ..... Montreal.
Standard Steel Works Co. ..... Philadelphia, Pa.

Station Name Signs
Acton Burrows Limited ..... Toronto.

Station Seats
James Smart Mfg. Co. ..... Brockville, Ont.

Staybolts, Flexible
Flannery Bolt Co. ..... Pittsburg, Pa.

Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co. . Cuyahoga Falls, Ohio.

Staybolt Iron
Taylor & Arnold ..... Montreal.

Staybolt Taps
Butterfield & Co. ..... Rock Island, Que.

Steam Couplers
Safety Car Heating and Lighting Co. . . New York.

Steam Shovels
M. Beatty & Sons ..... Welland, Ont.
Canadian Fairbanks Co., Ltd. ..... Montreal.
F. H. Hopkins & Co. ..... Montreal.
Hotchkiss, Blue & Co. ..... Chicago, Ill.
Mussens Limited ..... Montreal.

Steamships
Polson Iron Works ..... Toronto.

Steamship Signs
Acton Burrows Limited ..... Toronto.

Steam Steering Engines for Tugs
Sheriffs Mfg. Co. ..... Milwaukee, Wis.

Steel
W. Abbott ..... Montreal.
Wm. Jessop & Sons ..... Sheffield, Eng.

Steel Buildings
Canadian Bridge Co. ..... Walkerville, Ont.
Dominion Bridge Co. ..... Montreal.

Steel, Fire Box
Taylor & Arnold ..... Montreal.

Steel for Springs
James Hutton & Co. ..... Montreal.

Steel, Nickel, for Nickel
The Orford Copper Co. ..... New York.

Steel Plates
Jas. W. Pyke & Co. ..... Montreal.

Steel Rolling Doors
Mussens Limited ..... Montreal.

Steel, Tool
W. Jessop & Sons ..... Sheffield, Eng.
Montreal Steel Works ..... Montreal.

Steel Tyres
James Hutton & Co. ..... Montreal.
Jas. W. Pyke & Co. ..... Montreal.

Stokers, Mechanical
Babcock & Wilcox (Ltd.). ..... Montreal.

Stoves
James Smart Mfg. Co. ..... Brockville Ont.

Structural Metal Work
Canadian Bridge Co. ..... Walkerville, Ont.
Dominion Bridge Co. ..... Montreal.
Montreal Locomotive Works (Ltd.). ... Montreal.
Jas. W. Pyke & Co. ..... Montreal.

Superheaters
Babcock & Wilcox (Ltd.). ..... Montreal.

Switches
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.
Hayes Track Appliance Co. ..... Geneva, N.Y.
Montreal Steel Works ..... Montreal.

Switch Lamps
The N. L. Piper Railway Supply Co. ..... Toronto.

Switch Ropes
The B. Greening Co. ..... Hamilton, Ont.
F. H. Hopkins & Co. ..... Montreal.

Switch Stands
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.
Hayes Track Appliance Co. ..... Geneva, N. Y.

Switch Targets
Acton Burrows Limited ..... Toronto.

Tanks and Tank Fixtures
Canadian Fairbanks Co. ..... Montreal.
Ontario Wind Engine and Pump Co. ..... Toronto.

Taps
Butterfield & Co. ..... Rock Island, Que.
A. B. Jardine & Co. ..... Hespeler, Ont.

Telegraph and Telephone Office Signs
Acton Burrows Limited ..... Toronto.

Thermit
Goldschmidt Thermit Co. ..... Toronto.

Ticket Cases
Canadian Office and School Furniture Co. . Preston.

Tie Plates
B. J. Coghlin & Co. ..... Montreal.
Montreal Rolling Mills Co. ..... Montreal.

Ties
Parry Sound Lumber Co. ..... Toronto.

Tires
Standard Steel Works Co. ..... Philadelphia, Pa.

Tools and Supplies
Canadian Fairbanks Co., Ltd. ..... Montreal.
James Smart Mfg. Co. ..... Brockville, Ont.
A. B. Jardine & Co. ..... Hespeler, Ont.

Track Equipment
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.

Track Jacks
Canadian Fairbanks Co. ..... Montreal.
H. and E. Lifting Jack Co. ..... Waterville, Que.
F. H. Hopkins & Co. ..... Montreal.
Montreal Steel Works ..... Montreal.
Mussens Limited ..... Montreal.
A. O. Norton ..... Coaticook, Que.

Tracklaying Lorries
Crossen Car Mfg. Co. ..... Cobourg, Ont.
F. H. Hopkins & Co. ..... Montreal.

Tracklaying Machinery
F. H. Hopkins & Co. ..... Montreal.

Track Tools
B. J. Coghlin & Co. ..... Montreal.
F. H. Hopkins & Co. ..... Montreal.
Montreal Steel Works ..... Montreal.
Mussens Limited ..... Montreal.

Tramway Equipment
J. J. Gartshore ..... Toronto.

Trap Doors
O. M. Edwards ..... Syracuse, N.Y.

Trucks
James Smart Mfg. Co. ..... Brockville Ont.

Trucks (Electric Car)
Burnham, Williams & Co. ..... Philadelphia, Pa.
Montreal Steel Works ..... Montreal.

Trucks (Railroad and Warehouse)
Toronto Pressed Steel Co. ..... Toronto.

Turnbuckles
Cleveland City Forge and Iron Co. . Cleveland, O.
Montreal Steel Works ..... Montreal.

Turntables
Canadian Bridge Co. ..... Walkerville Ont.
Dominion Bridge Co. ..... Montreal.

Turntable Motors
Taylor & Arnold ..... Montreal.

Uniform Caps
W. H. Coddington ..... Hamilton, Ont.

Valves, Brass Gate
Kerr Engine Co. ..... Walkerville, Ont.

Valves, Brass Globe
Kerr Engine Co. ..... Walkerville, Ont.

Valves, Iron and Brass
Canadian Fairbanks Co. ..... Montreal.

Valves, Iron Gate
Kerr Engine Co. ..... Walkerville, Ont.

Varnish Brushes
Wolfe Brush Co. ..... Pittsburg, Pa.

Varnishes
McCaskill, Dougall & Co. ..... Montreal.

Vessels
Polson Iron Works ..... Toronto.

Washers
Montreal Rolling Mills Co. ..... Montreal.

Waste
B. J. Coghlin & Co. ..... Montreal.
N. L. Piper Railway Supply Co. ..... Toronto.

Water Pipe (Cast Iron)
Gartshore hompson Pipe & F'dry Co. . Hamilton.

Water Softeners
Babcock & Wilcox (Ltd.) ..... Montreal.

Weather Strips
O. M. Edwards ..... Syracuse, N.Y.

Welding
Goldschmidt Thermit Co. ..... Toronto.

Wheelbarrows
F. H. Hopkins & Co. ..... Montreal.
Toronto Pressed Steel Co. ..... Toronto.

Wheels, Car
Canada Car Co., Limited ..... Montreal.
Canada Iron Corporation, Ltd. ..... Montreal.
Jas. W. Pyke & Co. ..... Montreal.
Rhodes, Curry & Co. ..... Amherst, N.S.
Standard Steel Works Co. ..... Philadelphia, Pa

Wheels, Locomotive
Canada Iron Corporation, Ltd. ..... Montreal.

Wheels, rolled, solid forged
Standard Steel Works Co. ..... Philadelphia, Pa.

Wheels, steel tired
Standard Steel Works Co. ..... Philadelphia, Pa.

White Wash Brushes
Wolfe Brush Co. ..... Pittsburg, Pa.

Windmills
Ontario Wind Engine and Pump Co. ..... Toronto.

Window Fixtures
O. M. Edwards ..... Syracuse, N.Y.

Windows, Fireproof
A. Edgcumbe Rendle ..... Montreal.

Wire and Wire Rope
Dominion Wire Rope Co. ..... Montreal.
The B. Greening Co. ..... Hamilton, Ont.
Mussens Limited ..... Montreal.
The Wire and Cable Co. ..... Montreal.

Wire Cloth
The B. Greening Co. ..... Hamilton, Ont.

Wire, Copper
E. F. Phillips Electrical Works. Ltd. ... Montreal.
The Wire and Cable Co. ..... Montreal.

Wire, Electric
E. F. Phillips Electrical Works, Ltd. ... Montreal.
The Wire and Cable Co. ..... Montreal.

Wire, Insulated Copper
E. F. Phillips Electrical Works, Ltd. . . Montreal.
The Wire and Cable Co. ..... Montreal.

Wire Rope Clips
American Hoist and Derrick Co. ... St. Paul, Minn.

Wire, Telegraph and Telephone
E. F. Phillips Electrical Works, Ltd. ... Montreal.
The Wire and Cable Co. ..... Montreal.

Wire, Transmission and Trolley
The Wire and Cable Co. ..... Montreal.

Wrecking Cranes
Mussens Limited ..... Montreal.

Yachts
Polson Iron Works ..... Toronto.

DOMINION CAR & FOUNDRY CO.
LIMITED

FREIGHT CARS
(ALL-STEEL AND COMPOSITE)

CAR TRUCKS STEEL UNDERFRAMES
FORGINGS OF ALL KINDS

SIMPLEX

Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works — MONTREAL WEST

P.O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.

The Railway and Marine WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 215.
New Series, No. 133.

TORONTO, CANADA, MARCH, 1909

For Subscription Rates, See Page 197.

WIRES AND CABLES

For Telephone, Telegraph, Electric Railway and Power Purposes

THE WIRE AND CABLE COMPANY

MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA

A PURELY CANADIAN COMPANY

JOHN EMO, General Manager — H. W. PEARSON, Secretary-Treasurer — D. MURPHY, President

AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

LUFKIN MEASURING TAPES

MADE IN CANADA, AND THE BEST IN THE WORLD.

SEND FOR CATALOG. | THE LUFKIN RULE CO. OF CANADA, LTD. WINDSOR, ONT.

HOTEL CADILLAC

Michigan Avenue and Washington Boulevard

DETROIT, MICHIGAN

RATES - - { $3.50 to $8. AMERICAN PLAN / $2 to $6. EUROPEAN PLAN

SINGLE MEALS $1.

SWART BROTHERS, Proprietors

RENDLE'S GLAZING IMPROVED SKYLIGHT CONSTRUCTION

"Paradigm," "Duxbac" Brands. "Diablo" Asbestos Windows.

A. EDGCUMBE RENDLE, 260 ST. JAMES STREET, MONTREAL. Works—LONDON, ONTARIO

THE WAUGH DRAFT GEAR

FRICTION SPRING CUSHION

200,000 lbs.—600,000 lbs. Capacity

MADE IN CANADA

Send for Catalog and Particulars

Waugh Draft Gear Co. - - Chicago, Ill.

ENAMELLED IRON SIGNS

For Steam and Electric Railways, Steamship, Express, Telegraph, Telephone and General Advertising Purposes. For Prices, etc., address

ACTON BURROWS LIMITED - 157 BAY ST. TORONTO

STEARNES STEEL RANGE COMPANY

FIFTH AVENUE AND LAKE STREET

Chicago, Ill.

THE OTTAWA CAR CO. Limited

BUILDERS OF

Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.

Office and Works: SLATER ST., OTTAWA.

Additional safety and economy in

TRACK MAINTENANCE

has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after ten years' service, having a record of over 50,000 miles in use—the extent of which is evidence of their excellence.

The Rail Joint Co. of Canada

See Page 184

MUSSENS LIMITED

RAILWAY, MINING AND CONTRACTORS' SUPPLIES

SEE ADVT. PAGE 162

THE DOUGALL VARNISH CO. LTD. SUCCESSORS TO McCASKILL, DOUGALL & COMPANY RAILWAY VARNISHES, JAPANS AND ENAMELS MONTREAL

LONDON 1908 MEDALS AWARDED

Westinghouse Friction Draft Gear

Experience has demonstrated that while the compressive strains developed in coupling and buffing when making up trains in the yard, are serious enough, it is the tensile strains developed on the road, due to unequal braking power on light and loaded cars releasing at low speeds, also when passing through "sags," over "hog backs" and from other causes, that give the most serious kind of trouble, causing couplers and knuckles to be broken. Westinghouse Friction Draft Gear permits a movement of the drawbar 2½" in either direction, but requires a force of 150,000 to 175,000 pounds to complete the stroke. It combines a friction resistance with a spring pressure that dissipates the effects of the heaviest strains or blows. When fully compressed the reactive force is less than 7,000 pounds.

Ask for Draft Gear Catalogue.

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO

439 Pender Street
VANCOUVER

For particulars address nearest office,
HAMILTON

922-923 Union Bank Bldg.
WINNIPEG

232 St. James Street
MONTREAL

158 Granville Street
HALIFAX

THE CLEVE-MOR ENGINEERING AND CONSTRUCTION COMPANY

ENGINEERS

CONSULTING DESIGNING
CONSTRUCTING OPERATING

411 TO 417 CITIZENS BUILDING
CLEVELAND, OHIO, U.S.A.

REPORTS on all kinds of engineering propositions. Advice on the design, construction and operation of properties; valuations; superintendence.

Design and construction of steam and electric railroads, electric lighting and power systems, steam and gas power plants, hydro-electric plants, water works, sanitary sewerage and drainage systems, buildings, foundations and concrete work generally.

The reorganization and operation of broken-down properties undertaken, also the organization and financing of new propositions that are meritorious.

We make a specialty of doing preliminary work in preparing, in all detail, electric and steam railway propositions for proper presentation for financial requirements.

E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES:
46th, ROBEY AND LINCOLN STS.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.

Manufacturers of

DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:
22 St. John Street
MONTREAL, - QUEBEC

I. A. YOUNG,
AGENT

See Purchasing Agents' Guide on page 233

See Alphabetical Index to Advertisements on page 197

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 215.
New Series, No. 133.

TORONTO, CANADA, MARCH, 1909.

For Subscription Rates, See page 197.

Entered as second-class matter, March 5, 1908, at the Post Office at Buffalo, N.Y., under the act of Congress of March 3, 1879.

The Hammer Blow from Incorrect Counterbalance.

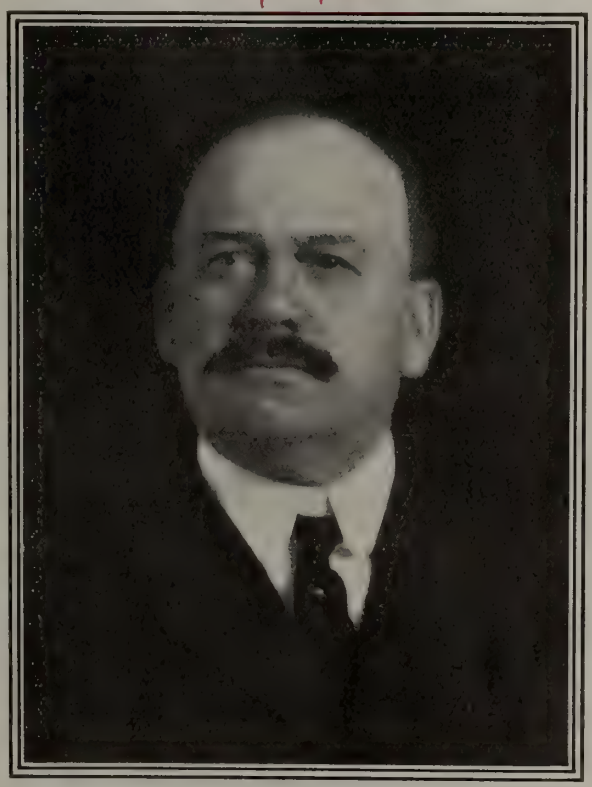
By H. H. Vaughan, Assistant to the Vice-President, C.P.R.

The generally accepted solution of a consideration of the action on the rail of a wheel containing counterbalance is that of a variable pressure between the rail and the wheel equalling the static weight on the wheel, added to or reduced by the vertical force due to the action of the unbalanced weight. Thus in fig. 1 (pg. 159), if OA represents the time of one revolution, BC the pressure between the rail and the wheel due to the weight on the wheel, OB and ODAE the vertical force due to the action of the overbalance, the result and pressure between the rail and the wheel is shown by the line BFG and equals the ordinate of the shaded area at any time.

Should the overbalance be excessive and the speed so high that the vertical force caused by the overbalance exceeds the weight on the wheel, there may be a negative pressure between the wheel and the rail, or in other words, a force tending to lift the wheel, which condition is shown in fig. 2, where the cross hatched portion below OA represents an upward force which tends to lift the wheel and attains a maximum value TP at the instant when the counterbalance is vertically upwards. For a numerical example suppose the weight on the wheel is 20,000 lbs. and the maximum vertical effect of the overbalance is 25,000 lbs. The pressure on the rail will become 45,000 lbs. at the point S, while at T there will be a force of 5,000 lbs. tending to lift the wheel, and that the wheel does lift under the action of this force is well shown from the experiments on the Purdue and St. Louis testing plants. The greatest pressure on the rail occurs when the counterbalance is vertically downwards, and as this in many cases of improperly balanced engines reaches such figures as 50,000 to 60,000 lbs., the damage that has occasionally been caused to the rail, when such engines have run at specially high speeds, has been ascribed to this great downward force. A consideration of the diagrams shows that however great this force may be at this point, its application is entirely gradual, and it cannot possibly partake of the nature of a blow given by a falling weight, however high the speed, as the pressure between the rail and the wheel gradually increases from nothing or a comparatively small amount until it reaches its maximum, and then decreases, and it has therefore become usual to regard the hammer blow, so often mentioned in connection with counterbalance, as a misnomer, and to ascribe the damage that may occur, to the high pressures which exist, rather than to the effect of an actual fall of the wheel on the rail.

In the early part of 1908 a serious case of damaged rails occurred on the C.P.R., the rails being sharply bent for about a mile, on both sides at intervals about equal to the circumference of a driving wheel. The damaged spots were carefully measured over a considerable distance, averaged, and the diameter of the wheel so found corresponded with that of an engine which had made a very fast run over the damaged track the day previous. The wheels of this engine were taken out and the main drivers found to contain an excessive amount of overbalance, actually amounting to about 1,000 lbs. As the weight on these wheels was 22,000 lbs., the force on the rail at the speed estimated varied from 57,000 lbs. to an upward force of 13,000 lbs. A portion of the rail was experimented with in a testing machine, and it was found impossible to bend it in the same manner as had occurred on the track, with different centres of supports and with loads as high as 200,000 lbs. While the cause of the damage was thus located, the method by which it was effected was still not apparent, and a general disbelief in the calculations of the forces caused by the unbalanced weights on the wheels was the natural result. It then occurred to the writer to investigate the action of the wheel when lifted from the rail by the upward force caused by the overbalance, with results that are interesting and to a large extent explain the action which takes place.

P 183



EDSON J. CHAMBERLIN

Vice-President and General Manager Grand Trunk Pacific Railway.

The wheel is taken as a mass of 3,200 lbs. weight, pressed down by the spring with a force equal to the static weight on the rail, less its own weight, running on a rigid track and acted upon by the forces caused by the overbalance. As an example, the speed was assumed to be 300 revolutions per minute, the weight on the rail 20,000 lbs. and the force due to the overbalance 25,000 lbs., so that the force tending to lift the wheel attained a maximum of 5,000 lbs. The mathematical discussion which applies to any set of conditions is given below, and the results are shown in fig. 3 for this particular example.

The horizontal dimensions in this diagram indicate the movement of the wheel in degrees, 0° being the position of the wheel when the counterbalance is vertically upwards, while the vertical dimensions indicate to three different scales, the forces acting on the wheel, the velocity of the wheel upwards and its upward movement. Thus, at about — 37½°, or when the centre line of the counterbalance makes that angle with the vertical, the upward force due to the overbalance equals the weight on the wheel, and beyond that exerts an upward force on the wheel, tending to lift it, which becomes a maximum of 5,000 lbs. at 0° and zero again when the counterbalance has moved 37½° past the centre. The wheel then commences to be acted upon by a downward force due to its weight and the force of the spring which becomes greater than the effect of the counterbalance. Since the latter continues to decrease, and at 90° becomes zero, and later in its turn acts downward, this force increases rapidly. Further consideration indicates that the upward velocity of the wheel, zero at — 37°, gradually increases until the wheel has turned to 37°, when its upward velocity is a maximum, since, while the forces acting on it upward have been decreasing from 0°, they have still been acting to increase its upward velocity. As the downward forces become reversed, they first destroy this upward velocity, which becomes zero at about 75°, after which they impress on it an increasing downward velocity until the wheel reaches the rail. To find the point at which this takes place, it is necessary to plot the space line or that showing the movement of the wheel vertically upwards from the rail. This commences with zero

Galena-Signal Oil Company

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY

GALENA RAILWAY SAFETY OIL

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

Please write to home office for further particulars.

CHARLES MILLER,
PRESIDENT

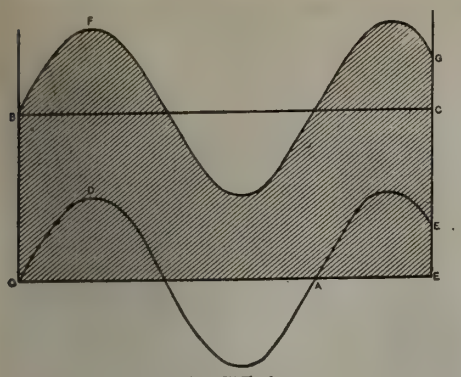


FIGURE 1

at — 37°, gradually increasing to 0.0465 ft. or about .55 inch at 75°, at which point the upward velocity is zero and the upward movement has attained its maximum. The wheel then begins to return to the rail, its movement becoming zero again, or in other words, striking the rail at 115°, and by referring to the velocity curve, it will be seen that at the point the downward velocity is 4.7 ft. per second. This velocity corresponds to that gained in dropping freely through a height of 0.36 ft., or about 4½ ins., and as the weight is 3,200 lbs., there is an actual, but not severe, blow.

It is interesting to note that this diagram explains completely the results obtained on testing plants, and with wire run under the drivers, in which W. F. M. Goss has noted that the wheel appeared to drop more quickly than it went up, and at a considerably greater distance from the centre, and it is evident that this should be so. The movement of the wheel does not coincide with the variation in the force. As long as the force is upward the wheel is acquiring an upward velocity, and this velocity does not become zero until the downward forces have acted on the wheel for a sufficient time to destroy it. In the same way, the upward movement goes on increasing, not only until the upward velocity decreases, but until it is destroyed and the wheel does not return to the track until the downward velocity has attained a very considerable amount.

The diagram in fig. 4 shows similar curves plotted at 320 revolutions for the engine mentioned as having caused the damage to the rail on the C.P.R. This is, of course, an exceptionally bad case, but it will be seen that the wheel did not return to the track for 177°, when it had a downward velocity of 17½ ft. per second, corresponding to a free fall of 4¾ ft., from which height a weight of 3,200 lbs. would certainly deliver a blow of sufficient energy to account for the effects observed.

In an extreme case of this nature, however, the method of analysis employed gives results that are greater than would actually occur, since the force acting down on the wheel is not constant, but would increase as the wheel moved upward and deflected the spring. For instance, if the latter had a deflection of 0.2 ft. under the working load of 18,800 lbs., the downward force with any upward movements of the wheel would equal

$$3200 + 18800\left(\frac{s+0.2}{0.2}\right)$$

in place of a constant amount of 22,000 lbs., and the acceleration equation would then become

$$\frac{d^2s}{dt^2} = C\cos kt - \left[3200 + 18800\left(\frac{s+0.2}{0.2}\right)\right]$$

This expression involves s and becomes exceedingly complicated to integrate, but the effect of including it would be to diminish the upward movement and slightly reduce the striking velocity. In the first case its influence is inappreciable as the upward movement is small, but in the second it would certainly reduce this, and account for the box not striking the frame. An exact solution would in addition allow for the elasticity of the track, and this in its turn would apparently increase the velocity of the blow, although an equation involving it would probably be too complicated to treat mathematically except by an expert.

While, however, the solution here given in fig. 4 may not be exactly correct, the actual striking velocity being lower than that calculated, there is no doubt that it is of considerable magnitude, and probably from 12 to 15 ft. per second, and an absolute hammer blow is therefore accounted for which is of sufficient intensity to explain the damage that has occurred.

It is interesting to not that in extreme cases the wheel does not return to the track or the blow occur until the wheel has moved to a position where the counterbalance is within 20° or 30° of being vertically downward, and the popular connection of this blow with the downward movement of the counterbalance is thus explained.

The result of these calculations would emphasize the danger of an unbalanced force which could equal the weight on the wheel. On the usual assumption that the maximum speed in miles per hour equals the diameter of drivers in inches, this would restrict the overbalance in any wheel to 2½ per cent. of the weight on the wheel, and to be entirely safe the practice on the C.P.R. is now to limit it to 1¼%, and to make it 1% if possible.

MATHEMATICAL ANALYSIS.

When counterbalance is vertically upward $t = o$

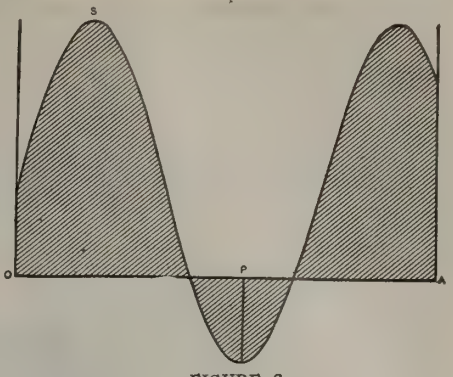


FIGURE 2

Let w = acceleration due to downward force of spring and weight of wheel, acting on mass of wheel

c = acceleration due to maximum value of force caused by overbalance, acting on mass of wheel

s = vertical movement of wheel, from rail, feet

t = time, seconds

kt = angular movement of wheel, radians

Then, $\frac{d^2s}{dt^2} = c\cos kt - w$

$$\frac{ds}{dt} = \frac{c}{k}\sin kt - wt + C$$

$$= o \text{ when } t = -t_1, \text{ when } \cos kt_1 = \frac{c}{w}$$

Then $C = \frac{c}{k}\sin kt_1 - wt_1$

And $\frac{ds}{dt} = \frac{c}{k}\sin kt + \frac{c}{k}\sin kt_1 - wt - wt_1$,

from which the velocity curves are plotted

$$s = -\frac{c}{k^2}\cos kt + \frac{ct}{k}\sin kt_1 - \frac{wt^2}{2} - wtt_1 + C$$

$$= o \text{ when } t = -t_1$$

Then $C = \frac{ct_1}{k}\sin kt_1 + \frac{c}{k^2}\cos kt_1 - \frac{wt_1^2}{2}$

and $s = \frac{c}{k^2}(kt_1\sin kt_1 + \cos kt_1) - \frac{wt_1^2}{2} - \frac{wt^2}{2} +$

$$t\left(\frac{c}{k}\sin kt_1 - wt_1\right) - \frac{c}{k^2}\cos kt_1$$

from which the space curves are plotted.—American Engineer and Railroad Journal

The Life Underwriters' Association of Canada recently applied for the same rates of fares on railways in Eastern Canada as are given to commercial travellers. The application was refused in view of the different conditions of the two organizations.

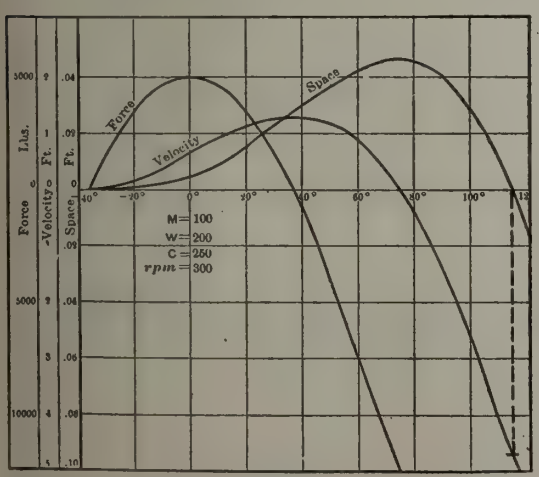


FIGURE 3

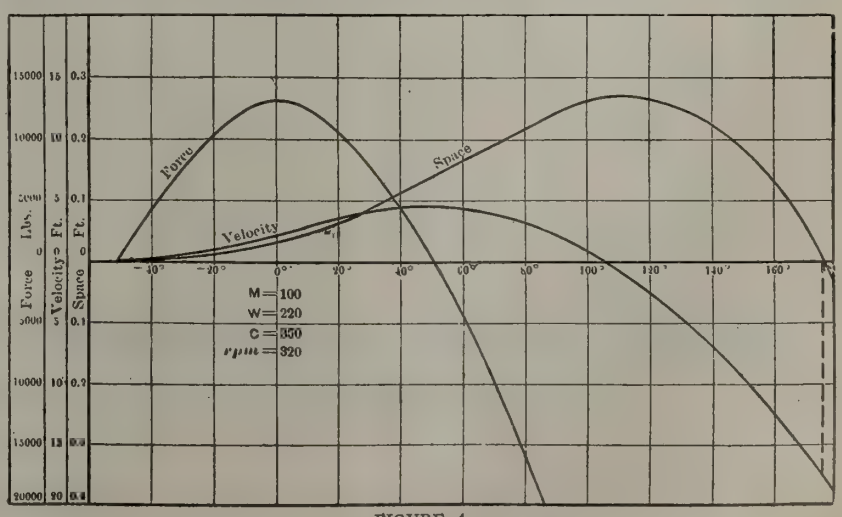


FIGURE 4

LOCOMOTIVES

Pacific Type Passenger Locomotive built for the Intercolonial Railway. Total weight of engine, 194,500 pounds. Weight on driving wheels, 132,000 pounds; diameter of driving wheels, 72 inches. Boiler pressure, 200 pounds. Maximum tractive power, 29,200 pounds.

STEAM SHOVELS

A high-class and powerful machine, absolutely reliable under all conditions of service.

MONTREAL LOCOMOTIVE WORKS, LTD.

BANK OF OTTAWA BUILDING, MONTREAL, CANADA.

Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this. Complete copies of any of the orders summarized below, or of others previously passed by the Commission, will be furnished for 25 cents, cash to accompany requests for copies in all cases.

6030. Jan. 12.—Dismissing application, with leave to revive if desired, of Front of Escott tp., Ont., for order directing G.T.R. to provide overhead crossing where its line intersects at different level crossings 2½ miles west of Mallorytown station, the main highway from Rockfield to Escott village.

6031. Jan. 12.—Authorizing the National Transcontinental Ry. Commissioners to cross Temiscouata Ry. about 12.2 miles westerly from Edmundston, N.B., or 46.62 miles from a point 2½ miles west of Grand Falls, N.B.

6032. Jan. 13.—Ordering that work required by order 5670, Nov. 11, 1908, in connection with C.N.R. crossing over Mrs. H. A. McLeod's property at Stoney Brae, Ont., be completed by Jan. 21, and that the company be subject to a penalty of $25 for every day subsequent thereto it shall be in default in complying with the order.

6033. Jan. 13.—Ordering that the Windsor, Essex and Lake Shore Rapid Ry. be subject to a penalty of $25 for each night that the semaphore light at its crossing with the M.C. Rd. on Erie Ave., Leamington, Ont., is not lighted on and after Feb. 1.

6034. Jan. 12.—Dismissing application of C. Franche, Wendover, Ont., for order directing C.N.R. to provide farm crossing in the middle of his lot.

6035. Jan. 5.—Authorizing St. Lawrence and Adirondack Ry. to construct its railway across various highways in Quebec province.

6036. Jan. 14.—Authorizing Bell Telephone Co. to place wires across M.C. Rd. 3 miles east of Berry station, Ont.

6037. Jan. 14.—Authorizing Bell Telephone Co. to place wires across G.T.R. at water front, west of John St., Toronto.

6038. Jan. 14.—Authorizing C.P.R. to construct three spur lines to the Larchwood Lumber Co.'s premises, Algoma district, Ont., to be completed within 2 years.

6039. Jan. 12.—Authorizing G.T.R. to provide folding gates at its crossing on Rosa de Lima St., Montreal, on or before Apr. 15, the city to bear one-half the cost of protection, maintenance and operation, and further ordering that the city be not responsible for damages resulting from negligence of man in tower.

6040. Nov. 11.—Authorizing G.T.R. to construct spur lines to the Hamilton and Toronto Sewer Pipe Co. and the Fowler's Canadian Co.'s premises, Hamilton Ont.

6041. Jan. 4. — Authorizing Manitoba Government Telephones to place wires across C.N.R. at public crossing 10 miles north-west of St. Boniface.

6042. Jan. 9.—Authorizing Louise Telephone Co. to place wires across C.P.R. between secs. 30-2-11 and 25-2-12, also 30-2-11 and 31–2–11, and secs. 4-3-11 and 5-3-11, west of 1st mer., Man.

6043. Jan. 14.—Authorizing the town of Megantic, Que., to lay a pipe under C.P.R. in St. Agnes ward, Megantic, Que.

6044. Jan. 14.—Authorizing Guelph Light and Heat Commissioners to place wires across G.T.R. tracks at Crimea St., Guelph, Ont.

6045. Jan. 14. — Authorizing Manitoba Government Telephones to place wires across C.N.R. tracks one mile west of Grays.

6046. Jan. 14.—Authorizing C.P.R. to operate bridges on its Emerson section at mileages 28.2 and 53.6, and rescinding order 5712, Nov. 27, 1908.

6047. Jan. 14.—Authorizing Kinloss and Lucknow Telephone Co. to place wires across G.T.R. one mile west of Lucknow station, Ont.

6048. Jan. 8.—Dismissing application of R. Laidlaw Lumber Co., Toronto, for order directing that order 4988, July 8, 1908, be made retroactive so as to apply to all cars loaded with lumber received at Toronto over G.T.R. from Feb., 1907, until the interswitching arrangements prescribed by the Board became effective Sept. 1, 1908, and switched by the C.P.R. to applicant's siding at Dundas St., Toronto; also that the Railway Co. refund $42 as demurrage on eight carloads received at Toronto, April, 1907.

6049. Jan. 11.—Authorizing city of Hamilton, Ont., to lay sewer pipe under T.H. & B.R. at Sanford Ave.

6050. Jan. 13.—Authorizing city of Hamilton to lay water main under G.T.R. Port Dover branch at Wentworth St.

6051. Jan. 12.—Approving location of C.N.O.R. from Udney, Ont., toward Orillia, and authorizing construction of railway across intervening highways in Mara tp.

6052. Jan. 9.—Authorizing People's Telephone Co. and E. P. Smith, of Johnville, Que., to place wires across C.P.R. near Johnville station, Que., and rescinding order 5636, Nov. 3, 1908.

6053. Jan. 11.—Authorizing C.P.R. to construct a branch line in Winnipeg across portions of blocks 40, 41 and 42, and a lane in rear of Brant St.

6054. Jan. 11.—Authorizing C.P.R. to construct spur lines in Winnipeg to the Anchor Elevator and Warehousing Co.'s premises.

6055. Jan. 15.—Authorizing Alberta Ry. & Irrigation Co. to construct branch line on Blood Indian Reserve, to lot 3, block 32, Cardston, Alta.

6056. Jan. 15.—Authorizing Edmonton & Slave Lake Ry. to construct spur to Morinville Mines, Alta.,

6057. Jan. 15.—Authorizing Bell Telephone Co. to place wires across Lake Erie & Detroit River Ry. at Adelaide St., London, Ont.

6058. Jan. 15.—Authorizing Mission Telephone Line to place wires across C.P.R. at Dewdney station, B.C.

6059. Jan. 15.—Authorizing Bell Telephone Co. to place wires across Lake Erie & Detroit River Ry. at Adelaide St., London, Ont.

6060. Jan. 16.—Authorizing T. Richards to place a wire across G.T.R. at George St., Elmwood, Ont.

6061. Jan. 16.—Approving deviation of C.P.R. line through Saskatchewan, mileage 130.6 to 133.1, being Pasqua and Moose Jaw stations.

6062. Jan. 16.—Approving location of Manitoba & Northwestern Ry. branch, Bredenbury to Kamsac, Sask., from sec. 3, tp. 23, r. 1, w. 2 m., at Bredenbury, to sec. 3, tp. 27, r. 1, w. 2 m.

6063. Jan. 16.—Approving revision of C.P.R. line through Saskatchewan, from mileage 64.8 to 68, being Qu'Appelle and McLean stations.

6064. Jan. 14.—Authorizing M.C. Rd. to construct farm crossing over its railway, on the boundary line between C. & F. Slade's farms, Raleigh tp., Ont., in substitution of existing crossing and rescinding order 5926, Oct. 20, 1908.

6065. Jan. 22.—Authorizing M.C. Rd. to reconstruct a bridge on Chippewa Creek on its Niagara division.

6066. Jan. 18.—Authorizing Bell Telephone Co. to place wires across C.P.R. at western boundary of lot 18, Point Claire parish, Que.

6067. Jan. 18.—Authorizing Vancouver Power Co. to place wires across C.P.R. near Barnet, B.C.

6068. Jan. 18.—Authorizing G.T.P. Telegraph Co. to place wires across C.P.R. Souris branch, between Headingly and Springstein, Man.

6069. Jan. 18.—Approving location of the C.P.R. Lanigan-Prince Albert branch, from near Lanigan to northern boundary of s.e. ¼ sec. 5, tp. 35, r. 22, w 2 m., Sask.

6070. Jan. 18.—Approving Dominion Ex. Co.'s by-law, authorizing W. H. Burr, Traffic Manager, to prepare and issue tariffs of tolls.

6071. Jan. 18.—Approving location of Atlantic, Quebec & Western Ry. station, Port Daniel, Que.

6072. Jan. 18.—Authorizing G.T.R. to construct bridge west of the Trent River, near Trenton, Ont.

6073. Jan. 13.—Dismissing application of Pere Marquette Rd. for permission to refund to Parke, Davis & Co. 8c. per 100 lbs. on shipment of pharmaceutical goods from Walkerville, Ont., to Montreal.

6074. Jan. 18.—Authorizing C.N.O.R. to construct branch line from Sellwood Jct. to Sellwood, through Hutton tp., Nipissing district, Ont., to be completed within 2 years from date.

6075. Jan. 15.—Authorizing C.P.R. to open for traffic the portion of its line on Medicine Hat section known as the Gull Lake diversion, Alta.

6076. Jan. 12.—Authorizing G.T.R. to maintain a crossing at Maxville, Ont., and to construct gates in line with the right-of-way fence; and ordering that the G.T.R. be not required to cut trains standing on the siding track, for the purpose of crossing other trains on the main line at this point.

6077. Jan. 13.—Dismissing application of Ontario Powder Co. for an order authorizing Bay of Quinte Ry. to refund $35, alleged overcharge on shipment of ice from Tweed to Kingston, Ont.

6078. Jan. 19.—Authorizing the Wahnapitae Power Co. to place power lines across C.N.O.R. in Neelon tp., Nipissing district, Ont.

6079. Jan. 19.—Authorizing Wahnapitae Power Co. to place power wires across C.P.R. tracks at milepost 70, between Romford and Wanapitei, Ont.

6080. Jan. 18.—Prescribing rules in connection with proposed additions to and changes in Canadian Classification of freight traffic.

6081. Jan. 12.—Approving revised location of C.N.R. Co.'s Goose Lake branch, through townships 33-29, ranges 9-15, w. 3 m., west from Saskatoon, Sask.

6082. Jan. 19.—Authorizing Andover & Perth Electric Light Commissioners to place wires across C.P.R. in Perth, N.B.

6083. Jan. 20.—Authorizing C.P.R. to open for traffic the portion of its Moose Jaw branch from mileage 63 to 91, Saskatchewan, provided that trains be not operated at speed greater than 15 miles an hour.

6084. Jan. 14.—Directing that C.P.R. stop its trains opposite C.N.R. platform at St. Jerome, Que., and rescinding order 5189.

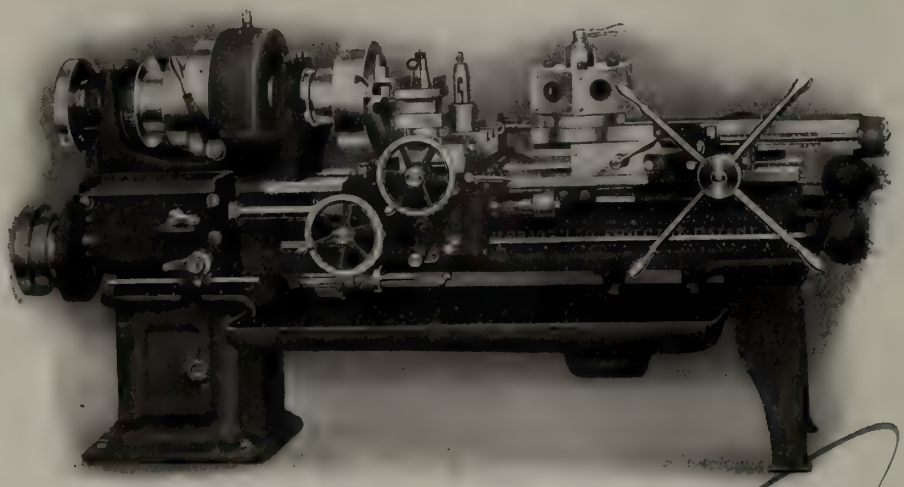
6085. Jan. 20.—Authorizing Toronto Electric Light Co. to lay tile ducts under G.T.R. and C.P.R. for power and electric wires.

6086. Jan. 19. — Authorizing Bell Telephone Co. to place wires across C.P.R. at Beeton station, Ont.

6087. Jan. 18.—Approving G.T. Pacific Ry. standard freight tariffs C.R.C. 2, C.R.C. 3, C.R.C. 4.

6088, 6089. Jan. 19.—Directing Ingersoll Electric Light and Power Co. to place its

MACHINERY FOR
RAILROAD SHOPS



CAPSTAN LATHE MADE BY ALFRED HERBERT LTD.

We furnish all kinds of Machinery for Locomotive Shops, Car Shops, Repair Shops, etc., including:

LATHES
PLANERS
BORING MILLS
DRILLS
WOODWORKING MACHINERY
TWIST DRILLS
TOOL STEEL
ETC., ETC.

Your enquiries will receive prompt attention.

THE
MOORE TRACK DRILL

The latest and best on the market. Designed for heavy and severe work along entirely original lines that are meeting everywhere with full appreciation.

WRITE FOR SPECIAL CATALOGUE

MUSSENS LIMITED

TORONTO, 73 Victoria St.
COBALT, Hunter Block

Head Office: MONTREAL

WINNIPEG, 259-261 Stanley St.
VANCOUVER, 614 Hastings St. West

wires across C.P.R. Port Burwell and Ingersoll branches, at least 25 ft. above rails, and rescinding orders 3900 and 3904.

6090. Jan. 27.—Dismissing application of Crawshaw Brothers, Scotch Block, Ont., for order directing G.T.R. to construct a siding to their quarry.

6091. Jan. 19.—Directing Ingersoll Electric Light and Power Co. to place its wires across C.P.R. to St. Charles Condensing Co.'s premises, at least 25 ft. above rails, and rescinding order 3903.

6092. Jan. 22.—Ordering that the Express tariff and rules in existence prior to January 1, 1909, referred to in order 6020, be construed by all express companies to be the ratings, tariffs, and rules embodied in Classification and Tables of Graduated Charges 16, revised to Aug. 1, 1905, and "exceptions" thereto for use in Canada, which were in force on Dec. 31, 1908. And ordering that 9 be substituted for 8 in the 9th line of the operative part of order 6020.

6093. Jan. 21.—Ordering that, pending the final determination by the board of the tariffs of tolls which the Bell Telephone Company shall be authorized to charge, and the form of agreement with other companies to be approved by the Board, certain agreements of the company be temporarily approved.

6094. Jan. 22.—Authorizing Q.M. & S. Ry. to construct a spur to the Imperial Oil Co.'s premises, Iberville, Que.

6095. Jan. 18.—Amending order 1428, re Fairville, N.B., crossing, by ordering the municipality and the St. John Ry. Co. to pay to the C.P.R. within one month, one-third of the wages of the day and night watchman, directed to be provided by order of July 7, 1905, from July 1, 1906, to Jan. 18, 1909.

6096. Jan. 12.—Dismissing application of Hyde & Webster, Montreal, for a less rate on brick between Casselman and Montreal.

6097. Jan. 18.—Dismissing complaint of St. John, N.B., Board of Trade against increase by Dominion Atlantic Ry. of passenger fare on steamship line between St. John, N.B., and Digby, N.S., from $1.50 to $1.75 per capita.

6098. Jan. 18.—Dismissing complaint of I. R. Todd, St. Stephen, N.B., against rate charged by C.P.R. on pulpwood from St. Stephen to Milltown, N.B.

6099. Jan. 18.—Dismissing complaint of the St. John, N.B., Board of Trade against C.P.R. charge of 50c. per short ton shunting charges on goods from steamers from West St. John to East St. John.

6100. Jan. 23.—Approving location of the C.N.O. Ry. through Mowat tp. and Henvey Indian reserve, Parry Sound District, Ont., mileage 275.7 to 293.

6101. Jan. 25.—Authorizing G.T.R. and Napierville Junction Ry. Co. to operate trains on the tracks over, upon, or through the connection near Lacolle, Que, authorized by order 5264.

6102. Jan. 25.—Directing that the time for the installation of the interlocker of the G.T.P. Ry. where the same crosses the C.P.R. Pembina branch at Oak Point Junction, near Winnipeg, provided for in order 5417, and required by order 5573, to be installed not later than Jan. 31, 1909, be extended until March 31, 1909.

6103. Jan. 8.—Authorizing Niagara, St. Catharines and Toronto Ry. to construct its railway, at rail level, upon, along and across roads and highways in Thorold tp., Ont.

6104. Jan. 22.—Amending order 5943, of Dec. 16, 1908, by striking out the words "City of St. Johns," where they occur in the recital and operative parts of the order and substituting the words "Town of Iberville."

6105. Jan. 3.—Directing the Town of Orillia, Ont., to remove certain electric power wires placed across the G.T.R. at public road allowance, between cons. 5 and 6, east of Orillia, within 30 days, and that failing to comply with the order the town be liable to a penalty of $25 a day for every day it shall be in default.

6106. Jan. 22.—Approving revised location of C.P.R. Crow's Nest Pass branch from Lethbridge to Macleod, Alta., mileage 0.0 to 31.4.

6107. Jan. 23.—Confirming orders 4733, May 19, 1908; 4773, May 27, 1908, and 3058, May 23, 1907, issued by the Board in connection with the V.W. and Y. Ry. spur from False Creek to Burrard Inlet, Vancouver, B.C., as applied in the name of the V.V. and E. Ry. and N. Co., which has acquired the rights of the V.W. and Y. Ry.

6108. Jan. 23.—Approving the construction and maintenance of Walkerton and Lucknow Ry. bridge over Saugeen River at Walkerton, Ont., subject to agreement between C.P.R. and Town of Walkerton, dated Dec. 30, 1908.

6109. Jan. 25.—Authorizing Kaministikwia Power Co. to place wires across C.P.R. and C.N.R. at Heath St., West Fort William, Ont.

6110. Jan. 12.—Authorizing National Transcontinental Ry. to construct its railway at rail level across public highway running along the St. John River, between Edmundston and Connors; also permanently divert such highway and construct another in lieu thereof.

6111. Jan. 26.—Authorizing the Rat Portage Lumber Co. to place wires across C.P.R. at Harrison's Mills station, B.C., as per agreement dated Jan. 1, 1908.

6112. Jan. 26.—Approving Grand Valley Ry. Co. standard freight tariff C.R.C. 1.

6113. Jan. 26.—Authorizing the St. Lawrence and Adirondack Ry. Co. to reconstruct five bridges.

6114. Jan. 26.—Authorizing G.T.R. and Hamilton St. Ry. to operate trains over crossing of the Hamilton St. Ry. by G.T.R. additional track on Barton St., Hamilton, Ont., at intersection with Ferguson Ave.

6115. Jan. 27.—Approving revised location of C.P.R. as lessee of Manitoba and Northwestern Ry. from Bredenbury to the C.P.R. Pheasant Hills branch at Esterhazy, Sask., mileage 0 to 20.2.

6116. Jan. 27.—Approving location of the C.P.R. Lanigan-Prince Albert branch, from northern boundary of s.e. ¼ sec. 5, tp. 35, range 22, west 2nd meridian, to the Regina, Saskatoon and North Saskatchewan Ry., in n.w. ¼ sec. 26, tp. 42, r. 28, west 2nd meridian, mileage 8.7 to 82.4.

6117. Jan. 26.—Dismissing application of Village of Upton, Que., under sec. 237 for authority to continue Grand Trunk St. across G.T.R.

6118-6126. Jan. 8.—Authorizing C.P.R. to construct spurs to premises of J. R. Arbuthnot Co., Woods & Co., Nichols & Shepherd, Hargrave & Co., H. Leadly, Christie Bros., Kelly Bros., Prairie City Oil Co., and F. C. Bell, Winnipeg.

6127. Jan. 27.—Directing C.N. Quebec Ry. Co. to remodel plant in tower at crossing of C.N.Q.R. and Montreal St. Ry. near intersection of Valois Ave. and Ontario St., Montreal, and to provide for interlocking of derails with home signals, by May 15, 1909, and providing a penalty of $25 a day for default.

6128. Jan. 26.—Directing that C.N. Ry. construct a new plant in tower house, or remodel old plant at the crossing of C.P.R. near Emerson, Man., to enable semaphores to be relocked, work to be completed June 15, 1909, and providing a penalty of $25 a day for default.

6129. Jan. 12.—Ordering C.N.O.R. to pay G.T.R. for user of Union Station and yards at Toronto, amount agreed upon between the companies Nov. 7, 1906, up to and including the date of this order, and directing the C.N.O.R. to make an arrangement, if possible, for user of said station and yards, which will be satisfactory to the C.P.R. and G.T.R., said arrangement to take effect from the date of this order. Also ordering that in the event of failure of companies to make a satisfactory agreement upon terms, the same shall be fixed by Board.

6130. Jan. 8.—Authorizing C.P.R. to construct spur to Western Coal Co.'s premises, Winnipeg.

6131. Jan. 29.—Authorizing C. Vanderburg, Nelles Corners, Ont., to lay a natural gas pipe in culvert under G.T.R.

6132. Jan. 8.—Authorizing C.P.R. to construct a spur to F. J. Wellwood's premises, Winnipeg.

6133. Jan. 8.—Authorizing C.P.R. to construct a spur to Anchor Elevator and Warehousing Co.'s premises, Winnipeg.

6134. Jan. 29.—Approving location of B.C. Southern Ry., Michel branch, from mileage 1.7 to 30, British Columbia.

6135. Jan. 29.—Rescinding order 5760, Dec. 3, 1908, which dismissed application of Ingersoll Telephone Co. for authority to erect telephone cables across Tillsonburg, Lake Erie and Pacific Ry., at Ingersoll, Ont.

6136. Jan. 29.—Authorizing City of Winnipeg to erect transmission wires across C.P.R. at Gomez and Carter Sts., Winnipeg; and amending order 5777, Dec. 3, 1908.

6137. Jan. 8.—Authorizing C.P.R. to construct a spur to Oldfield, Kirby and Gardner's premises, Winnipeg.

6138. Jan. 21.—Temporarily approving of various contracts of the Bell Telephone Co. with other telephone companies.

6139. Jan. 27.—Authorizing C.P.R. to cross certain highways in Vespra, Ont., by its Sudbury-Kleinburg branch.

6140. Jan. 27.—Dismissing application of G. F. Stiles for order directing C.P.R. to construct farm crossing and directing company to provide an under-crossing 12 ft. high and 12 ft. wide, as originally provided and as required by an agreement between Stiles and the company.

6141, 6142. Jan. 27.—Dismissing complaint of F. B. Stevens & Co., and J. B. Stringer, Chatham, Ont., alleging unjustly discriminative rates on shipments of corn from intermediate Canadian points as against those from Detroit, Mich., to Montreal and points east.

6143. Jan. 27.—Dismissing application of C.P.R. for authority to divert present highway where it crosses C.P.R. at Kleinburg, Ont.

6144. Jan. 27.—Directing Toronto, Hamilton and Buffalo Ry. to provide highway bridge over its track at Garth Street, Hamilton, Ont., and ordering that the company submit to the Board copies of any agreements between it and the C.P.R., or any other railway company in respect to the use and maintenance of its track at this point.

6145. Jan. 12.—Approving location of Toronto and Niagara Power Co.'s lines from its transformer house at Niagara Falls, Ont., through Stamford tp.

6146. Feb. 1.—Authorizing C.P.R. to construct spur to the Manitoba Linseed Oil Mills, Winnipeg.

6147. Jan. 21.—Disallowing charge of 1c. per 100 lbs. imposed by C.P.R. at Cartier, Ont., on western grain and grain products in carloads, consigned to Cartier for orders, and by G.T.R. at Sarnia Tunnel, on grain and grain products, in carloads, destined to Eastern Canada, and routed via Chicago, Chicago Junction or Milwaukee, to Sarnia Tunnel, for orders, and directing that a stop-over charge of 25 cts. a car per day

THE "DETROIT"

CAR DOOR

This is positively the only door that answers all requirements

The track forms a weather-proof door hood.

Hanger cannot be knocked off by being side scraped.

Tread of track and hangers protected from the weather.

Requires no tin or galvanized iron or other fixtures between top of door and bottom of track to make door weather-proof.

Runway of track inclined slightly downward, producing friction, making door always hang close to car and always in position.

It is stronger than the combined strength of all other doors—therefore, the cheapest at any price.

Let us send you full particulars

F·H·Hopkins & Co SUCCESSORS LATE JAMES COOPER Montreal

for the first 48 hours, and the car service toll therefor, be substituted thereafter. This to become effective not later than Feb.15.

6148. Jan. 21.—Disallowing charge of 1c. per 100 lbs. imposed by G.T.R. at Sarnia Tunnel, Ont., on lumber, shingles, timber and other forest products, in carloads, originating in British Columbia, destined to Eastern Canada, and consigned to Sarnia Tunnel for orders, and directing that a stop-over charge of 25 cts. a car per day for the first 48 hours, and the car service toll therefor, be substituted thereafter. This to become effective not later than Feb. 15, 1909.

6149. Jan. 29.—Dismissing application of Alberta Government for authority to carry telephone wires across Alberta Ry. and Irrigation Co.'s tracks at experimental farm, Lethbridge.

6150. Feb. 2.—Authorizing C.P.R. to use bridge 43.8, Montreal terminals, Eastern Division.

6151. Feb. 2.—Approving plan of concrete wall built in connection with C.P.R. south bank branch, under crossing of G.T.R. at St. Henri, Que.

6152. Feb. 2.—Approving location of C.N.O.R. from Sellwood Jct. toward Port Arthur, Ont., through Hutton and Creelman tps.

6153. Feb. 2.—Authorizing C.P.R. to construct its railway across highway between Keewatin and Kenora, at mileages 1.75 and 3.15.

6154. Jan. 26.—Amending order 5667, Nov. 24, 1908, authorizing Brantford and Hamilton Electric Ry. to open for traffic its railway from Alfred St. to Market St., Brantford, Ont., by striking out the provision by which speed of cars was limited.

6155. Jan. 27.—Approving diamond and interlocking semaphores installed at crossing of C.N.R. and C.P.R. near Homefield station, Man., and authorizing the cpmpanies to operate their trains over the crossing without being brought to a stop.

6156. Feb. 3.—Approving deviation of C.P.R. main line near Kincorth station, Sask., from mileage 96 to 97.5.

6157. Feb. 3.—Approving deviation of branch lines or sidings of G.T.R. extending from the main line in Meaford tp., Ont., to the Meaford Manufacturing Co., and the Meaford Wheelbarrow Co.'s premises.

6158-6163. Feb. 3 and 4.—Authorizing the Manitoba Government Telephones to erect their wires across C.P.R. tracks at 6 points.

6164. Feb. 3.—Authorizing C.P.R. to open for traffic the double tracks of its Smith's Falls section between Kemptville Jct. and Mountain, Ont.

6165. Jan. 12.—Dismissing application of City of Peterboro, Ont., for order amending order 5132, Mar. 27, 1908, authorizing G.T.R. to construct two spur lines, crossing Bethune St., Peterboro.

6166. Jan. 13.—Re rates on western grain arriving at Kingston, Ont., by vessel, destined to points in Maritime Provinces. (See pg. 169.)

6167. Feb. 4.—Directing express companies to carry acetylene gas under certain conditions.

6168. Feb. 3.—Directing G.T.R. to reduce coal rate from Suspension Bridge, Black Rock, and Buffalo, N.Y., to Lindsay, Ont. (See pg. 169.)

6169. Feb. 2.—Dismissing complaint of O. Davidson, re alleged excessive whistling of C.P.R. engines in Almonte, Ont.

6170. Feb. 4.—Dismissing application of Toronto, Niagara and Western Ry for approval of location of its line from Burlington to Hamilton, Ont., through Nelson and West Flamboro tps.

6171. Feb. 4.—Permitting Windsor, Essex and Lake Shore Rapid Ry. to operate a mixed train service on its line, using trailers on rear end for passengers, provided each trailer and all freight cars between locomotive and trailer are equipped with automatic air brakes, subject to the condition that they will not handle freight cars in mixed trains in the town of Windsor, nor between the town switch and the Co.'s power house at Kingsville.

6172. Feb. 4.—Authorizing the Niagara, St. Catharines and Toronto Ry. to cross with its track and wires the Hamilton Cataract Power, Light and Traction Co.'s wires at various points.

6173, 6174. Feb. 3.—Authorizing Galetta Elec. Power and Milling Co. to place wires across G.T.R. at two points.

6175. Feb. 6.—Authorizing Manitoba Government Telephones to place wires across C.N.R. near Grays station.

6176. Feb. 6.—Authorizing the Bell Telephone Co. to place wires across G.T.R. near Glen Williams siding, Ont.

6177. Feb. 6.—Authorizing Chatham Gas Co. to lay a main under G.T.R. on Lacroix St., Chatham, Ont.

6178. Feb. 6.—Approving deviation of C.N.R. Co.'s Montreal road, in Cumberland tp., Ont., subject to condition that diverted road, with approaches and ditches, be maintained in as good order and condition as existing road, including approaches and ditches.

6179. Feb. 6.—Authorizing W.E. & L.S.R. Ry. to construct its line along and across highways in Gosfield South and Mersea tps., and along Erie St., Leamington, Ont.

6180. Feb. 2.—Dismissing application of Dominion Concrete Co. for order authorizing C.P.R. to refund $196.52, amount paid the Ry. Co. on account of a siding built to its right-of-way, to connect with private siding to the complainant's industry at Kemptville, Ont.

6181. Feb. 1.—Dismissing resolution of Order of Railway Conductors, the Brotherhood of Locomotive Engineers, etc., relative to reduction of section gangs, the cross snow plow, and re terminal clearance.

6182. Feb. 1.—Dismissing complaint of Swan River Board of Trade, alleging failure of C.N.R. to furnish cars for prompt and efficient movement from that point.

6183. Feb. 1.—Dismissing application of W. R. Ritchie, Winnipeg, for order compelling C.N.R. either to proceed to arbitration or withdraw registration of location plans where same affect applicant's property in St. Boniface, Man.

6184. Feb. 1.—Dismissing application of Mrs. J. E. Collings, re failure of C.N.R. to settle claim for right-of-way.

6185. Feb. 1.—Dismissing complaint of the Hanbury Mfg. Co., Brandon, Man., alleging discrimination in favor of Winnipeg on shipments to C.N.R. Regina branch, from Brandon and Winnipeg. (See pg. 169.)

6186. Feb. 1.—Directing that where shippers in Manitoba, Saskatchewan and Alberta have to furnish car doors to enable cars to be used for traffic, allowance shall be made therefor. (See pg. 169.)

6187. Feb. 2.—Authorizing C.P.R. Co. to construct a spur line to J. L. Turner's premises, Beausejour, Man.

6188. Feb. 2.—Dismissing application of Kemp Mfg. Co. and Winnipeg Ceiling and Roofing Co. for order directing railway companies to equalize freight rates on metallic sidings from eastern points to Manitoba, Saskatchewan and Alberta, as against freight rates charged on manufactured product. (See pg. 169.)

6189. Feb. 1.—Dismissing complaint of Winnipeg Elevator Co. respecting charges made by C.P.R. for drawing plans, etc.

6190. Jan. 25.—Directing every railway company subject to the authority of the Board, operating a railway by steam power, to equip each car with the Pintsch compressed oil-gas system or a certain acetylene system; and rescinding order 5690, Nov. 17, 1908.

6191. Feb. 6.—Directing G.T.R. Co. to keep night watchman at crossing of the Montreal Road, Kingston Jct., with G.T.R., pending construction of subway.

6192. Feb. 4.—Dismissing application of the C.N.O.R. for order to vary order 5869, Dec. 16, 1908, granting C.N.O.R. authority to place its track across Bay View Ave., York tp., Ont.

6193. Feb. 4.—Dismissing application of the Toronto Electric Light Co. for leave to place ducts below the C.P.R. tracks on Christie St., North Toronto, Ont.

6194. Feb. 4.—Authorizing the C.N.Q.R. and C.P.R. to operate trains over the crossing east of Lorette, Que., as authorized by order 4862, June 2, 1908.

6195. Feb. 3.—Dismissing application of C.P.R. for order amending order 3242, authorizing National Transcontinental Ry. to cross C.P.R. near St. Bazile station, Que.

6196. Feb. 8.—Directing that sleeping car and parlor or chair-car tariffs filed with Board be printed on sheets uniform in size, viz., 11 inches by 8 inches, and be specifically numbered by each company beginning with C.R.C. no. S1, and that subsequent tariffs be numbered consecutively with the prefix C.R.C. no. S—; and further directing that said tariffs be filed under filing devices similar to these used for the filing of passenger tariffs.

6197. Feb. 8.—Approving application of C.P.R. for approval of plans showing spans at each end of bridge 0.72, Fraser River, C.P.R. Mission branch, B.C.

6198. Feb. 8.—Authorizing Qu'Appelle, Long Lake and Sask. Rd. and Steamboat Co. to construct spur lines on Smith St. and in the lane between Smith and McIntyre Sts., Regina, Sask.

6199. Feb. 8.—Authorizing C.P.R. to open for traffic the portion of its Mountain section from mileage 99.17 to 100.4, known as the Rogers Pass diversion, B.C.

6200. Feb. 8.—Authorizing C.P.R. Co. to construct a spur line to the Tillsonburg Packing Co.'s premises, Ingersoll, Ont.

6201. Feb. 8.—Authorizing G.T.R. to construct spur lines to the Woods Products Co.'s premises, Donald, Dysart tp., Ont.

6202. Feb. 8.—Directing Toronto, Hamilton and Buffalo Ry. to make certain improvements in crossing of its railway with the Lee Mountain road, Saltfleet tp., Ont.

6203 to 6212. Feb. 9.—Authorizing Okanagan Telephone Co. to cross C.P.R. with wires at 10 points in B.C.

6213. Feb. 9.—Approving plan showing pier of Cornwall Bridge draw span, Ottawa and New York Ry.

6214. Feb. 9.—Authorizing Chatham, Wallaceburg and Lake Erie Ry. to open for traffic the portion of its line from the crossing of the M.C.R. at Charing Cross to Erie Beach Park, Ont.

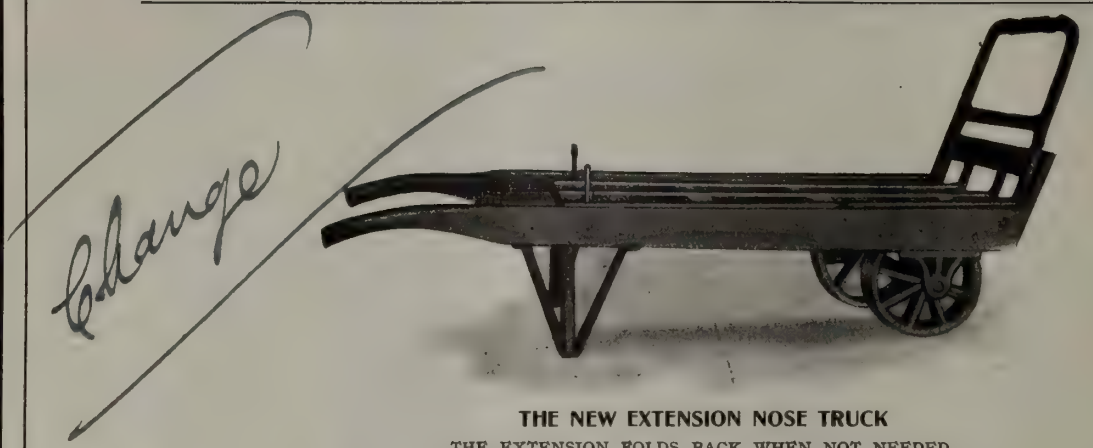
6215. Feb. 9.—Authorizing Provincial Natural Gas and Fuel Co., of Ontario, to lay a main under the G.T.R. in Stamford tp., Ont.

6216. Feb. 6.—Authorizing C.P.R. to use bridge crossing Lachine Canal at the Canada Sugar Refinery, on its south bank branch.

6217. Feb. 9.—Authorizing Okanagan Telephone Company to cross C.P.R. with wires near mile post 35.

6218. Feb. 9.—Authorizing G.T.R. to construct spur line from its Lachine Canal bank branch to G. A. Grier & Sons' premises, Montreal.

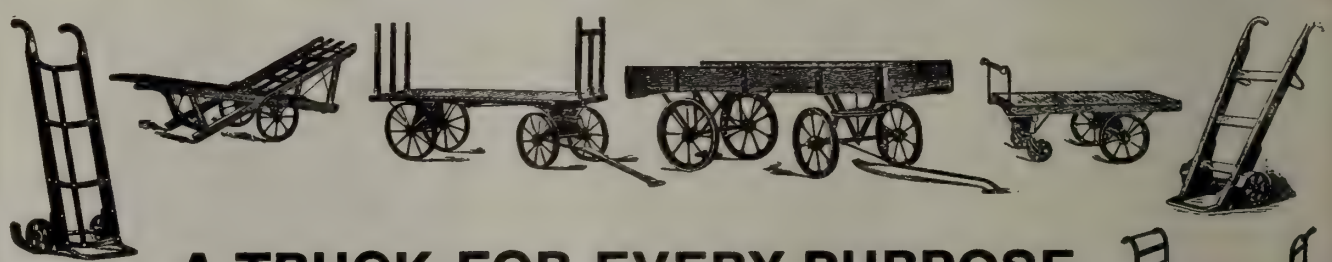
FAIRBANKS TRUCKS



THE NEW EXTENSION NOSE TRUCK
THE EXTENSION FOLDS BACK WHEN NOT NEEDED

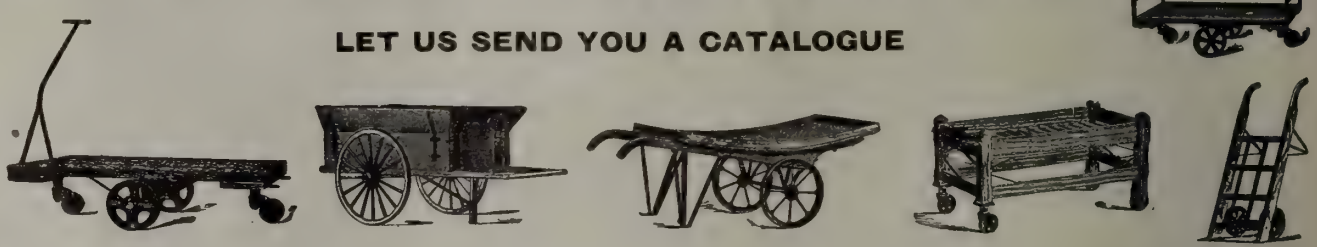
TRUCKS OF ALL KINDS FOR FREIGHT STATIONS - WAREHOUSES - PASSENGER AND EXPRESS STATIONS

STRONG - DURABLE - LIGHT



A TRUCK FOR EVERY PURPOSE

LET US SEND YOU A CATALOGUE



The Canadian Fairbanks Company Limited

MONTREAL

TORONTO ST. JOHN, N.B. WINNIPEG CALGARY VANCOUVER

6219. Feb. 8.—Authorizing Hawthorn Hill Rural Telephone Co. to erect wires across G.T.R. in Minto tp., Ont.

6220, 6221. Feb. 8.—Authorizing Okanagan Telephone Co. to erect wires across C.P.R. at two points.

6222. Feb. 2.—Authorizing Georgian Bay and Seaboard Ry. (C.P.Ry.) to cross until Nov. 1, 1909, the G.T.R. by means of trestle over Hog's Bay, Tay tp., Ont.

6223, 6224. Feb. 9.—Authorizing Okanagan Telephone Co. to cross C.P.R. at Strand Hotel level crossing, and at Rosedale Ave., Armstrong, B.C.

6225. Feb. 9.—Authorizing Le Chemin de Fer de Colonisation du Nord to construct its railway across highways and divert certain portions of highways between Nomininge, Que., and a point 10 miles northwesterly.

6226. Feb. 10.—Authorizing the C.P.R. to open for traffic the portion of its Sheho extension from Leslie, mileage 66.2, to Wynward, mileage 89.0, Sask.

6227, 6228. Feb. 10.—Authorizing Dunnville Consolidated Telephone Co. to cross G.T.R. at Forks road, and Cedar St., Dunnville, Ont.

6229. Feb. 11.—Authorizing Dominion Natural Gas Co. to lay pipe under G.T.R. in Simcoe, Ont.

6230. Feb. 13.—Authorizing British Yukon Ry. to operate its trains and engines over bridge at Caribou, Yukon.

6231. Feb. 11.—Authorizing C.P.R. to construct the Wellington to Alberni branch of its line across highways between mileage 77.97 and 88.83, B.C.

6232. Feb. 12.—Ordering G.T.R. to provide protection by gates at Depot St., Grimsby, Ont.

6233. Feb. 6.—Ordering C.N.R., C.P.R. and G.T.R. to equip their locomotives in Winnipeg with appliances to prevent unnecessary and unreasonable emission of smoke.

6234. Feb. 8.—Refusing application of A. E. Hill, Griswold, Man., for order compelling C.P.R. to issue 1,000 mile tickets good to travel over Western Division and branch lines in Man., Sask. and Alta.

6235. Feb. 8.—Ordering C.N.R. and G.T.P.R. to provide transfer facilities for joint handling of traffic at Petrel, Man.

6236. Feb. 8.—Dismissing complaint of Manitoba Grain Growers' Association of Kelloe, Man., against C.P.R. removing its agent from that point.

6237. Feb. 8.—Ordering C.P.R. to keep station Basswood, Man., open permanently, and provide an agent therefor.

6238. Feb. 8.—Dismissing application of City of Winnipeg, Man., for authority to connect city tramway running from Lac du Bonnet to Point du Bois, with C.P.R. Molson to Lac du Bonnet branch.

6239. Feb. 8.—Dismissing application of City of Winnipeg, for order directing C.N.R. to provide proper protection where it crosses Pembina St.

6240. Feb. 8.—Dismissing complaint of H. H. Shields, of Melton, Man., against rates charged by C.N.R. for warehousing carload of wheat at Port Arthur, Ont.

6241. Feb. 8.—Dismissing complaint of G. Steel, of Glenboro, Man., of failure of C.P.R. to furnish efficient and proper supply of cars for the movement of grain traffic from that point.

6242. Feb. 8.—Fixing form for release of responsibility for freight shipped to flag stations upon lines of all railways.

6243. Feb. 8.—Ordering the G.T.P.R. to construct a suitable and proper crossing for farm purposes at sec. 29, tp. 13, r. 25, Man.

6244. Feb. 8.—Dismissing complaint of J. Caverly, of Bowsman, Man., respecting train service on C.N.R. Melford branch.

6245-6251. Feb. 16.—Dismissing applications of Yorkton-Northwest Electric Co. for leave to cross C.P.R. at various points in Saskatchewan.

6252. Feb. 15.—Dismissing application of the Brandon, Sask. and Hudson's Bay Ry. Co. for approval of location of its railway in Brandon, Man.

6253, 6254. Feb. 15.—Authorizing Atlantic, Quebec and Western Ry. to build across 18 highways.

6255. Feb. 10.—Regulations respecting removal of planking from highway and farm crossings during winter.

6256. Feb. 16.—Authorizing the Sask. Government Telephones to erect line across C.P.R. between secs. 14 and 15, tp. 8, r. 7, w. 2nd mer.

6257. Feb. 16.—Authorizing Dr. Quinlan, of Stratford, Ont., to erect telephone wires across G.T.R. in Ellice tp., Ont.

6258. Feb. 16.—Authorizing Dunwich and Dutton Telephone Co. to erect wires across G.T.R. near Middlemiss, Ont.

6259 and 6260. Feb. 10.—Authorizing Hawthorn Hill Rural Telephone Co. to erect wires across G.T.R. in Minto tp., Ont.

6261. Feb. 11.—Authorizing C.P.R. to construct spur line to Soo Line Milling and Elevator Co.'s premises, Weyburn, Sask.

6262. Feb. 11.—Authorizing G.T.R. to construct spur line to United Factories' premises, Newmarket, Ont.

6263. Feb. 2.—Directing Ingersoll Electric L. & P. Co. to re-erect 12 wires erected across C.P.R. in Ingersoll, Ont.

6264. Feb. 8.—Dismissing complaint of the Wallaceburg Sugar Co. to effect that operation of certain Canadian Car Service Rules are unfair and burdensome to large shippers, and applying for average plan of car service.

6265. Feb. 8.—Authorizing Hawthorn Hill Rural Telephone Co. to erect wires across G.T.R. in Minto tp., Ont.

6266, 6267. Feb. 16.—Authorizing C.P.R. to construct and operate bridge over Lachine Canal, near Ogilvie Flour Milling Co.'s premises, Montreal.

6268. Feb. 16.—Authorizing C.P.R. to take certain lands in connection with its Windsor St. yards and station facilities at Montreal.

6269. Feb. 13.—Dismissing application of W. Hoskin, J. Butler and others for order requiring C.P.R. to provide crossing over yard at Twentieth St., Saskatoon, Sask.

6270. Feb. 17.—Authorizing Farmers' Long Distance Telephone Co., Blenheim, Ont., to erect its wires across P.M. Rd. near Fargo, Ont.

6271. Feb. 4.—Amending order 5672 authorizing G.T.P. Ry. to carry traffic over line from Fort William to end of track, by substituting mileage 0.00 to 188.77 for mileage 0.5 to 188.2, where it appears in said order.

6272 to 6274. Feb. 17.—Authorizing Alberta Government to erect wires across C.P.R. near Lethbridge.

6275. Feb. 17.—Temporarily approving some agreements of Bell Telephone Co. with other telephone companies provided tolls are not any higher than were charged immediately previous to July 13, 1906.

6276. Feb. 17.—Authorizing Alberta Government to erect wires across A.R. & I.C. Ry. at Experimental Farm, Lethbridge.

6277. Feb. 19.—Authorizing City of Brantford, Ont., to lay a storm sewer under G.T.R.

6278. Feb. 18.—Authorizing V.V. & E.R. & N. Co. to open for traffic the portion of its line from Huntingdon to Cloverdale, and from Olivers, on Victoria Terminal Ry. & Ferry Co.'s line, to International boundary near Blaine, and from Olivers to bridge over Fraser River at New Westminster.

6279, 6280. Feb. 19.—Authorizing Bell Telephone Co. to erect wires across C.P.R. near St. Faustin and Farnham.

6281. Feb. 19.—Authorizing location of C.N.O.R. line from Queen St., Toronto, to Rosedale station, with extension to Cherry St. yards.

6282. Feb. 11.—Authorizing T.H. & B.R. to construct a covered concrete culvert across its railway in Saltfleet tp., Ont.

6283 to 6291. Feb. 19.—Authorizing Canadian Machine Telephone Co. to erect wires across or under G.T.R. at various points in Ontario.

Railway Commissioners' Inspectors.

Particulars as to the location of the Board of Railway Commissioners' inspectors were given in our last issue. Formerly their duties were confined to investigations of accidents and to the inspection of rolling stock. The condition of passenger stations has now been added. Their districts and headquarters are as follows: Maritime Provinces and Quebec, E. C. Lalonde, Longueuil; Ontario, J. Ogilvie and J. Clarke, Ottawa; Manitoba and Saskatchewan, W. S. Blyth, Winnipeg; Alberta and British Columbia, M. J. McCaul, Calgary.

The inspectors report direct to individual members of the Board as follows: For the Maritime Provinces and Quebec, to Deputy Chief Commissioner Bernier; for Ontario, to Assistant Chief Commissioner Scott; for Manitoba and Saskatchewan, to Commissioner McLean, and for Alberta and British Columbia, to Commissioner Mills.

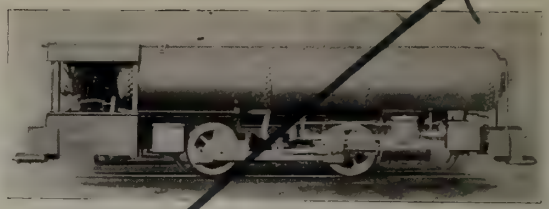
C.P.R. Running Rights over I.C.R.—The Minister of Railways laid before the House of Commons, Feb. 8, the correspondence with the C.P.R. relative to its proposal to secure running rights over the Intercolonial Ry. between St. John, N.B., and Halifax, N.S. The last is a memorandum dated Jan. 28, in which it was suggested that the C.P.R. pay interest at say 2% on the value of the property to be used jointly and a train rate per mile covering cost of maintenance; that if the C.P.R. were to do station to station business it should pay to the I.C.R. a percentage of gross receipts from the traffic, say 15% for first five years, 20% for second five years, and 25% thereafter; that the C.P.R. should pay the taxes levied on the I.C.R. by reason of a private company operating it; pay interest at 2% on cost of all subsequent additions and improvements; interest rate to be reduced when G.T. Pacific Ry. or any other company obtained running rights; C.P.R. to take over at same pay and standing any trainmen dropped by the I.C.R. to the C.P.R. replacing I.C.R. trains.

Railway Employes' Complaint.—The Board of Railway Commissioners passed the following order no. 6181 at Winnipeg, Feb. 1: In the matter of the resolution of Order of Railway Conductors, Brotherhood of Locomotive Engineers, Brotherhood of Locomotive Firemen and Engineers, Brotherhood of Railway Trainmen, and Order of Railway Telegraphers, relative to reduction of section gangs, the cross snow plow, and re terminal clearance (as at present used), being embodied in the new rules; upon the hearing of this matter in the presence of counsel for the railway companies affected and H. Irwin, representing the applicants, who alleged that he had no specific instructions with reference to the complaint other than to speak to the question of terminal clearance and cross snow plow; and upon his allegation that these matters had been satisfactorily adjusted, it is ordered that the said complaint be, and it is hereby, dismissed.

LIGHT

LOCOMOTIVES

STEAM AND COMPRESSED AIR



COMPRESSED AIR LOCOMOTIVE

H. K. PORTER COMPANY

643 Wood Street, - Pittsburg, Penna.

LATEST DESIGN CONTRACTORS' LOCOMOTIVE

ALL GAUGES. EVERY VARIETY OF DESIGN. FOR ALL PURPOSES.

CONTRACTORS' LOCOMOTIVES ON HAND AND UNDER WAY FOR QUICK COMPLETION. WIDE AND NARROW GAUGE.

LOGGING, MINE AND INDUSTRIAL LOCOMOTIVES.

"TENTH EDITION CATALOGUE JUST PRINTED, MAILED FREE TO MINE, RAILWAY OR INDUSTRIAL OFFICIALS; OR TO OTHERS ON RECEIPT OF FIFTY CENTS."

MONTREAL STEEL WORKS, LIMITED, P.O. BOX 2369 MONTREAL

Manufacturers of

STEEL CASTINGS
(Acid Open Hearth System)

SWITCHES AND TRACK WORK
for Steam and Electric Roads

SPRINGS
of all kinds

MANGANESE STEEL CASTINGS
for wearing Parts, insuring Great Hardness and Durability

INTERLOCKING PLANTS

TRUCKS FOR ELECTRIC CARS

MANGANESE STEEL TRACK WORK

AGENTS FOR CANADA FOR

THOS. FIRTH & SONS, LIMITED, SHEFFIELD, ENGLAND

"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc. A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO., BARROW-IN-FURNESS, ENGLAND

Quotations for Tee Rails, Fish Plates, etc., promptly furnished. Catalogues sent on application.

Railway Commissioners' Traffic Orders.

6166. Jan. 13.—In the matter of the complaint of J. Richardson & Sons, grain and commission merchants, Kingston, Ont., complaining that railway companies unjustly discriminate against Kingston and in favor of Lake Huron and Georgian Bay ports on shipments of western grain to points in Quebec and the Maritime Provinces, and applying for an order directing the railway companies to file rates from Kingston to points in Quebec and the Maritime Provinces similar to those which the said companies have established from Georgian Bay and Lake Huron ports. Upon the hearing of counsel for the railway companies, H. W. Richardson for the complainants appearing in person, the evidence adduced, and what was alleged—it is ordered that the rates charged from Kingston by the G.T.R., the C.P.R., and the Kingston and Pembroke Ry. Companies on western grain arriving at Kingston by vessel, and destined to points in Quebec and the Maritime Provinces, be made on the basis of 7c. per 100 lbs. from Kingston to Montreal; and that the proportional or arbitrary rates from Montreal to the said points in Quebec and the Maritime Provinces to be added to the said rate of 7c. per 100 lbs. from Kingston to Montreal, do not exceed the proportional or arbitrary rates from Montreal in force concurrently on western grain transferred at Lake Huron ports. And it is further ordered that the above rate become effective not later than Feb. 18.

COAL RATE TO LINDSAY, ONT.

6168. Feb. 3.—In the matter of the complaint of McLennan & Co., of Lindsay, Ont., alleging that the rate charged by the G.T.R. on hard coal from Black Rock and Suspension Bridge, N.Y., to Lindsay, is too high as compared with the company's rates to Cambray, Coboconk, Peterboro, Lakefield, Port Hope, and Belleville, Ont. Upon hearing counsel for complainants, the G.T.R. Co. and the C.P.R. Co., the evidence adduced, and what was alleged; and upon the report and recommendation of the Chief Traffic Officer of the Board, it is ordered that the G.T.R. Co. be directed to reduce its rate on coal in carloads from Suspension Bridge, Black Rock, and Buffalo, to Lindsay, to $1.15 per ton of 2,000 lbs., subject to a compliance with the provisions of subsec. 5 of sec. 315 of the Railway Act.

RATES ON C.N.R. REGINA BRANCH.

6185. Feb. 1.—In the matter of the complaint of the Hanbury Manufacturing Co. of Brandon, Man., alleging discrimination in favor of Winnipeg on shipments to points on the C.N.R. Regina branch, via Regina, from Brandon and Winnipeg. Upon hearing this matter, and upon reading the report of the Chief Traffic Officer, and in the presence of counsel for the railway company, no one appearing for the applicants, although duly notified; and upon said counsel representing that the cause of complaint as advanced by the petitioners had been removed, it is ordered that the complaint be dismissed.

PAYMENT FOR GRAIN CAR DOORS.

6186. Feb. 2.—In the matter of the complaint of the Grain Growers Grain Co., Winnipeg, alleging long delay on the part of railways in repayment to shippers of grain for lumber supplied for car doors; upon hearing this complaint in the presence of counsel for applicants as well as of counsel for the C.P.R., the C.N.R., and the G.T.P.R. Companies, and upon hearing what was alleged by counsel, it is ordered that where shippers, upon all or any railways subject to the jurisdiction of the Parliament of Canada, in Manitoba, Saskatchewan, and Alberta, are compelled to furnish car doors to enable cars to be used for traffic, allowance shall be made upon the following basis: Lower car door $1, upper car door 50c., and adjustment upon the above basis shall be made by the agent at or nearest to the point of shipment, at the time of shipment, payment to the shipper of the account out of funds of the railway company, of which he is agent, in his hands; or the shipper may deduct from the freight charges, if any, payable by him upon the shipment in such car for which the said door or doors were so supplied, the amount of such bill upon the foregoing basis, receipting the same and turning the account into the agent as so much cash.

RATES ON METALLIC SIDINGS.

6188. Feb. 2.—In the matter of the application of the Kemp Manufacturing Co. and Winnipeg Ceiling and Roofing Co., for an order directing railway companies to equalize freight rates on metallic sidings from eastern points to Manitoba, Saskatchewan, and Alberta, as against the freight rates charged on the manufactured product. Upon reading the complaint filed with the Board on May 11, 1907, this case having been set down for hearing in Winnipeg in Sept., 1908, and adjourned at the instance of the applicants; and upon its coming on for hearing at Winnipeg on Feb. 1, and when called no one appearing, and the same having been adjourned until this day, notice of such adjournment having been given to the applicants at Winnipeg, and no one now appearing, and upon reading the letter from the Metallic Roofing Co. of Jan. 28, 1909, and the letter from the Manager of the Canadian Manufacturers' Associations' Transportation Department of Jan. 29, 1909, it is ordered that the application be dismissed.

PLANS AND LEASES FOR ELEVATOR SITES.

6189. Feb. 1.—In the matter of the complaint of the Winnipeg Elevator Co., Ltd., respecting charges made by the C.P.R. for drawing plans, preparation of leases of elevator sites, etc., upon hearing this matter in the presence of counsel for the railway companies and of C. B. Piper for applicants; and it appearing from the statement of Mr. Piper and the matters covered by his complaint that the Board had no jurisdiction in the premises, it is ordered that the complaint be dismissed.

SLEEPING, PARLOR AND CHAIR CAR TARIFFS.

6196. Feb. 8.—Whereas, by Act of the Parliament of Canada, chap. 61, 7-8 Edward 7, sub-sec. 30 of sec. 2 of the Railway Act, was repealed and the following substituted therefor: "30. 'Toll' or 'rate' means and includes any toll, rate, charge, or allowance charged or made either by the company, or upon or in respect of a railway owned or operated by the company, or by any person on behalf or under authority or consent of the company, in connection with the carriage and transportation of passengers, or the carriage, shipment, transportation, care, handling, or delivery of goods, or for any service incidental to the business of a carrier; and includes also any toll, rate, charge, or allowance so charged or made in connection with rolling stock, or the use thereof, or any instrumentality or facility of carriage, shipment, or transportation, irrespective of ownership or of any contract, expressed or implied, with respect to the use thereof; and includes also any toll, rate, charge, or allowance so charged or made for furnishing passengers with beds or berths upon sleeping cars, or for the collection, receipt, loading, unloading, stopping over, elevation, ventilation, refrigerating, icing, heating, switching, ferriage, cartage, storage, care, handling, or delivery of, or in respect of, goods transported or in transit, or to be transported; and includes also any toll, rate, charge, or allowance so charged or made for the warehousing of goods, wharfage, or demurrage or the like, or so charged or made in connection with any one or more of the above-mentioned objects, separately or conjointly."

It is ordered that sleeping car and parlor or chair car tariffs filed with the Board by the railway companies subject to the legislative authority of the Parliament of Canada, or by any person on behalf or under authority or consent of the said railway companies, be printed on sheets uniform in size, namely, 11 x 8 inches, and be specifically numbered by each company, beginning with C.R.C. no. S. 1, and that subsequent tariffs be numbered consecutively with the prefix "C.R.C. no. S...." And it is further ordered that the said tariffs be filed with the Chief Traffic Officer of the Board under filing devices similar to those used for the filing of passenger tariffs.

RELEASE FOR SHIPMENTS TO FLAG STATIONS.

6242. Feb. 8.—In the matter of the complaint of the Winnipeg Board of Trade respecting alleged demand of the C.P.R. that shippers in Winnipeg sign a release form for freight shipped to regular or flag stations; upon hearing counsel for applicants, as well as for C.P.R. Co., and upon hearing what was alleged, it is ordered that hereafter the form of release of responsibility for freight shipped to flag stations, upon the lines of all railways in Canada, subject to the jurisdiction of the Parliament of Canada, be in the following form:

"In consideration of the ..... Railway Company having received the above-described property for transportation from ..... station to ..... station ..... do hereby release said Company from all loss or damage that may occur to any of the above-mentioned property after it has been unloaded from the cars at ..... station, the said station being a flag station without agent."

2. That no other form of release shall be required to be signed by any shipper of any property to any flag station upon any line of railway in Canada until further order (if any) regarding facilities and conveniences to be established by railway companies at flag stations.

THOUSAND-MILE TICKETS ON C.P.R.

6234. Feb. 8.—In the matter of the application of A. E. Hill, of Griswold, Man., for an order compelling the C.P.R. to issue 1,000-mile tickets, good to travel over the Western Division and branch lines in Manitoba, Saskatchewan and Alberta: Upon hearing this matter in the presence of counsel for the railway company, and for reasons given at the said hearing, it is ordered that the application be refused.

WAREHOUSING CHARGES AT PORT ARTHUR.

6240. Feb. 8.—In the matter of the complaint of H. H. Shields, of Melton, Man., against excessive rates charged by the Canadian Northern Ry., for warehousing carload of wheat consigned to its warehouse at Port Arthur, Ont.: Upon the hearing of this application in the presence of counsel for the railway company, no one appearing for complainant, and upon a perusal of the papers connected with the said complaint, and the application to and ruling of the Warehouse Commissioner, it is ordered that the complaint be dismissed.

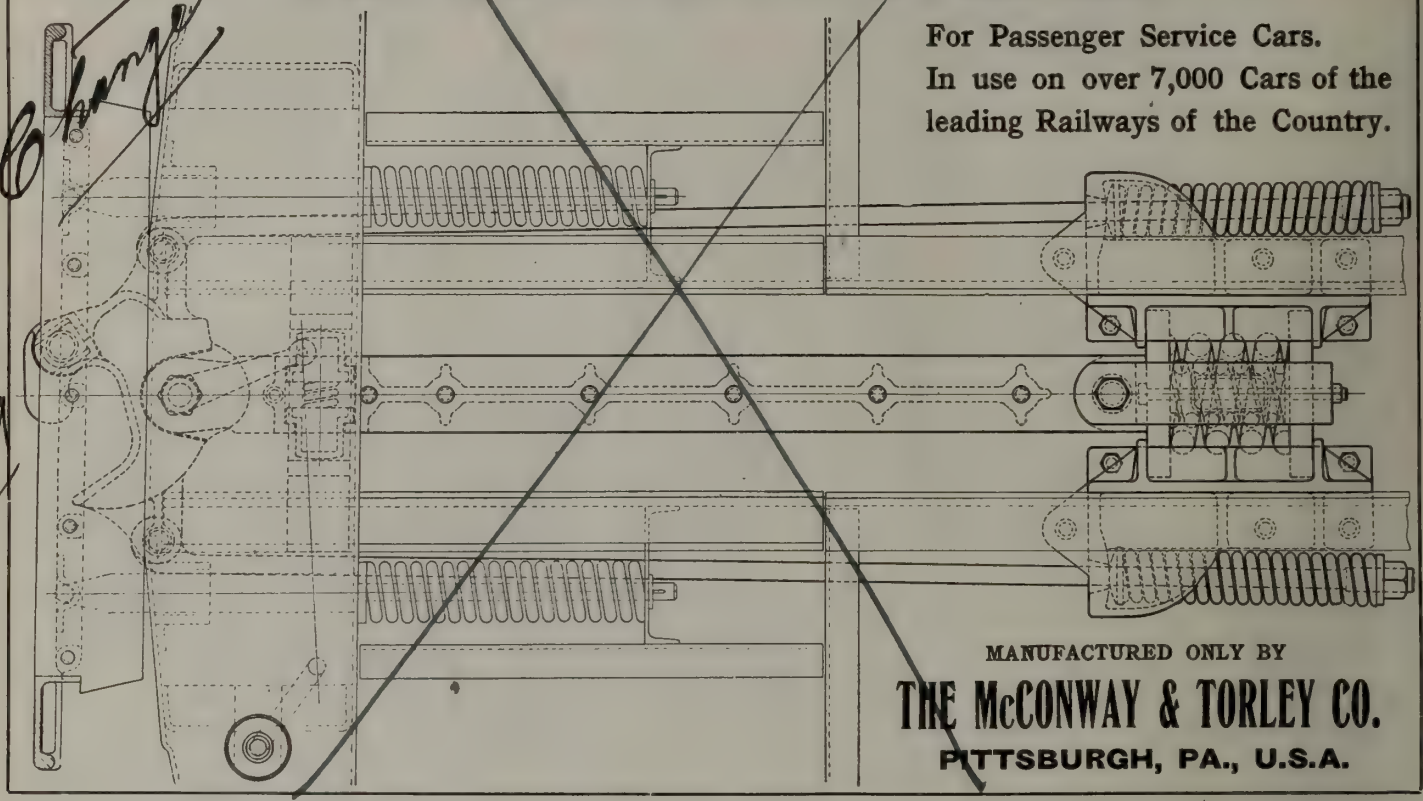
The C.P.R. is looking into the question of the use of creosote for treating ties, etc.

A conference of G.T.P.R. employes, representing locomotive engineers, conductors, firemen and other trainmen, is reported to have taken steps to formulate a schedule and set of working rules, with schedule of wages and hours similar to those in force on the C.P.R., for submission to the management.

THE BUHOUP 3-STEM COUPLER

THE MOST COMPLETE AND UP-TO-DATE EQUIPMENT

For Passenger Service Cars.
In use on over 7,000 Cars of the leading Railways of the Country.



MANUFACTURED ONLY BY

THE McCONWAY & TORLEY CO.

PITTSBURGH, PA., U.S.A.

CANADA CAR COMPANY

MONTREAL, QUE. **LIMITED**

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS—CASTINGS—FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS
BOX 2286, MONTREAL.

Works: TURCOT

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta and Great Waterways Ry.—The Alberta Legislature is being asked to incorporate a company with this title for the purpose of constructing a railway from Edmonton northeasterly to or near the westerly end of Lac la Biche, thence to Fort McMurray; and from some point on the line near the west end of Lac la Biche to the eastern end of the lake, together with all the usual and necessary powers conferred upon railway companies. W. McDonald, Edmonton, Alta., is solicitor for applicants.

When this bill was under discussion in the Legislature, Feb. 13, the Premier stated that the line would not be a branch of the G.T. Pacific Ry., but would be constructed by an independent company. The bill provides that construction is to commence within a year, and to be pushed forward with all possible speed, the line to be opened for traffic in 50-mile sections. A clause is inserted providing that the Government may at any time purchase the line, such option, however, not to be assignable by the Government.

Alberta Central Ry.—A bill before the Dominion Parliament provides for a further extension of time within which the railways authorized to be constructed by acts of 1901, 1903, 1905 and 1907, may be completed, and repeals sec. 4 of the act of 1901 and sec. 3 of the act of 1907. Authority to construct the following additional branch lines is asked: From the present authorized westerly terminus at Rocky Mountain House to the G.T. Pacific Ry. near the Yellowhead Pass; from the present authorized easterly terminus near the elbow of the Battle River to near Saskatoon or Warman, Sask.; and from the main line east of Red Deer southerly and easterly to near Moose Jaw, Sask. Power is also asked to increase the capital stock to $2,000,000, and to increase the bond issue from $20,000 to $25,000 a mile of line constructed.

A deputation of residents from the Red Deer District waited on the Government of Alberta, at Edmonton, Feb. 6, and asked the Government to guarantee the bonds of the company. The A.C.R. Co. was incorporated by the Dominion Parliament in 1901, with J. T. Moore, G. W. Smith, C. W. G. Green, D. J. Munn, W. A. Moore, J. J. Gaetz, J. C. Moore, and J. Flett, of Red Deer, as provisional directors. The projected line would start from the Calgary and Edmonton Ry. near Red Deer, cross the Red Deer River near Content, proceed northward to Stettler, and make connection with the Lacombe branch of the Calgary and Edmonton Ry., and thence proceed northeasterly to a connection with the G.T. Pacific Ry. at Battle River.

Alberta South-Western Ry.—Application is being made to the Alberta Legislature for an act incorporating a company with this title for the purpose of constructing a railway (with all convenient branches, whether under or over six miles in length) from the G.T. Pacific Ry. branch line between Calgary and Coutts, northeasterly from Macleod, thence to or near Macleod, and westerly from near Macleod to Pincher Creek, thence to the western boundary of the province, a distance of about 100 miles, together with all the usual rights, powers and privileges granted to railway companies. G. B. Henwood, Edmonton, Alta., is solicitor for applicants. See also G.T. Pacific Ry. Branch Lines.

Algoma Central and Hudson Bay Ry.—W. K. Whigham, of London, Eng., representing the new interests in the Lake Superior Corporation, has been inspecting the industrial plants and the railway lines owned by the corporation. Before proceeding to Sault Ste. Marie, Ont., he had an interview with representatives of the Ontario Government in Toronto, when the question of the extension of the A.C. and H.B. Ry. to a junction, at least, with the C.P.R. transcontinental line was discussed. The matter will be raised during the session of the Legislature when the question of subsidies comes up for discussion. (Feb., pg. 101).

The Lieut.-Governor, in his speech at the opening of the Ontario Legislature, Feb. 16, said: "The Canadian Improvement Co., having made sale of its interests in the Lake Superior Corporation to English capitalists, has been enabled to pay off the remaining $1,000,000 of its certificates guaranteed by the Government of Ontario, these have been cancelled, and the province has now been relieved of all further liability under the act respecting aid to the A. C. and H.B. Ry. and associated industries at Sault Ste. Marie. A probable result of this sale will be the introduction of a large amount of additional capital into the province to extend these industries and to complete the building of the A.C. and H.B. Ry., and the Manitoulin and North Shore Ry."

Blind River, Ont.—A by-law has been passed by the municipality of Blind River, Ont., offering a bonus of $17,000 to any transportation company which will construct a railway from Blind River north to Lake Natininda, and Lake Chiblow, 17 miles. G. J. McArthur is Publicity Commissioner, and J. Muncaster is Secretary of the Board of Trade, at Blind River.

Bow River Collieries Ry.—Application is being made to the Alberta Legislature for an act amending sec. 4, chap. 28, of the Statutes of 1908, by authorizing an extension of this railway from the southern terminus in tp. 17, range 17, west of the 4th meridian, to the International boundary, between ranges 1 and 15, west of the 4th meridian, and from south of the Belly River, on the projected extension, westerly to Lethbridge; and from between Bow River and Belly River on the projected extension, northeasterly to Calgary.

Brandon Transfer Ry.—Application is being made to the Dominion Government for an act authorizing an extension of time within which the railway in the city of Brandon, Man., authorized by its act of 1906, may be constructed.

British Columbia, Alberta, Saskatchewan and Manitoba Ry.—The Crawford Bay and St. Mary's Ry. Co. is applying to the Dominion Parliament for an act changing its name as above, such change of name, however, not to in any way impair, alter or affect the company's rights or liabilities. It is also provided that the head office should be at Lethbridge, Alta.; that the company may enter into agreements with the Northern Empire Ry., according to the provisions of secs. 361, 362 and 363 of the Railway Act, and that the period within which the authorized lines may be constructed shall be extended for a further period.

Brockville, Westport and North-Western Ry.—Application is being made to the Dominion Parliament for an act extending the time for the construction and completion of the authorized extension from Westport northerly and westerly.

Canadian Liverpool and Western Ry.—Application is being made to the Dominion Parliament for an act incorporating a company with this title, the provisional directors being: S. G. McClenahan, Montreal; G. S. May, D. G. Stewart, T. B. Rankin, and W. Johnston, Ottawa. The railway which the company is asking authority to construct would extend from the Transcontinental Ry. near the junction of the Ribbon, Manuan and St. Maurice Rivers in Quebec, northeasterly to the south shore of Lake St. John, thence easterly along the Saguenay River to its mouth; thence southwesterly following the River St. Lawrence to Quebec, and thence to Montreal. The company also desires to have power to carry on a general navigation business; to construct wharves, docks, elevators, etc., to be used in connection therewith; to acquire and utilize water powers, etc., for the generation of electricity; to construct telegraph and telephone lines, and to make agreements with the Transcontinental Ry. Commissioners, the G.T. Pacific Ry., the G.T.R., the C.P.R. and the Canadian Northern Quebec Ry. The works to be carried out are declared to be for the general advantage of Canada. The capital stock is fixed at $1,000,000, and it is desired to issue securities to the amount of $50,000 per mile of railway.

Canadian Western Ry.—Application is being made at the current session of the Alberta Legislature for an act incorporating a company with this title to construct a railway to be operated by steam, electricity, or any other motive power from the International boundary between the east side of range 23 and the west side of range 28, west of the 4th principal meridian, to the C.P.R. Crow's Nest Pass line, near Cowley or Pincher Creek, thence northerly to Calgary; also a branch from the above line between tp. 10, range 1, west of 5th principal meridian, northwesterly, following the north fork of the Old Man River, through Livingstone Gap, and along the middle fork of the river to the boundary line between Alberta and British Columbia, west of Gould's Dome. Power is also being asked to construct branch lines, and telephone and telegraph lines, to generate and distribute electrical power, and for all other powers usually conferred on railway companies. Special reference is made to the making of traffic and other arrangements with any lines in Montana, and in British Columbia. Hough, Campbell & Ferguson, Winnipeg, are solicitors for applicants.

The provisional directors named in the bill now before the Dominion Parliament for the incorporation of a company with this title are J. S. Hough, T. L. Metcalfe, A. D. Kildahl, H. J. Box and O. L. Boynton, of Winnipeg. The railway which the company asks power to construct was described in our Nov., 1908, issue, pg. 793. A clause is inserted to the effect that the company shall not construct or operate its line of railway along any highway, street or public place without obtaining the consent, expressed by by-law, of the municipality having jurisdiction over the same. The company is also asking for power to develop electric power, to construct telegraph and telephone lines, and to enter into agreements with the C.P.R., the Great Northern Ry., the Calgary and Edmonton Ry., the G.T. Pacific Ry. or the Canadian Northern Ry. The capital stock of the company is fixed at $2,000,000, and it is authorized to issue securities to the extent of $50,000 a mile of line constructed.

The promoters of this company are owners of a coal mine at Taber, Alta., 75 miles from Dunmore Jct., on the C.P.R. Crow's Nest Pass branch, to which point it is considered probable that in time a line from Weyburn, on the C.P.R. Portal-Moose Jaw line, will be constructed. The company has also secured a mine between the Livingstone and Main ranges of the Rocky Mountains, near Cowley, Alta., about 70 or 80 miles from the International boundary. It is in connection with this property that the present developments of the company's plans are due. The line to be constructed to the International boundary, it is understood, will be financed by the Chicago, Milwaukee and St. Paul Ry. Co., and connected with its new extension to the

"BROWNHOIST"

Our Locomotive Cranes are used all over the world and are most wonderfully efficient and economical. The picture shows one used by Grand Rapids and Indiana Railway Co., Grand Rapids, Mich. Write us for "1730," and learn more regarding these machines.

The Brown Hoisting Machinery Co.

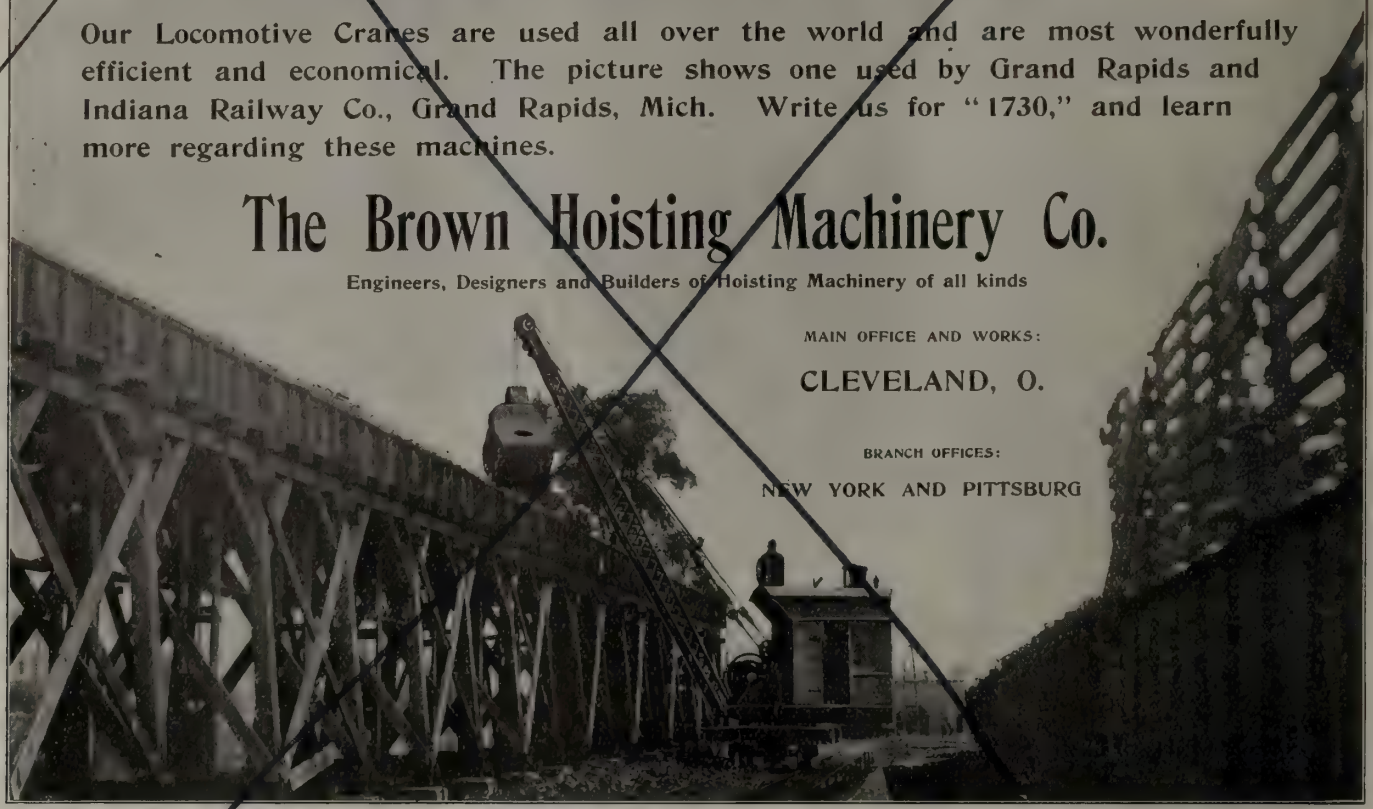
Engineers, Designers and Builders of Hoisting Machinery of all kinds

MAIN OFFICE AND WORKS:

CLEVELAND, O.

BRANCH OFFICES:

NEW YORK AND PITTSBURG



ACME RAILWAY EQUIPMENT CO.

PHILADELPHIA, PA.

ADOPTED ON

1,800 INTERCOLONIAL RAILWAY CARS
50 TEMISKAMING & NORTHERN ONTARIO CARS
300,000 CARS IN STATES

DOUBLE HANDLE CALLED FOR

"Where a coupler couples by impact, but cannot be uncoupled unless the brakeman or switchman goes between, or over, or under the cars, or around the end of the train, IN ORDER TO REACH THE APPLIANCE ON THE CONNECTING CAR, such a coupling is **DEFECTIVE AND PROHIBITED BY LAW.**"—*Judge McPherson, Des Moines, Iowa.*

Pacific coast at Helena, Montana. The object of the connection which will be effected by the completion of the line is to secure for the C.M. and St. P.R. a coal supply from Alberta.

Collingwood Southern Ry.—The Dominion Parliament is being asked to pass an act extending for a further period of two years the time within which the company may commence the construction of the railway authorized by its act of incorporation passed in 1907.

The Chicago, Milwaukee and St. Paul Co. of Washington, under which title the Chicago, Milwaukee and St. Paul Ry. is constructing its western extension, has changed its corporate name to the Chicago, Milwaukee and Puget Sound Ry., and has taken possession of the property of its predecessor in Id ho, Montana and South Dakota.

Detroit River Tunnel.—Press reports state that good progress continues to be made with the construction of the tunnel under the Detroit River between Detroit, Mich., and Windsor, Ont. The open cut on the tunnel approach on the Canadian side is completed, together with the retaining walls at the lower end, and a considerable portion of the approach work on the Detroit side is also completed. Of the subaqueous section of the tunnel seven sections of the double tube, making a length of 1,813 ft., have been sunk, and the concrete placed round them. Five of the sections have been pumped out, and preparations are being made for putting in the inner ring of concrete. The total length of the tunnel and approaches will be 12,800 ft. It is expected that it will be entirely completed at the beginning of 1910.

Hamilton, Ont.—The Ontario Legislature is being asked to pass an act authorizing the Hamilton City Council to issue debentures for various purposes, including the cost necessary to construct railway spur lines for manufacturing industries, for freight purposes only, with sidings and switches within the city; or to enter into agreements with railway companies for the construction, operation or use of such spur lines. For the purpose aforesaid the city asks for the powers conferred upon railway companies by the Ontario Railway Act, 1906.

Hudson Bay.—The Dominion estimates for the ensuing financial year include an item of $65,000 to provide for the survey and location of a line of railway from the Saskatchewan River to Hudson Bay.

The Minister of the Interior stated in the House of Commons Feb. 3, that it would appear from the sales of land during the last four months of 1908, a sufficient quantity was disposed of in the way of homesteads and pre-emptions to cover almost one-half of the estimated cost of the proposed railway from Saskatchewan to Hudson Bay. A total of 2,879,139 acres has been so disposed of, the sale price being $6,229,699. The cost of the railway is estimated at about $15,000,000. (Feb., pg. 105.)

Replying to a question in the House of Commons, Feb. 15, the Minister of Railways stated that $61,567 had been expended upon surveys for the railway to Hudson Bay. There were 110 persons employed upon the survey, which it was expected would be completed during March. Pending the receipt of the report, no decision had been reached as to the construction of the line.

Hudson's Bay and Pacific Ry.—The original act of incorporation of this company was passed by the Dominion Parliament in 1896 (second session), and amending acts were passed in 1898, 1901, 1903, and 1905. By an act under consideration at the present session, it is sought to have sec. 7 of the 1896 act, chap. 65 of the statutes of 1901, chap. 127 of the statutes of 1903, and sec. 1, chap. 104, statutes of 1905, repealed. A new set of provisional directors is named by sec. 2 of the present bill, the list, which contains a number of those in the original list, is as follows: Admiral A. H. Markham, Colonel J. Harris, J. Weston, J. A. Clarke, J. A. Reid, Lieut.-Colonel T. T. Turnbull, of London, Eng.; A. Racine, E. H. Lemay, of Montreal; E. E. Le Beree, R. Jones. Ottawa. The first clause of the bill grants a further extension of time for the construction of the line.

Hudson Bay Pacific Ry.—The Minister of Justice, reporting to the Governor-General, calls attention to the act passed last session of the British Columbia Legislature incorporating a company with this title. The company is authorized by the act to construct a railway from the western to the eastern boundary of the province, and the Minister says: "It is questionable whether it is competent to the Provincial Legislature to authorize such a work, since the legislative authority of a province does not extend to works connecting two provinces or extending beyond the limits of the province. He does not on that account recommend disallowance, but adds that the statute "may be left to such operation as it may have," and that a copy of the report be sent to the Lieut.-Governor of British Columbia for the information of his government.

Intercolonial Ry.—Replying to a question in the House of Commons Feb. 4, the Minister of Railways said the field work of the survey for double-tracking the I.C.R. from near Amherst to near Truro, via Parrsboro N.S., was started Aug. 24, and was completed Dec. 1, 1908. Plans and profiles had been prepared showing the projected route. The cost of the surveys was $9,914.05.

The estimates submitted to the House of Commons for the ensuing financial year provide for the following:

Double-tracking parts of line	$ 69,000
Original construction	800
Strengthening bridges	70,000
New turntables	13,000
Increasing water supply	74,700
Increasing accommodation generally	133,000
Improvements, Mulgrave, N.S.	22,000
" Loggieville, N.B.	25,500
" North Sydney, N.S.	4,000
" Sackville, N.B.	10,000
" Ste. Rosalie, Que.	55,000
" Drummondville, Que.	5,000
" Newcastle, N.B.	10,000
" Campbellton, N.B.	64,500
" Point Tupper, N.S.	4,000
Increased accommodation Truro, N.S.	52,000
" " Pictou, N.S.	5,500
" " Halifax, N.S.	180,000
" " St. Flavie, Que.	5,000
Diversion of line, Sydney Mines, River George	50,000
" " Chatham branch	30,000
Cut-off line at Moncton	50,000
Locomotive and car shops, with equipment, and new freight yard, Moncton, N.B.	400,000
Engine house, machine shops, etc., at Rivière du Loup, Que.	158,500
Engine house, Chaudiere Jct., Que.	20,000
Overhead crossing, Proberts, N.S.	5,000
Subway crossing, Eastville, N.S.	10,000

Kootenay and Alberta Ry.—Application is being made to the Dominion Parliament for an act incorporating a company with this title to construct the following lines of railway: From the C.P.R. Crow's Nest branch, between Cowley and Pincher Creek, Alta., southerly through the Beaver Valley to the North Kootenay Pass, thence southerly down the Flathead River Valley, B.C., to the International boundary. From the C.P.R. Crow's Nest branch southerly through Pincher Creek, the Fishburn settlement, the Blood Indian Reserve, and Milk River Valley to the International boundary at Coutts, Alta.; a branch line from, at or near the crossing of the Waterton River, Alta., southerly to the southwest corner of the Blood Indian reserve, passing in the vicinity of Mountain View, thence along Lee's Creek Valley to Cardston. The company also desires to have power to acquire and utilize steam and water power for compressing air and generating electricity for any purposes and commercially dealing in the same; to construct, control and operate telegraph and telephone lines; and to enter into agreements with other railway companies. Smith & Johnston, Ottawa, are solicitors for applicants.

Application is also being made to the Alberta Legislature for an act incorporating a company with this title to construct the following lines of railway: From near Cowley, southwesterly through Beaver Valley to the North Kootenay Pass in the Rocky Mountains. From Cowley southeasterly through Pincher Creek, Fishburn and Cardston, thence easterly to the International boundary at or near Coutts. Emery, Newell & Bolton, Edmonton, are solicitors for applicants. (See also Flathead River to Kootenay Pass, Feb., pg. 101.)

London and North Western Ry.—Application is being made to the Dominion Parliament for an act incorporating a company with this title to construct a railway from London to Sarnia, Ont.; from near London to Lake Huron near Goderich; with power to construct branch lines not exceeding in any one instance 15 miles, such branches not to extend beyond the limits of Middlesex, Lambton or Huron counties. It is also desired to have authority to construct telegraph and telephone lines; to acquire and utilize steam or water power; to generate electricity for motive power, and to dispose of the same for manufacturing purposes. Ivey and Dromgole, London, Ont., are solicitors for applicants.

Maritime Coal, Ry. and Power Co.—Application is being made to the Dominion Parliament for an act of incorporation with all the powers formerly held by the company under its Nova Scotia charter of 1904, as amended by the N.S. Act of 1906, and with all the powers formerly held by the Canada Coals and Ry. Co., under the charter granted in 1892, with the amendments thereto, and to ratify and confirm the same. The company also desires to have power to operate steam and other vessels, wharves, docks, elevators; to acquire and utilize water or other power for the generation of electricity, and to dispose of the same, and for other purposes, and asks for a declaration that the company's railways are works for the general advantage of Canada.

Niagara Peninsula Ry.—Application is being made to the Ontario Legislature for an act authorizing the company to construct a branch line northerly from the present northerly limit of the authorized line, through Humberston, Crowland and Thorold tps., to Allanburg, Ont., and increasing the capital stock of the company to $100,000, and for other purposes. Rowell, Reid, Wilkie, Wood and Gibson, Toronto, are solicitors for applicants.

The railway is being promoted in the interests of the Canadian Portland Cement Co., of which M. J. Haney, Toronto, is President.

North-West Ranching and Packing Co.—The Alberta Legislature is being asked to pass an act incorporating a company with this title to carry on business as ranchers, owners of abattoirs, packing plants, etc., and in connection therewith to construct switches, side tracks, spur lines, and tramways, to connect railways, telegraph and telephone lines; and to operate tugs and other vessels. The head office is to be at Edmonton. J. B. Powell, Edmonton, is solicitor for applicants.

Owen Sound and Meaford Ry.—The Ontario Government is being asked to recommend the Legislature to authorize the guaranteeing of the bonds of the company so as to enable it to proceed with construction.

"AMERICAN" BRIDGE ERECTORS' ENGINE

"AMERICAN"

Steam and Electric Hoists Locomotive Cranes and DERRICKS

Designed for Every Purpose
Built for the Discriminating Buyer

WRITE FOR CATALOGUE "R M"

AMERICAN HOIST & DERRICK CO.

ST. PAUL, U.S.A.

CHICAGO NEW YORK PITTSBURG NEW ORLEANS SAN FRANCISCO

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.

MONADNOCK, CHICAGO

The Pere Marquette Rd., according to a press report, is negotiating for the purchase of the vacant G.T.R. locomotive shops at Port Huron, Mich.

Prince Edward Island Ry.—The estimates submitted to the House of Commons for the ensuing financial year provide for the following works:

Branch line Harmony to Elmira	$ 50,000
Increase of accommodation at Charlottetown	194,000

(Feb., pg. 103.)

Prince Edward Island Tunnel.—During a session of the P.E.I. Legislature, Feb. 15, the Premier stated that he had had a conversation with the Dominion Minister of Finance, who informed him that before the Government would proceed in this matter, they would have to secure full and satisfactory data. About 20 years ago, when the tunnel project was first suggested, surveys had been made, but these were utterly valueless for the purpose of affording a basis on which engineers could make calculations. The borings for coal, which are now being conducted in the province, have shown that water in unexpectedly large quantities is liable to be met with at different depths. This indicates serious difficulties in the way of tunnel construction under the Straits of Northumberland. The Premier added that prominent engineers had told him that it would be a very hard matter to figure on a definite price even with a survey. He believed that the Dominion Government would shortly take steps to secure data which would determine the feasibility of an undertaking, which, if carried out, would be the greatest of its kind in the world.

Quebec and New Brunswick Ry.—Application is being made to the Dominion Parliament for an Act amending the company's powers by increasing its bonding powers to $35,000 a mile; by fixing and extending the times for the commencement and completion of its lines of railway; and by empowering it to construct a branch from its authorized line near Connor to Centreville, N.B., by the most convenient route in the neighborhood of the International boundary, thence to Woodstock, and from Woodstock by the St. John River Valley to St. John, passing through Madawaska, Victoria, Carleton, York, Sunbury, Queens, Kings and St. John counties. D. R. Murphy, Montreal, is solicitor for the company.

Quebec Bridge and Ry. Co.—Replying to a question in the Commons Jan. 26, the Minister of Railways said the board of engineers appointed by the Government to design a new bridge had gathered together a corps of expert designers, calculators, and draughtsmen, and were busily engaged upon the work. So far they had not advanced to such an extent as would admit of an estimate as to the cost of reconstruction. It is expected that plans and specifications will be completed and tenders invited for the work during the current year.

Quebec Central Ry.—A contract has been let to Powers and Dussault, Quebec, for the construction of 30 miles of line from St. George Beauce to St. Justine, Que.

Quinze and Blanche River Ry.—The Dominion Parliament is being asked for an act extending the time fixed by chap. 123, of 6 and 7 Edward VII, within which this company may construct its railway, and for other amendments of its charter powers. Gormully, Ord and Powell, Ottawa, are solicitors for the company.

Red Deer Ry.—Application is being made to the Alberta Legislature for an act extending the time within which the company may construct the lines authorized in chap. 29, of the Statutes of 1907. Moore & Davie, Red Deer, Alta., are solicitors for applicants.

Rimouski International Ry.—Application is being made to the Dominion Parliament for an act incorporating a company with this title, with P. E. D'Anjou, Bic, Que.; J. A. Talbot, H. Lepage, E. Letendre, L. Tache, A. Cumberland, P. Raymond, J. A. Theberge, N. Bernier, L. N. Asselin, Rimouski, Que.; J. F. Demars, Levis, Que., as provisional directors. The company desires to have authority to construct a railway from Rimouski, or from a point between that town and Pointe-au-Pere wharf, along the course of the Rimouski River to the middle of Duquesne tp., thence westerly following the valley of one of the tributaries of the lakes to the northern portion of Chenier tp., thence to Lac des Aigles in Biencourt tp., thence following the Biencourt River valley to the first Squateck Lake, in Robitaille tp.; and thence to the second Squateck Lake and the Squateck River in Anclair tp., on to the Great Squateck Lake in Rouillard tp., and by the Owens River, the west branch of the Iroquois River, to Edmundston, N.B., with power to operate in connection with its railway, steam and other vessels, with the necessary docks, wharves, warehouses, elevators, etc. It also desires to have power to generate electricity for its various purposes, to own hotels, lay out pleasure parks, etc. It also desires to be authorized to enter into agreements for various purposes with the Temiscouata Ry., the C.P.R. and the Boston and Maine Rd., the Intercolonial and the Transcontinental Rys. The capital is fixed at $3,000,000 and authority is asked to issue bonds to the extent of $30,000 a mile of railway to be constructed.

Salisbury and Harvey Rd.—It is recited in the preamble of a bill now under consideration by the House of Commons that all the rights, franchises, railway and other property of the Salisbury and Harvey Ry. were sold under the powers of decretal orders of the Supreme Court in Equity of New Brunswick, and were purchased by J. D. Newton, of New York City. The bill provides for the incorporation of a new company as the Salisbury and Harvey Rd. Co., with J. D. Newton, D. E. Bergen, of New York City; Hon. J. D. Hazen, D. K. Hazen, and E. P. Raymond, of St. John, N.B., as provisional directors, to acquire and take over the railway, with all its rights, franchises, etc. The railway is declared to be a work for the general advantage of Canada, and the company may within two years after the passing of the act commence the construction of the lines authorized by sec. 1, chap. 80, of the statutes of 1900, and complete the same within five years; it may acquire steam and other railways; construct telegraph and telephone lines, and may make agreements with the Harvey Branch Ry. Co., and the Albert Southern Ry. The securities to be issued by the company shall not exceed $10,000 a mile, and its capital stock is fixed at $500,000.

Saskatchewan Valley and Hudson's Bay Ry.—Application is being made to the Dominion Parliament for an act granting an extension of time for the commencement and completion of the lines which the company is authorized to construct by sec. 7, chap. 132, of the Statutes of 1907. Short, Cross & Biggar, Edmonton, Alta., are solicitors for applicants.

Southern Central Pacific Ry.—By a bill under consideration by the Dominion Parliament the list of provisional directors is proposed to be amended by striking out the name of J. D. McLennan, of Cleveland, Ohio, and substituting therefor T. Sturgis, of New York City. Sec. 4 of the amending act is proposed to be repealed, and a new section substituted extending for a further period of two years the time within which the construction of the authorized line may be commenced.

Application is being made to the Dominion Parliament for an act authorizing this company to sell or lease to, or purchase or lease from, or to amalgamate with any other railway company or companies, and generally to enter into agreements of a like nature. A. T. Thompson, Ottawa, is solicitor for the company. (Feb., pg. 105.)

South-West Alberta Ry.—The Alberta Legislature is being asked to pass an act incorporating a company with this title to construct a railway from the International boundary between ranges 22 and 29, west of the 4th meridian, north and westerly to or near the Pincher Creek Coal Mining Co.'s mines in tp. 6, range 30, west of the 4th meridian, and tp. 6, range 1, west of the 5th meridian, and thence northerly and westerly to the C.P.R. Crow's Nest Pass, at or near Pincher station in tp. 6, range 30, or tp. 6, range 29, west of the 4th meridian, with all the powers usually conferred on railway companies. The provisional directors are: O. W. Laboree, R. D. Miller, Spokane, Wash.; Jas. Finlay, A. C. Kemmis, Pincher Creek, Alta. The length of the projected line is 54 miles.

Strathcona and Brazeau Ry.—The Alberta Legislature is being asked to pass an act incorporating a company with this title for the purpose of constructing a railway from near Strathcona, on the Calgary and Edmonton Ry., westerly to the Brazeau coal fields on the Brazeau River, and thence to the Yellowhead Pass. Power is also asked to make agreements with other railways for amalgamation, leasing or otherwise, and with all other necessary and usual powers, rights and privileges. R. H. Bowes, Toronto, is solicitor for applicants.

Temiskaming and Northern Ontario Ry.—A statement has been made by the Premier of Ontario that the question of extending this line from Charlton to Elk Lake, Ont., about 28 miles, is under consideration. The projected extension will be a continuation of the five mile branch now being operated from Englehart to Charlton. A deputation from Earlton waited on the Government Feb. 9, to ask that in the construction of the branch the requirements of that district be met. Residents in the Parry Sound district are advocating an extension of the line southerly to Parry Sound, thus providing the railway with a deep water port on the Great Lakes for ore traffic. (Feb., pg. 105.)

Vancouver and Northern Ry.—Application is being made to the British Columbia Legislature for an act incorporating a company with this title, the provisional directors being: C. T. Dunbar, F. C. Wade, E. J. McFeely, H. M. Burwell, C.E. The railway which the company desires power to construct would start at Vancouver, and would follow the valley of the Seymour Creek to the watershed north of Loch Lomond, thence via the valley of the easterly branch of Seymour Creek and along the valley of the Indian River to the north arm of Burrard Inlet; thence northerly via the Mamquan and Cheakamis valleys to the Pemberton Meadows; with a branch line via the valley of Furry Creek or Stammus Creek, or both, to Howe Sound. The offices of the company are to be at Vancouver, and its capital $500,000.

The Vancouver, Fraser Valley and Southern Ry. Co. is asking the Dominion Parliament for an act extending for a further period of two years the time within which the company may commence the construction of the railway which it was authorized by its act of incorporation of 1906 to construct.

The Vancouver, Westminster and Yukon Ry. Co. is asking the Dominion Parliament to pass an act extending for three years the period within which the company may commence the construction of the branch lines authorized to be constructed by its act of

POLSON IRON WORKS

LIMITED

TORONTO, CANADA

Steel Shipbuilders, Engineers and Boilermakers

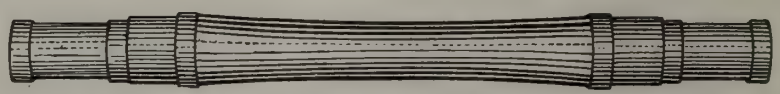
Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers

OFFICE AND WORKS

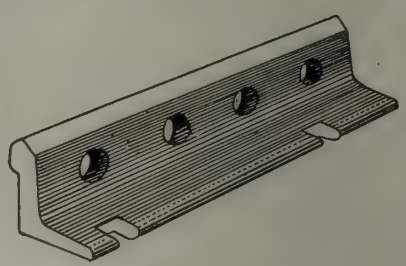
ESPLANADE STREET EAST, TORONTO

THE HAMILTON STEEL & IRON CO.

HAMILTON, CANADA. LIMITED



RAILWAY AXLES
ANGLE BARS AND
TRACK SPIKES
TIE PLATES



FORGINGS—MARINE AND RAILROAD

IN ROUGH, ROUGH-TURNED OR SMOOTH FINISHED. SPECIALTY OF HEAVY FORGINGS

PIG IRON, IRON AND STEEL BARS.

1906. It also desires to be given power to enter into agreements, subject to secs. 361, 362 and 363 of the Railway Act, with the Burrard, Westminster Boundary Ry. and Navigation Co.

Victoria and Barclay Sound Ry.—Application is being made to the Dominion Parliament for an act incorporating a company with this title to construct a railway from Victoria, by way of Otter Point and San Juan to Barclay Sound, near Sarita River, with branch lines not exceeding, in any one case, 12 miles in length. Power is also being asked to maintain a steam ferry between Beecher Bay, or some other point on Vancouver Island on the Straits of Juan de Fuca, to some point on the straits in the United States. It is also desired to have power to own and operate steam and other vessels, wharves, docks, warehouses, elevators, etc.; to generate electricity for various purposes; to construct telephone and telegraph lines, and to erect bridges for the use of which tolls may be charged. The capital stock is fixed at $5,000,000, and securities may be issued to the amount of $50,000 a mile of railway. The provisional directors named are: W. K. Houston, H. H. Jones, W. E. Laird, C. L. Betterton, Victoria, B.C.; J. M. Hawthorne, Seattle, Wash.

The York and Carleton Ry. Co. has under consideration plans for the construction of an extension of nine miles from Ryan Brook, the present terminus of its line, to Nappaddogan, N.B., a divisional point on the National Transcontinental Ry.

Winnipeg and North-Western Ry.—By an act under consideration by the Dominion Parliament this company asks an extension of time within which the line authorized by its act of incorporation (chap. 141, 1907), may be constructed. Power is also asked to construct the following branch lines: (a) From near the Narrows of Lake Manitoba westerly to tp. 25, range 30, west of the first principal meridian, thence northwesterly to its authorized line of railway at Nut Lake; (b) from the last mentioned line near Good Spirit Lake southeasterly to the G.T. Pacific Ry., near the second principal meridian, or between such meridian and the boundary of Manitoba. It is also desired to have power to guarantee in whole or in part the principal or interest, or both, of securities of any railway company, transportation, elevator, warehouse, or other company authorized to carry on any business incidental to the working of a railway upon a two-thirds majority of the company's shareholders.

St. Boniface Union Stockyards.—The city council of St. Boniface, Man., has had an agreement drawn for execution between the C.P.R., the G.T. Pacific Ry., and the Canadian Northern Ry., on the one hand, and the city on the other, with respect to the establishment of a union stockyard within the city limits. According to the agreement the company to be formed must expend $395,000 within two years; must include St. Boniface in its name; must maintain a public market for a term of years; agree not to ask for exemption from taxation; and a site has to be provided which the corporation may either lease or purchase for the erection of a municipal abattoir. The council will, on the signing of the agreement, proceed with the construction of a sewer on Dawson road at a cost of $180,000.

At a meeting of the Engineers' Club of Toronto, Feb. 12, F. L. Somerville, formerly Division Engineer G.T.R., Toronto, read a paper on "The Railway Crossing; Its Development and Proposed Elimination." The members of the Ontario Railway and Municipal Board and G. A. Mountain, Chief Engineer of the Board of Railway Commissioners, took part in the discussion.

March Birthdays.

Many happy returns of the day to:—

W. G. Annable, General Passenger Agent C.P.R. Atlantic Steamship Lines, Montreal, born at Ottawa, Mar. 3, 1875.

P. S. Archibald, C.E., General Manager Elgin and Havelock Ry., and Commissioner New Brunswick Coal and Ry. Co., Moncton, N.B., born at Truro, N.S., Mar. 21, 1848.

C. N. Armstrong, ex-General Manager Atlantic and Lake Superior Ry., Montreal, born at Maskinonge, Que., Mar. 19, 1850.

A. H. Baird, C.P.R. Ticket Agent, Paris, Ont., born at Montreal, March 1, 1834.

D. E. Brown, ex-General Snperintendent C.P.R. Trans-Pacific Steamship Service, Vancouver, B.C., born at Owen Sound, Ont., Mar. 20, 1855.

G. J. Bury, General Manager C.P.R. Western Lines, Winnipeg, born at Montreal, Mar. 6, 1866.

Allan Cameron, General Traffic Agent C.P.R., New York, born near Owen Sound, Ont., Mar. 14, 1864.

H. S. Carmichael, General Passenger Agent C.P.R., Liverpool, Eng., born in Scotland, Mar. 7, 1874.

W. P. Chapman, Resident Engineer Mackenzie, Mann & Co., Ltd., Toronto, born at Abbotsley, Hunts, Eng., Mar. 9, 1857.

F. G. J. Comeau, General Freight Agent Dominion Atlantic Ry., Halifax, N.S., born at Meteghan River, N.S., Mar. 10, 1859.

A. E. Cox, Storekeeper Canadian Northern Ry., Winnipeg, born at Huddersfield, Eng., Mar. 12, 1863.

Hon. L. J. Forget, President Montreal Street Ry. Co., born at Terrebonne, Que., Mar. 11, 1853.

C. O. Foss, District Engineer National Transcontinental Ry., St. John, N.B., born at Wentworth, N.H., Mar. 20, 1852.

W. S. Fry, Treasurer Quebec Central Ry., Sherbrooke, Que., born at Lee, Kent, Eng., Mar. 18, 1874.

H. W. Gays, General Manager Ottawa and New York Ry., Ottawa, Ont., born at Brant, Erie Co., N.Y., Mar. 21, 1848.

F. Grundy, Vice-President Quebec Central Ry., Sherbrooke, Que., and President Temiscouata Ry., born at Bury, Lanc., Eng., Mar. 28, 1836.

J. Halstead, General Freight Agent C.P.R., Calgary, Alta., born at Bracebridge, Ont., Mar. 2, 1877.

R. M. Hannaford, Engineer Permanent Way, Buildings and Bridges, Montreal Street Ry., Montreal, born there, Mar. 22, 1865.

W. Harty, M.P., President Canadian Locomotive Co., Kingston, Ont., born in Biddulph tp., Middlesex, Ont., Mar. 8, 1847.

C. A. Hayes, General Freight Agent G.T.R., Montreal, born at West Springfield, Mass., Mar. 10, 1865.

J. Hobson, Consulting Engineer G.T.R., Hamilton, Ont., born at Guelph, Ont., Mar., 1834.

F. Lee, Division Engineer C.P.R., Winnipeg, born at Chicago, Ill., Mar. 7, 1873.

R. W. Long, Division Freight Agent G.T.R., Hamilton, Ont., born at Appin, Ont., Mar. 20, 1873.

D. D. Mann, Vice-President Mackenzie, Mann & Co., Ltd., and 1st Vice-President Canadian Northern Ry. Co., Toronto, born at Acton, Ont., Mar. 23, 1853.

J. M. McKay, Trainmaster C.P.R., Portage la Prairie, Man., born at Tiverton, Ont., Mar. 13, 1868.

Owen McKay, ex-Chief Engineer Lake Erie and Detroit River Ry., Windsor, Ont., born in Ross tp., Renfrew Co., Ont., Mar. 13, 1848.

D. J. Murphy, Jr., Assistant Traffic Superintendent and Trainmaster Dominion Atlantic Ry., Kentville, N.S., born at Caledonia, Ont., Mar. 3, 1874.

F. W. Peters, Assistant to 2nd Vice-President C.P.R., Winnipeg, born Mar. 25, 1860.

R. Patterson, Master Mechanic G.T.R., Stratford, Ont., born at Brantford, Ont., Mar. 13, 1860.

W. D. Reid, President Reid Newfoundland Co., born in Australia, Mar. 20, 1867.

D'Arcy Scott, Assistant Chief Railway Commissioner for Canada, born Mar. 8, 1872.

E. H. Sewell, City Passenger Agent, C.P.R., Sherbrooke, Que., born at Quebec, Mar. 17, 1875.

J. F. Slocum, Secretary-Treasurer International Ry. Co., Buffalo, N.Y., born at Geneva, N.Y., Mar. 25, 1876.

C. J. Smith, General Manager Richelieu and Ontario Navigation Co., Montreal, born at Hamilton, Ont., Mar. 10, 1862.

G. Sommerville, Agent Merchants Line Steamers, Toronto, born at Kingston, Ont., Mar. 21, 1855.

W. Y. Soper, director Ottawa Electric Ry. Co., Ottawa, Ont., born at Oldtown, Me., Mar. 9, 1854.

J. N. Sutherland, ex-General Freight Agent C.P.R., Atlantic Division, Oakville, Ont., born at Sydney, N.S., Mar. 17, 1843.

E. J. Travers, Manager British Columbia Car Service Bureau, Vancouver, B.C., born at Hamilton, Ont., Mar. 31, 1872.

W. F. Tye, ex-Chief Engineer C.P.R., Montreal, born at Haysville, Ont., Mar. 5, 1861.

G. W. Vaux, Assistant General Passenger and Ticket Agent G.T.R., Chicago, Ill., born at Montreal, Mar. 21, 1866.

D. O. Wood, General Freight Agent for Ontario, Allan Line Steamships, Toronto, born at Kleinburg, Ont., Mar. 16, 1864.

Eastern Canadian Passenger Association.

At a meeting at Toronto Feb. 2, reduced fares were considered for numerous events, among these being the following:

Easter Holiday Fares, 1909.

Ottawa, Ont., May 4-6, Woman's Foreign Missionary Society of Presbyterian Church in Canada.

Montreal, May 12-15, Montreal Horse Show.

Bicentenary of beginning of British rule and of Church of England in Canada, Halifax, Windsor, Annapolis, N.S.; Fredericton, N.B., Aug., 1910.

Winnipeg, Aug., Canadian Medical Association.

Buffalo, N.Y., June 9-16, National Conference of Charities and Correction.

Plattsburg, N.Y., or Burlington, Vt., July 4-14, Tercentenary celebration of discovery of Lake Champlain.

Colonist one-way second-class fares to California common points, to North Pacific coast points, and to Mexico, season 1909.

Denver, Colo., July 5-9, National Education Association.

Winnipeg, Aug. 25-Sept. 1, British Association for Advancement of Science.

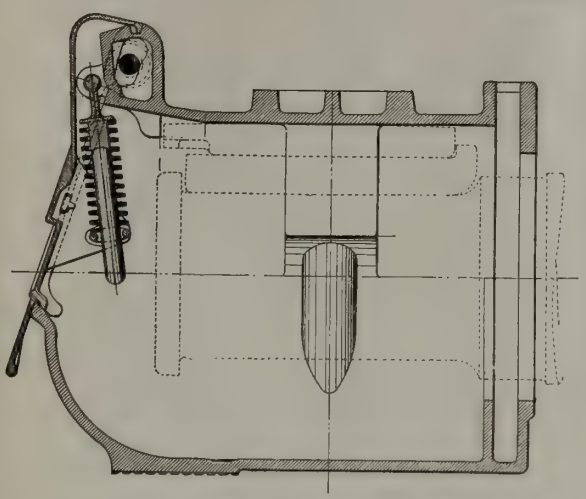
Syracuse, N.Y., Sept. 13-18, New York State Fair.

Louisville, Ky., June 8-10, Imperial Council, Ancient Arabic Order Nobles of Mystic Shrine.

The Western Canada Railway Club has been organized recently, with headquarters at Winnipeg. Meetings are held at the Royal Alexandra Hotel there on the second Monday of each month, excepting June, July and August. Following are the officials of the club for the current year: Hon. President, Wm. Whyte; Hon. Vice-Presidents, M. H. McLeod, G. J. Bury, G. W. Caye, and W. Phillips; President, Grant Hall; Vice-President, A. E. Cox; 2nd Vice-President, L. B. Mirriam; Secretary, W. H. Rosevear; Treasurer, E. Humphrys; Executive Committee, E. W. DuVal, S. J. Hungerford, W. R. Smith, R. R. Neild, C. W. Cooper, Jos. McKenzie, L. O. Moody; Audit Committee, L. O. Genest, A. H. Mulcahey, A. Shields.

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



THE STRONGEST, LIGHTEST, TIGHTEST BOX MADE

The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCord Force Feed Lubricator

McCORD & COMPANY
Old Colony Building, Chicago

N. J. HOLDEN CO., Ltd.,
302 St. James Street, Montreal

N. CURRY, President
N. A. RHODES, Vice-President

CAPITAL, $1,000,000

J. M. CURRY, Sec.-Treas.

RHODES, CURRY & CO.

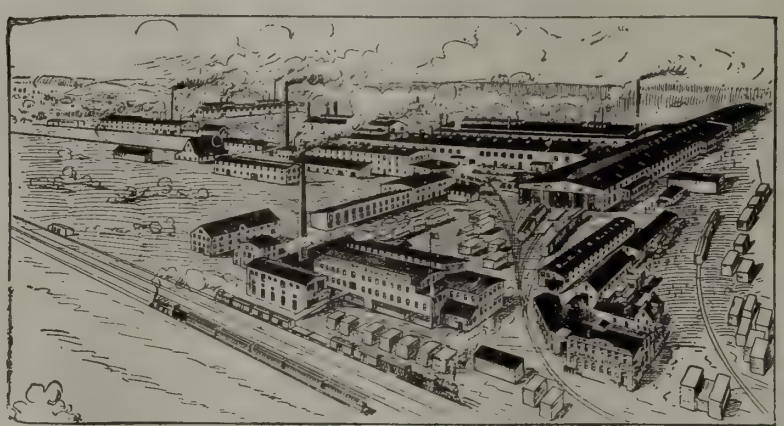
AMHERST, NOVA SCOTIA LIMITED

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels



Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

Railway Finance, Meetings, etc.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales, for Dec., 1908, $40,340, against $38,724 for Dec., 1907. Total net profits for 6 months ended Dec. 31, 1908, $219,778. Approximate railway receipts for Jan., $16,333, against $14,143 for Jan., 1908.

Canadian Pacific Ry.—Orders-in-council authorizing the C.P.R. to increase its capital stock passed June 30, 1904; Nov. 12, 1904; Feb. 19, 1906, and Aug. 17, 1908, were laid upon the table of the House of Commons Feb. 18. The last of the orders gave the company power to increase its capital stock to $200,000,000, and contains the clause inserted in the order of 1906, to the effect that the stock issued under it shall not be deemed "capital expended in the construction of the railway under sec. 20 of the company's act of incorporation."

A London, Eng., cable, Feb. 17, stated that it had been publicly announced that the C.P.R. had sold 39,840 shares on the London market, thus completing the issue of common stock up to $150,000,000 as authorized by the order-in-council of 1906. The stock represented the odd amounts that could not be evenly allotted to shareholders.

Canadian Pacific Ry.—The directors have declared the following dividends for the half-year ended Dec. 31, 1908, payable April 1: 2% on the preference stock, and 2% on the common stock. It was also decided to declare a dividend of ½ of 1% on the common stock out of the interest on the proceeds of land sales. After paying the working expenses, fixed charges and the dividends for the half-year, the company will carry forward a surplus of $4,818,232.

Chicago and Great Western Ry.—Press despatches from Chicago, Ill., state that interests associated with the G.T.R. are nogotiating for the purchase of a controlling interest in the C. and G.W.R. This line is known as the Maple Leaf Route, and, starting from Chicago, has its terminus at Kansas City, Mo.; Omaha, Neb., and Minneapolis, Minn. Its affairs are in process of reorganization.

Cumberland Ry. and Coal Co.—Following are the officers and directors for the current year: President, R. H. Drummond; Vice-President, E. McDougall; Managing Director, J. B. Cowans; Secretary-Treasurer, E. Laflamme; other directors: D. Morrice, W. J. Morrice, G. L. Cains, W. J. Crossen, P. P. Cowans, J. D. Hayden.

Dominion Atlantic Ry.—Gross earnings for Dec., 1908, $91,000, against $89,186 for Dec., 1907. Total for 12 months ended Dec. 31, 1908, $1,259,300, against $1,294,741 for same period 1907.

Duluth, Rainy Lake and Winnipeg Ry.—Following on the recent taking over of this railway by the C.N.R., officers and directors for the current year have been elected as follows: President, W. H. Cook, Duluth, Minn.; Vice-President, D. B. Hanna; Secretary and General Auditor, J. D. Morton; Treasurer, L. W. Mitchell, Toronto; other director, W. D. Bailey, Duluth, Minn.

Grand Trunk Ry.—An act under consideration by the Dominion Parliament authorizes the company, in addition to the several amounts of G.T. consolidated debenture stock mentioned in the company's act of 1897, and the acts mentioned in sec. 5 of the same, to issue a perpetual consolidated debenture stock to be called G.T. Consolidated Debenture Stock, at not exceeding 4% interest, in such sums as the shareholders shall determine, provided that the aggregate amount of the annual interest on such stock shall not exceed £100,000. The stock so created to rank equally and be consolidated with debenture stock issued or to be issued as G.T. Consolidated Debenture Stock under any act now in force. The company may also issue additional amounts of G.T. 4% guaranteed stock, provided that the total sum issued, including that issued or to be issued under existing acts, shall not in the aggregate exceed at any one time $12,500,000. When the bill came before the Railway Committee of the House of Commons Feb. 16, W. Wainwright, Fourth Vice-President, stated that the money to be realized by the sale of the stock would be used in making general improvements. It was decided to insert a clause providing that the money to be raised shall be used for improving the roadbed, double-tracking, reduction of gradients, sidings and terminal facilities, or increasing elevator capacities. The act is to be brought into effect by an order-in-council.

Guelph Junction Ry.—The percentage payable to the city of Guelph by the C.P.R., which operates the G.J.R., for the three months ended Dec. 31, 1908, was $6,450.90. This is one of the largest payments ever received by the city from the operation of the railway.

Intercolonial Ry.—Replying to a question in the House of Commons Jan. 26, the Minister of Railways said the earnings and expenses of the I.C.R. from April to Nov., 1908, compared with 1907 were as follows:

	Earnings.		Expenditure.	
	1908.	1907.	1908.	1907.
April..	$ 740,576.43	$ 817,952.34	$ 740,851.01	$ 669,380.90
May..	689,736.62	799,095.95	781,086.18	715,888.88
June..	703,251.85	754,141.27	841,442.32	751,472.47
July..	803,143.53	836,452.37	819,139.12	811,019.17
Aug..	789,765.10	866,808.56	787,003.43	868,569.20
Sept...	793,541.67	807,566.14	796,301.04	762,319.92
Oct..	759,521.09	803,017.13	801,582.62	751,754.78
Nov..	696,897.56	754,140.62	746,326.74	730,602.38
	$5,976,433.85	$6,439,174.38	$6,313,732.46	$6,061,007.70

The figures for Dec., 1908, are not available.

Lake Superior Corporation.—D. McNicoll, Vice-President C.P.R., is reported to have stated that press reports to the effect that the C.P.R. was in any way connected with the reorganization of the Lake Superior Corporation, and the various industries centred there, were without foundation, and that he knew nothing about any such proposed connection.

New York Central and Hudson River Rd.—E. H. Harriman has been elected a director, succeeding C. C. Clarke; and Wm. C. Brown, the recently appointed President, has been elected a director, succeeding S. F. Barger, resigned.

Prince Edward Island Ry.—The Minister of Railways, replying to a question in the House of Commons Jan. 26, said the earnings and expenditures of the P.E.I. Ry. for the current financial year to Dec. 31, as compared with the same period of 1907, were as follows:

	Earnings.		Expenditures.	
	1908.	1907.	1908.	1907.
Apr...	$ 20,220.38	$ 23,229.44	$ 30,193.09	$ 30,108.28
May..	26,045.12	25,715.49	30,376.93	32,977.82
June..	26,365.84	23,956.86	33,097.68	30,743.10
July..	33,328.19	33,630.31	33,676.99	38,824.54
Aug..	32,350.59	30,993.81	34,806.53	35,369.52
Sept..	30,777.40	26,401.31	37,251.96	37,893.58
Oct...	30,566.50	27,659.60	39,555.24	36,511.38
Nov..	29,655.98	30,641.62	34,120.25	33,236.36
Dec...	24,519.75	22,876.49	35,509.99	30,546.03
	$ 253,829.75	$ 245,104.93	$ 308,588.66	$ 306,210.61

Quebec Central Ry.—Gross earnings for Dec., 1908, $73,599.93; expenses, $56,779.17; net earnings, $16,820.76; against $72,074.98 gross earnings; $61,190.59 expenses; $10,884.39 net earnings, for Dec., 1907. Gross earnings for 6 months ended Dec. 31, 1908, $553,676.51; expenses, $377,924.69; net earnings, $175,751.82; against $569,366.52 gross earnings; $385,892.03 expenses; $183,474.49 net earnings, for same period 1907.

Quebec and Lake St. John Ry.—Gross earnings for Jan., $46,249.05, against $36,275.49 for Jan., 1908. Mileage operated, 285.4, against 240 in Jan., 1908.

Temiskaming and Northern Ontario Ry.—Gross earnings for Oct., $97,850.90; expenses, $55,417.60; net earnings, $42,433.30; ore royalties, $21,080.00; gross earnings for Nov., $98,304.03; expenses, $63,595.00; net earnings, $34,709.03; ore royalties, $20,175.70; estimated gross earnings for Dec., 1908, $117,000; expenses, $65,000; net earnings, $52,000.

Temiscouata Ry.—Total traffic receipts for Jan., $14,550.41, against $16,643.91 for Jan., 1908.

New Westminster Bridge.—Replying to a question in the British Columbia Legislature Jan. 26, the Commissioner of Works stated that the amount collected by way of tolls for the use of the railway bridge over the Fraser River at New Westminster for the year ended Dec. 31, 1908, was $25,702.60, which included $15,000 rental from the Vancouver, Victoria and Eastern Ry. The amount paid to collectors of tolls was $3,162.50. The Government was prepared to make reductions in the tolls charged from time to time as the traffic increased. An agreement had been made between the Government and the B.C. Electric Ry. for the use of the bridge.

Wisconsin Central Ry.—W. J. Wollman, C. G. Simpson, F. H. Prince, E. N. Foss, L. Baldwin, have been elected directors, succeeding W. A. Bradford, Jr., G. A. Fernald, T. L. Chadbourne, H. B. Starr, G. J. Gould, and T. F. Gales, who have resigned. Newman Erb, President, has been elected chairman of the Executive Committee, succeeding W. A. Bradford, Jr., and W. J. Wollman, C. G. Simpson, and F. H. Prince, have been elected members of the Executive Committee, to fill vacancies caused by resignations, owing to the change of control.

Railway Lands Patented.—Letters patent covering Dominion lands in Manitoba, Saskatchewan, Alberta and British Columbia were issued to railways during Oct., 1908' as follows:

	ACRES
Canadian Northern Ry.	9.02
Canadian Pacific Ry. grants	66.75
Grand Trunk Pacific Ry.	647.87
	723.64

The Guelph and Goderich Ry. Co. is being sued by M. A. Piggott, Hamilton, Ont.; H. E. Larkin and A. Sangster, St. Catharines, Ont., to recover $500,000 alleged to be due on account of the construction of the railway from Guelph to Goderich, Ont. The company offers about $100,000, and alleges that the plaintiffs have not completed their work.

Press despatches from Winnipeg, Feb. 6, stated that it was announced by the railway companies that it had been definitely determined to abolish the half-fare rate for clergymen, students and missionaries, who have enjoyed this privilege in the middle and western provinces since the settlement of the west.

A deputation from the Engineers' Club of Toronto recently waited on the Dominion Government to urge the appointment of a Canadian-born engineer to the Quebec Bridge Commission, the membership of which at present consists of one French born and educated engineer, but resident in Canada; one British and one United States engineer.

Salary-Raising Training For Railroad Men

There is no profession in which promotion depends in any higher degree upon a man's real ability and technical knowledge than in railroading. Quick promotion then for the railroader is the result of quick and also thorough acquirement of that technical training which will qualify him to hold a higher position. In no way can the ambitious railroad employe secure this technical knowledge so quickly and yet so simply as through the I. C. S. Courses of home training. These Courses have been written by the best railroad experts on this Continent and are taught after a manner that 15 years' experience in training hundreds of thousands of ambitious men for promotion and better earnings has proved to be the most practical and efficient. These Courses include instruction in LOCOMOTIVE MANAGEMENT, LOCOMOTIVE BOILERS, STEAM CYLINDERS, and VALVE GEARS, BREAKDOWNS, COMPOUND LOCOMOTIVES, TRAIN RULES, WESTINGHOUSE and NEW YORK AIR BRAKES, CAR LIGHTING and HEATING, and ELECTRIC HEADLIGHTS.

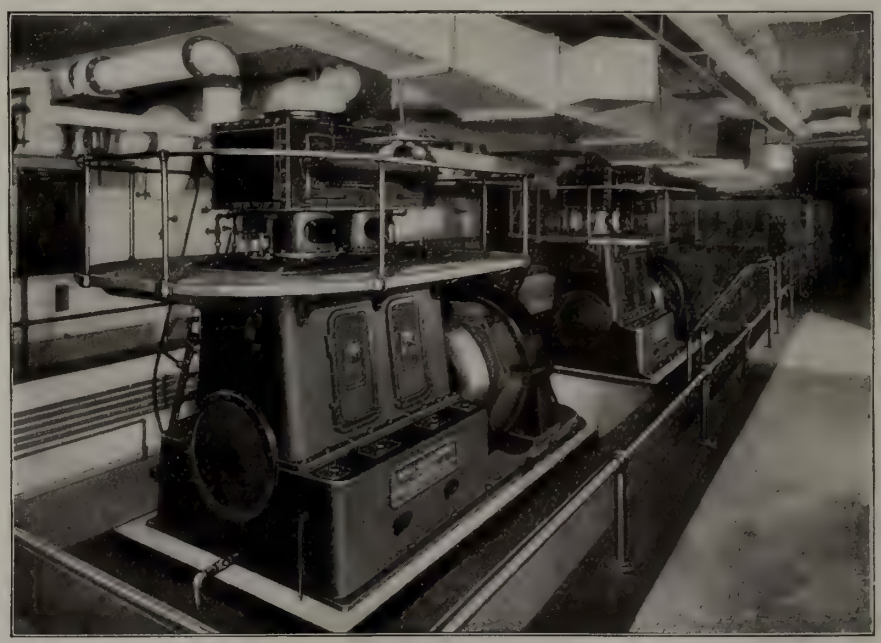
If **YOU** wish to secure the training in your own home, in your spare time, and at an insignificant cost, that will qualify you for promotion to the highest positions in your profession, simply mark and mail this coupon and we will tell you how you can do so. The fact that we have enabled hundreds of other railroad men to secure promotion in itself warrants your careful investigation of our plan if you really wish to better yourself. Don't let a postage stamp stand between you and a better position. **Mark and mail this coupon NOW.**

International Correspondence Schools
BOX 1072, SCRANTON, PA.

Please explain, without further obligation on my part, how I can qualify for a larger salary and advancement to the position before which is marked X.

General Foreman	R. R. Con. Engineer
R. R. Shop Foreman	Civil Engineer
R. R. Trav. Engineer	Bridge Engineer
R. R. Trav. Fireman	Chemist
Locomotive Engineer	Mining Engineer
Air-Brake Instructor	Architect
Air-Brake Inspector	Bookkeeper
Air-Brake Repairman	Stenographer
Mechanical Engineer	Ad Writer
Mechanical Draft.	French } With
Machine Designer	German } Edison
Electrical Engineer	Spanish } Phonogr'h

Name _____
St. & No. _____
Employed by _____ R. R.
City _____ State _____



HIGH-SPEED VERTICAL ENGINES

of the English enclosed type with pressure oiling system, installed by us at the

TRADERS BANK
TORONTO

ROBB ENGINEERING CO., Limited, Amherst, N.S.

DISTRICT OFFICES: Traders Bank Building, TORONTO, Wm. McKay, Manager.
Bell Telephone Building, MONTREAL, Watson Jack, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.

C. P. R. Betterments, Construction, Etc.

St. John, N.B., Improvements.—An agreement has been reached between the St. John harbor committee and the C.P.R., by which the transfer of water lots at Sand Point to the company will be made. The agreement is subject to ratification by the city council. As soon as the agreement is completed the company will carry out some improvements in connection with the deep water wharfage facilities at the harbor.

Piles Junction to Grand Mere, Que.—The Dominion Parliament is being asked to pass an act extending the time within which the company may construct the projected line from Piles Jct. to Shawinigan Falls, and Grand Mere, Que.

St. Lawrence Hall, Montreal.—A press report from Montreal states that the C.P.R. contemplates the erection of a 10-storey office building to cover the whole site of the St. Lawrence Hall, in which its city ticket office is now located. The building would provide accommodation for the C.P.R. city offices, the Dominion Express Co., and other interests allied with the C.P.R.

Windsor St. Station, Montreal.—Application is being made by the company in connection with its plans for extensions at this station, for permission to close certain streets on property which it has acquired. The plans placed before the civic roads committee of the city council show that, with one or two exceptions, the Ontario and Quebec Ry. Co., of which the C.P.R. is lessee, has acquired all the properties south of the present station building as far as St. Antoine St., and west as far as Aqueduct St. It is desired to obtain leave to close Donegani and Bission Streets. The committee decided to view the properties and the streets proposed to be closed before giving consideration to the plans.

Place Viger Station Improvements.—D. McNicoll, Vice-President C.P.R., recently gave some information to the civic roads committee of the Montreal City Council with regard to the proposals for improving Place Viger station and yards. The company is applying for authority to close Lacroix and the southern ends of several other streets on property which has been acquired. The property purchased practically isolates the premises of the Montreal Brewing Co., for which the C.P.R. states an exorbitant price is being asked. The committee promised to consider the plans submitted.

Montreal-Toronto Second Track.—A press report states that the company's programme of work for the current year includes the construction of 40 miles of additional second track on the line between Montreal and Toronto. This 40 miles would be in the vicinity of Smith's Falls, Ont.

Extension to Gowganda.—L. O. Armstrong, Colonization and Tourist Agent, who has been investigating the Gowganda district for the C.P.R., stated recently that as soon as the permanence of the camp was fully assured, there was every possibility of the company constructing a line into the district.

Ottawa, Northern and Western Ry.—Application is being made to the Dominion Parliament for an extension of time for the construction of the company's projected railway from Maniwaki, Que., the present terminus of the old Pontiac Pacific Junction Ry., to James Bay, for a further period of five years.

Georgian Bay and Seaboard Ry.—A Montreal despatch Feb. 15 stated that the C.P.R. programme of construction for eastern lines for the current year includes a line from Peterboro to Coldwater Jct., Ont., where connection will be made with the portion of the G.B. and S. Ry. already constructed from Coldwater Jct. to Victoria Harbor.

Tillsonburg, Lake Erie and Pacific Ry.—Application is being made to the Dominion Parliament for an act extending for a further period of five years the time within which the T., L.E. & P.R. Co. may complete the railway it was authorized to construct by sec. 2, chap. 105, of the statutes of 1902. An extension of time for construction was obtained in 1904.

Weisenburg to Elora.—A press report states that surveys have been made for the construction of a line from Weisenburg, on the Guelph and Goderich Ry., to Elora, Ont., where a junction would be effected with the C.P.R. Elora branch. The line would be about seven miles long, and the surveys are said to show that a good gradient can be secured, and that there would be few difficulties in the way of construction.

London, Ont., Yards.—Sir Thos. G. Shaughnessy, President, and D. McNicoll, Vice-President, are expected to visit London, Ont., early in March, for the purpose of inspecting the company's yards there, before finally passing on the plans and estimates prepared for their extension.

Guelph and Goderich Ry.—The company is applying to the Dominion Parliament for an act extending the time within which it may construct the branch line of railway from its line in Wellesley tp. to St. Mary's and Clinton, via Stratford, for a further period of five years.

Western Lines Construction.—The C.P.R. Co. is asking the Dominion Parliament for an act extending the time within which it may construct the following railways: (1) From tp. 32 to 34, range 21 to 23, west 2nd meridian, northerly to Prince Albert, Sask. (2) From the Pheasant Hills branch in tp. 39 or 40, range 19 or 20, west 3rd meridian, towards Battle River, thence westerly through tps. 43, 44 or 45 to range five or six, west 4th meridian, thence southerly and westerly to tps. 36, 37 or 38, range 11, 12 or 13, west 4th meridian. (3) From tps. 27, 28, 29, 30 or 31, range 4, 5, 6 or 7, west of 3rd meridian, westerly and northerly to a junction with the Calgary and Edmonton Ry. Lacombe branch. (4) From tps. 39, 40 or 41, range 3, 4 or 5, west 4th meridian, to tps. 30, 31 or 32, range 17, 18 or 19, west 3rd meridian. (5) From Weyburn westerly through tps. 6, 7, 8 or 9, to range 30, west 2nd meridian. (6) From near Estevan to tp. 4, range 22, west 2nd meridian. (7) From tps. 6, 7, 8 or 9, range 30, west 2nd meridian, westerly to connect with the Crow's Nest Pass branch, between range 16, west 4th meridian, and Lethbridge, Alta. It is also desired to have authority to construct a line from the revision of the Crow's Nest Pass branch in tp. 9, range 22, west 4th meridian, northerly and northwesterly to a junction with the Calgary and Edmonton Ry. Macleod branch near Aldersyde, Alta., a distance of about 85 miles.

South-Western Alberta Extensions.—The C.P.R. right-of-way agent has been spending some time in Cowley, Alta., recently, and has purchased a number of properties there. As a result, it is said that the town will be moved to a site two miles south of its present location, it being understood that the C.P.R. has promised to pay the expense of moving the buildings.

In connection with the company's application to Parliament for extension of time for the construction of certain lines in the vicinity of the Crow's Nest Pass branch, and the Calgary and Edmonton Ry., it is interesting to note that the Great Falls, Mont., Board of Commerce, at a meeting held Feb. 2, appointed a deputation to wait on the Government of Alberta and C.P.R. officers "concerning the proposed extension of the C.P.R. to Grand Falls."

Lethbridge, Alta.—A press despatch states that the company proposes to erect shops for the western division at this point, which will provide employment for about 600 men.

Grade Reduction at Hosmer.—Plans for the reduction of gradients on the Crow's Nest Pass branch, from Hosmer, B.C., to the summit of the Rocky Mountains, are reported to be under consideration by J. E. Schwitzer, Chief Engineer for the western lines. When the line was constructed the general expectation was that the heavy traffic hauls would be practically all westbound, and for that reason everything was done to give the westbound traffic the benefit of the gradients. The development of the traffic, however, has been such that there is every prospect that the balance of the heavy hauls will be in favor of the eastbound trains. The opening of the coal mines at Hosmer, which began shipping coal in Jan., will be a big factor in providing eastbound traffic, as the demand for the coal will be in Alberta, Saskatchewan and Manitoba. We are advised that no decision as to grade reduction between the points named has as yet been arrived at.

Kootenay Central Ry.—The act incorporating a company with this title passed by the Dominion Parliament in 1901, was amended in 1904, and an application is now before Parliament to obtain a further extension of time for the construction of the authorized line of railway.

A survey party has been engaged for some time past correcting previous surveys between Golden and Galoway, on the C.P.R. Crow's Nest Pass line. The route of the projected line from Galoway follows along the east side of the Kootenay River, crosses that stream at Canal Flats, and proceeds down the valley of the Columbia River to Golden on the C.P.R. main line. It would have a length of about 200 miles. J. N. Logan, right-of-way agent, in an interview at Fernie recently, said the heaviest gradient on the projected line would be at the summit near Crow's Nest Lake. Nowhere on the route was there any difficulty to be met with that would necessitate a heavier gradient than 1%.

Kootenay and Arrowhead Ry.—The Dominion Parliament is being asked to pass an act extending the time within which the K. & A.R. Co. may construct the lines authorized by sec. 7, chap. 70, of the statutes of 1901.

Esquimalt and Nanaimo Ry.—The laying of track on the extension of the line from Wellington to Alberni, B.C., has been commenced, but at present only about 2.50 miles is being laid, in order to facilitate construction work. At the point where this track terminates is a very heavy rock cut. Beyond the cut, construction is under way as far as French Creek. It was expected that the surveys between French Creek and Alberni would be completed by Feb. 27, so that further contracts could be let without delay.

A press despatch says the new western terminus of the C.P.R. will be at Hardy Bay, on the north shore of Vancouver Island. The despatch further says: "Even to-day very few people are aware of the fact that a survey line has been run from Nanaimo clear through to Hardy Bay, and that the rails are laid beyond Campbell River, considerably over half way."

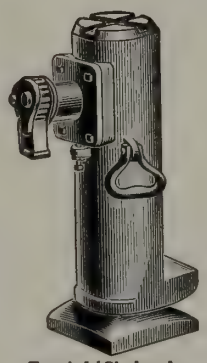
Lines in United States.—A New York report states that there are under consideration some plans by which the C.P.R. lines would secure a route to Newport News, Va. The suggestion is that the route will be via the Chicago, Cincinnati and Louisville Rd., and the Chesapeake and Ohio Rd. The report also states that the C.P.R. has purchased an extensive coal area in West Virginia. (Feb., pg. 109.)

See also Wisconsin Central Ry.

NORTON JACKS

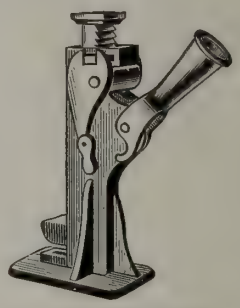
ARE MADE IN CANADA AND SAVE YOU DELAY AND DUTY ON AMERICAN MADE JACKS.

Sectional View



Foot Lift Jack

50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY



15 Ton Track Jack

Traversing Jack

Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

Wire Rope

SUITABLE FOR

Hoisting - Haulage - Guys
Mooring - Transmission of
Power - Grain Shovels

FOR

Derricks, Cranes, Elevators
Wrecking, Bridges, Dredges

ALSO

Ropes manufactured to suit any special requirement

All Lengths and Sizes in Stock

Ready for Immediate Shipment

WIRE ROPE FITTINGS OF ALL DESCRIPTIONS

The Dominion WIRE ROPE Co., Limited, Montreal

Canadian Northern Ry. Construction, Etc.

Maritime Provinces.—The Premier of Nova Scotia was in Toronto Feb. 1, and following days, in consultation with W. Mackenzie, President, and other C.N.R. officers. It is said that the conference had to do with railway matters in the province, and an agreement is reported to have been reached which will mean the construction of several hundred miles of steam and electric railways, and some alteration in the conditions affecting the Halifax and South-Western Ry. On Feb. 5, Mr. Murray, Mr. Mackenzie and a number of C.N.R. officers, went to Montreal and Ottawa to consult with the Dominion Government. The Nova Scotia Legislature will, it is said, be asked, at its forthcoming session, to ratify the arrangement reached.

Since the foregoing has been put in type, we have been officially advised that no agreement has been entered into for the construction of additional railways.

The Mayor of St. John, N.B., was in Ottawa early in Feb., in connection with railway matters, and met some of the C.N.R. officers. A press report from St. John states that an engineer of the city has been informed by C.N.R. officials that, failing the obtaining of rights over the Intercolonial Ry., the company will proceed with the construction of its own lines to the Atlantic coast.

Canadian Northern Quebec Ry.—The Dominion Parliament is being asked to extend the time within which the following lines may be constructed: An extension of the St. Jacques-Rawdon branch beyond Rawdon to near Lake Archambault, Montcalm County, Que.; a double or single line of railway from the Quebec and Lake St. John Ry., or from deep water in the harbor, and thence through the city of Quebec to the shore of James Bay, and a branch line from the main line at or near Lake St. John, through Chicoutimi and St. Alphonse or Ha Ha Bay, to the St. Lawrence River at or near Tadousac.

Quebec and Lake St. John Ry.—Application is being made to the Quebec Legislature for an act extending the time within which the lines authorized by sec. 10, chap. 71, 4 Edward VII, may be constructed and for other purposes.

The company is locating a route for an extension from Roberval, on Lake St. John, Que., westerly for about 30 miles; and for a line from Chicoutimi easterly for about 20 miles.

Canadian Northern Ontario Ry.—The question of the entrance of the C.N.O.R. into Ottawa is not yet finally settled. Until this is disposed of, it is impossible to fully complete the line from Hawkesbury, the work on which is in a forward condition.

The sleigh road which has been constructed from Sellwood, on the company's line near Sudbury, Ont., into the Gowganda country, was opened for traffic Feb. 2. Stopping places are provided at Burwash, Welcome Lake and Phœnix, and a good service is said to be given by the Gowganda Transport Co. The question of constructing a railway into the district was brought before the Ontario Government, Jan. 29, by the President and other C.N.R. officers. Mr. Mackenzie subsequently said the future must decide whether the present stage road would be followed by a railway; the company had not then asked for a subsidy for such a line.

At the same interview plans were laid before the Government showing the route of the proposed line to connect the present line at Sudbury with the western lines now terminating at Port Arthur, Ont. It is said that the C.N.R. will submit a formal proposition to the Government as to the aid which the company desires to secure. The plan filed at Ottawa for this line shows a route starting near Sudbury, and running northwesterly up the valley of the Vermillion River towards its head waters, until the southern limits of the great clay belt is reached near the Missinabi River, thence to Long Lake, and on to near the C.P.R. at Nipigon River, and thence north of but close to the C.P.R. into Port Arthur. This route, it is reported, will provide easy gradients, and will be much easier to construct than was the C.P.R. between the same points.

The company has located about 80 miles of its line from Sellwood towards Port Arthur, Ont. Of this 27 miles is under contract and construction is being proceeded with. Angus Sinclair, Toronto, is the contractor.

A deputation of farmers and other residents in the district west of Lake Manitoba, waited on the Manitoba Government, Feb. 16, to press for the construction of a C.N.R. branch through that district. The Premier stated that the Government had promised a guarantee of bonds for the construction of such a line, the bonds were ready for issue at any time, and the Government would present the case to the C.N.R. President. The Premier had an interview with M. H. McLeod, General Manager and Chief Engineer, who stated that an engineer would be sent to make a survey for the line, but he could not say anything at all in regard to construction.

Construction work was done during 1908 upon the following lines, and track will be laid on them during the current year: Oak Point northerly, 12 miles; Rossburn branch, a further distance of 20 miles; Hallboro branch, 50 miles; Prince Albert to Battleford, five miles; a spur of 0.6 mile at mileage 73 Ontario Division. The company also completed during 1908 a revision of the track between Lumsden and Disley, Sask., on the Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.'s line, 8.46 miles.

Canadian Northern Ry.—Considerable improvements are to be made at the company's shops at Winnipeg during the coming season. These include the erection of a new carpenters' shop to cost $25,000, and some smaller additions to existing buildings.

A contract is reported let to S. Brown, Winnipeg, for the erection of new freight sheds at Saskatoon, Sask., at a cost of about $20,000. Some improvements and additions are, it is said, also to be made to the local shops.

In connection with the construction of a line into the Brazeau coal district, a Strathcona, Alta., report says it will be built during the summer.

Edmonton and Slave Lake Ry.—Application is being made to the Dominion Parliament for an Act extending the time within which the company may construct its authorized line from Edmonton, via Athabasca Landing and Lesser Slave Lake, to Peace River, about 400 miles. (Feb., pg. 113.)

VICE-PRESIDENT MANN IN BRITISH COLUMBIA.

D. D. Mann, Vice-President Canadian Northern Ry., who was the principal guest at a Canadian Club luncheon at Victoria recently, said, in the course of a speech: "The great wealth of these extensive western provinces unquestionably is to be found in the products of the soil, of the mine, of the forest, and of the orchard; and it is and will be through the free and unfettered interchange of traffic in all these immensely rich and valuable products between the different sections of this great western country that we can in the best possible manner contribute to the complete development of Canada, as a whole, and to the full and permanent accomplishment of its brilliant future. This can only be brought about through the building of great lines of railway, which shall penetrate into every available portion of this country, running from the east to the west. It is our own particular ambition to construct our own railway from the shores of the Atlantic to the Pacific coast, and with this important end in view, I have paid this visit to your city and called upon the Premier of this province with the view of seeking such assistance from the Provincial Government as will enable us and at no distant date to build our transcontinental road right down through your province, until it reaches tide-water. While nothing of a definite character has as yet in this relation been arranged, I am glad to be able to state that we have already received some encouragement; while I am in a position to assure you that if the necessary aid is granted we will positively construct our line to the coast.

"The C.N.R. has at present 3,450 miles of its road completed and in full operation between the Great Lakes and the foothills of the Rockies, while we intend to complete 2,000 additional miles in the near future. We have secured assistance towards the execution of our undertakings, both from the Dominion and Provincial Governments, which has not only ensured speedy construction, but has also enabled us to secure the required capital at the lowest possible rates. Of all the bond guarantees which we have received during the last 12 or 15 years, no contributing government has ever yet been called upon to pay a single dollar. These railways, which we are building over the prairies in the northwestern provinces, will, moreover, not only reach every competitive point, as well as every city and town within the limits of those provinces, but will also minister to the needs and to the convenience of at least 75% of the entire population of those prairie provinces, while during this coming year, when our lines are farther advanced towards completion, a great field and a vast home market will be opened for the splendid and varied products of your forests, of your mines, of your fisheries and of your orchards.

"In 1886, when the C.P.R. was finished, there were only 157,000 people, all told, settled in that fertile and wonderful stretch of country which lies between the shores of the Great Lakes and the Rocky Mountains; while now over 1,000,000 souls occupy that same territory. During the last 7 years 142,000 settlers have annually come into those rich and inviting tracts; and taking up homesteads upon these plains have become permanent and useful settlers, a great movement of population which has been largely and directly connected with the opening up of the Saskatchewan Valley and the steady construction of the C.N.R. And when we turn our attention to, and extend our proposed transcontinental line down through your beautiful province to the coast, which I hope will be done at a very early date, it is also our intention to build branch lines to your many fertile valleys, where white men with their families will settle and become permanent citizens of this great commonwealth. This province gives every reasonable promise of becoming, at a very early date, one of the greatest, if not the very greatest, among all the provinces of the Dominion, an opinion and a forecast which are amply justified by the many and most important natural resources that you possess in your minerals, in your fruits, in your vast forests and in your fisheries, conjoined with the important markets which are open to your occupancy, the rapidly expanding market upon the plains of the northwestern provinces, as well as your easily accessible foreign markets. In view of all these facts we may with much confidence regard the future of the province of British Columbia as assured and beyond all question."

The I.C.R. employes at the Moncton, N.B., shops, are said to have demanded the continuance of the present short time day, viz., 8 hours, but with pay for the full day of 10 hours. It is said that the ex-Minister of Railways, Hon. H. R. Emmerson, has promised to support this demand.

SILLIKER CAR COMPANY, LIMITED, HALIFAX, N.S., CANADA

STREET RAILWAY CARS

HEAVY FORGINGS AND CASTINGS

RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

ADDITIONAL SAFETY AND ECONOMY IN

TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use** the extent of which is evidence of their excellence.

HIGHEST AWARDS
Paris, 1900;
Buffalo, 1901; St. Louis, 1904

CONTINUOUS JOINT

Over 50,000 miles in use

WEBER JOINT

Rolled from Best Quality Steel

WOLHAUPTER JOINT

CATALOGUES AT AGENCIES

Baltimore, Md.	Boston, Mass.	Chicago, Ill.	Denver, Colo.	Pittsburg, Pa.
San Francisco, Calif.	Seattle, Wash.	St. Paul, Minn.	St. Louis, Mo.	Troy, N.Y.

London, Eng. New York City.

THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES: BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base-Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, and Insulating Rail Joints, protected by Patents in U.S., Canada and Mexico.

TRADE AND SUPPLY NOTES.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

F. H. Hopkins & Co., and Mussens Limited, Montreal, have issued large wall calendars for the current year.

The Rail Joint Co. of Canada, Montreal, has issued its catalogue 3, giving illustrated particulars of its rail joints for standard, girder and special rail sections, also step or compromise and insulating rail joints.

The New South Wales Government is reported by a Canadian Associated Press cable to have expressed particular satisfaction with the quality of steel rails imported recently from the Dominion Iron and Steel Co., Sydney, N.S.

Thos. Reid, who has been sales manager for the John Bertram & Sons Co., Ltd., for a number of years, has moved his headquarters from Dundas, Ont., to Montreal, where he will be associated with the Canadian Fairbanks Co., Ltd., the Bertram Co.'s general sales agents.

The Farlow Draft Gear Co., Baltimore, Md., advise that during the past month Farlow draft gear has been specified on the following rolling stock: 1,500 Virginian Ry. 1,350 Western Md. Ry. 750 Seaboard Air Line Ry. 200 Nashville, Chattanooga and St. Louis Ry. 200 Swift Refrigerator Transit Co.

The Canadian Westinghouse Co., Ltd., has issued instruction book no. 5026, containing instructions for repairing and rewinding Westinghouse railway type armatures; also circular 1148 relating to mercury rectifier battery charging outfits; 1158, relating to electric motor friction brakes, and an illustrated catalogue of fans and fan-motors.

The Ontario Wind Engine and Pump Co., manufacturers of gravity molding machines, have sold one large power machine to the G.T.R. Montreal shops, also one to Reid & Brown, foundrymen, Toronto. The C.P.R. is also installing one at Winnipeg. The Ontario Wind Engine & Pump Co. has also sold two Parks molding machines to Canadian foundrymen.

Robert W. Hunt & Co., consulting and inspecting engineers, have engaged the services of John Cargill, who will make his headquarters at the firm's New York office, 90 West St., and will largely devote his attention to examinations and reports upon railway and other corporate properties, for which his experience gained while connected with the Pennsylvania Lines, British Westinghouse, Metropolitan Railway Co., of London, Eng., and other organizations, has prepared him.

The Canadian Fairbanks Co. has issued a novel map-calendar for 1909 and 1910, which is of great value to anyone in any way interested in railways. Its size is 48 by 36 inches. The upper half is devoted to a map showing all the steam railways in the Dominion, in distinctive colors, separate colors being used for the larger systems, and a uniform one for the smaller lines. This map is undoubtedly the best one of Canadian railways which has been issued as far as showing the lines distinctively is concerned. The lower half is occupied by the calendar, six months to a sheet, while underneath is an alphabetical index to railway stations with a ready reference to the sections of the map on which they are to be found.

The B. Greening Wire Co., Ltd., Hamilton, Ont., has made a number of additions to its buildings and plant in the last 18 months. The new weaving mill, which is probably one of the best structures of its kind in Canada, is 260 by 130 ft. At the end is a temporary enclosure, which will be removed, and further extensions made, as soon as trade warrants it. The building is devoted entirely to wire weaving machinery, and contains a number of ponderous looms, some of them over 15 tons in weight, for making heavy smokestack netting, mining screens, etc., as wide as 72 inches. Fast running smaller looms make meshes as fine as no. 70 of brass wire for sleeping car ventilators. Among the other buildings are the wire mill, cleaning house, with a capacity of 50 tons a day, and the carpenter shop, which is isolated from the other buildings, the increased yard room being used for the different kinds of lumber. Among the other features of this industry are wire rope spinning, wire drawing and galvanizing, poultry netting twisting machines, presses for perforating all kinds of metals, for all purposes; automatic wire chain machines for making Greening's chains, etc. These processes are carried on in the older buildings.

Train Dispatching by Telephone.

We are advised by a G.T.R. official that in common with other railways, the management is giving consideration to developments in the use of the telephone in dispatching trains, but has not yet reached any conclusion.

Assistant Superintendent Nixon, G.T.R., London, is reported to have said in a recent interview: "A year's trial of the telephone as a means of dispatching trains has proved its practicability; railway telegraph men recognize that the day of the ticker is past so far as they are concerned, they are prepared to hasten the change all over the continent. The system will be adopted by the G.T.R. as soon as practicable. The adoption of the system will not in any way reduce the number of operators required, but will give the railway a much quicker and fully as efficient a system of operating."

W. J. Camp, Electrical Engineer C.P.R. Telegraphs, said recently: "In Dec., 1907, the first installation of the telephone was made on the New York Central Rd. over a small stretch between New York and Fonda; to-day the new system extends over 4,900 miles; and by the end of another year it will cover 15,000 miles of track in the U.S. and Canada. In Canada the C.P.R. took the initiative in the matter and, in the latter part of June, put in the first installation in the country between Montreal and Farnham. Last summer, I predicted that another ten years would see the telephone used exclusively for train dispatching. Now some railway telegraph superintendents shorten this term to five years. I think that period too short, however, as the cost of installation and operation of the telephone over the telegraph is so much greater that the smaller side lines will be slower in adopting it. However, our experience is that the greater speed which may be secured in transmitting messages fully warrants the additional expense.

The Great Northern Ry., U.S., has the system in operation on 203 miles; is installing it on a further distance of 238.8 miles, and is considering its extension on the remaining 944.2 miles of its line.

The Minister of Railways stated in the House of Commons, Feb. 9, that all railway charters granted this session are to be made subject to the policy to be adopted in regard to level crossings.

National Transcontinental Railway.

The estimates submitted to the House of Commons provide for $20,000,000 for account of surveys and construction on the National Transcontinental Ry. during the ensuing financial year.

In connection with the question of classification of work it was stated in the Commons, Jan. 27, that C. Schreiber, Consulting Engineer of the Railway Department, had been agreed upon by the Chief Engineer of the National Transcontinental Ry., and the Chief Engineer of the G.T. Pacific Ry., as arbitrator.

Reports as to construction in New Brunswick show that with the exception of a mile or two, the right-of-way for the 255 miles through the province is all cleared. A good deal of grading has been done, and several sections of track have been laid. It is intended to lay out a division yard at Lake Napaddogan, 118 miles from Moncton, and 137 miles from the Quebec boundary.

An arrangement has been made between the G.T. Pacific Ry. and Foley, Welch and Stewart, by which the latter has taken over and will complete the contract for a section of 150 miles in the vicinity of the Abitibi River, which the G.T. Pacific Ry. sublet to the J. H. Reynolds Construction Co.

Tenders will be received to Mar. 19, for the construction and erection complete, of shops a short distance east of Winnipeg.

GRAND TRUNK PACIFIC RY.

The Dominion Parliament is being asked to approve an agreement made Dec. 1, 1908, between the C.P.R. and the G.T. Pacific Ry. for terminals, etc., at Fort William, Ont. The agreement provides for the use by the G.T.P.R. of certain sections of the C.P.R., within Fort William, to connect the lines of the two companies, for 999 years; and for the use by the C.P.R. of certain sections of the G.T.P.R. within Fort William. The agreement fixes the terms which each company is to pay for the use of the sections, which are denominated joint sections, such terms being calculated upon a percentage of the cost. The schedule attached to the agreement sets out in detail the boundaries of the area within which the joint sections are situated.

Another bill before the Dominion Parliament affects the subsidy payable by the Ontario Government in respect of the construction of the Lake Superior branch. The agreement provides that the company shall not grant any secret special rates or rebates; that road material for the municipalities or the Provincial Government shall be carried at actual cost of handling; that no agreement for the lease or transfer of the line to any other company shall be made without the consent of the Provincial Government, and that if the Dominion Government shall at any time take over the line, the company shall pay over the amount of the cash subsidy, and the amount or value of the land grant given by the province. The bill is being held back at the instance of the Minister of Railways.

Press reports from Winnipeg stated recently that the company was making preparations to erect a 12-story office building there. We are officially advised that there is no truth in the report. Accommodation for the company's offices is to be provided in the Fort Garry station now under construction.

A third bill before Parliament is for the purpose of ratifying an agreement signed June 6, 1908, between the G.T.P.R. and the Midland Ry. of Manitoba, for the purpose of constructing a union station and other joint facilities in Portage la Prairie, Man. The station and freight shed are being erected by the G.T.P.R., and the use of the facilities will be granted to the Midland Ry. upon terms set out in the act.

Pintsch Light Steam Heat

Car lighting by the Pintsch System with improved mantle lamps and by Vapor lighting system for branch lines. Gas broilers, and ranges. Buoys.

The Safety Car Heating and Lighting Co
2 RECTOR ST., NEW YORK.

Car heating by controllable direct steam and water circulating systems steam tight couplers, traps, train pipe valves and other appliances.

CHICAGO - BOSTON - ST. LOUIS - ATLANTA - PHILADELPHIA - MONTREAL - BERKELEY, CAL.

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.
The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.
THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

AMERICAN BRAKE SHOE AND FOUNDRY COMPANY

NEW YORK MAHWAH, N.J. CHICAGO, ILL.

N. J. HOLDEN & CO., Agents, 302 St. James St., MONTREAL

PROVINCIAL STEEL CO., LTD.

COBOURG, ONT.

Negotiations are reported to be in progress with the Dominion Government for the purchase of a tract of land at the foot of Eighth Ave., Calgary, Alta., to be used jointly with the Canadian Northern Ry. for a union station.

In connection with the construction of lines in British Columbia, it is said that a proposition has been submitted to the B.C. Government by D'Arcy Tate, Assistant Solicitor, on behalf of the G.T.P. Ry., for the construction of a line from Fort George to Vancouver. The suggestion is that the Government guarantee the bonds of the company in respect of the construction of this line.

It is reported that the company has ready for sending on to Prince Rupert six locomotives, some passenger cars, and 150 freight cars. These, it is expected, will be placed in operation early in the summer upon the completed portion of the first 100 miles of line easterly from Prince Rupert. The company's agent at Prince Rupert stated Feb. 8 that a warehouse 300 ft. long would be constructed immediately on the wharf there to meet immediate requirements.

Grand Trunk Pacific Branch Lines.—The Dominion Parliament is being asked for an act authorizing the company to construct the following additional lines: (1) From the G.T.P.R. main line west of Pembina Crossing, Alta., southwesterly to the Embarras River, and thence southerly to the headquarters of the Little Pembina River, about 100 miles. (2) From the G.T.P.R. along the Embarras River southeasterly towards the McLeod River, 25 miles. (3) From the authorized line between Calgary and Coutts southwesterly to Macleod, thence through or in the vicinity of Pincher Creek to the western boundary of Alberta, about 100 miles. Power is also being asked to issue securities to the amount of $30,000 a mile.

Application is being made to the Dominion Parliament for an act authorizing the company to enter into an agreement with the Alberta South Western Ry. for any of the purposes mentioned in sec. 361 of the Railway Act, and authorizing the G.T.P.R. Co. to guarantee the bonds, debentures or other securities of the G.T.P. Branch Lines Co., issued in respect of the Alberta South Western Ry., and to declare the A.S.W.R. to be a work for the general advantage of Canada.

Alberta South Western Ry.—Application is being made to the Alberta Legislature for an act incorporating a company with this title for the purpose of constructing a railway from the G.T.P.R. branch line between Calgary and Lethbridge, such point being northeasterly from Macleod, 'to or near Macleod, and westerly from, at, or near, Macleod, to or in the vicinity of Pincher Creek, thence westward to the western boundary of the province, about 100 miles. M. Mackenzie, representing Macleod in the Legislature, stated that the application was on behalf of the G.T.P. Ry. (Feb., pg. 123.)

The Toronto Board of Control received tenders to Feb. 23 for the construction of a transportation building on the Industrial Exhibition grounds.

Referring to the nuisance caused by locomotive smoke within the city of Toronto, Property Commissioner Harris said, Feb. 16: "The railway companies are showing a commendable desire to prevent the smoke nuisance along the Esplanade. Conditions have changed recently, and more care is taken in firing up. They have also issued an order that a blower must be used to make a good draft to get the fire burning quickly. The railway companies are in earnest in the matter, and have suspended some of the firemen for violating the rules they have issued to prevent the smoke nuisance."

Canadian Northern Ry. Earnings, etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-08, from July 1, 1908:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July..	$728,500	$ 525,600	$ 202,900	$159,000 —
Aug..	747,400	561,300	186,100	30,400 —
Sept..	901,700	650,600	251,100	42,000+
Oct...	1,172,700	752,600	420,100	110,200+
Nov..	1,156,900	744,300	412,600	144,300+
Dec..	927,900	642,800	285,100	42,400+
	$5,635,100	$3,877,200	$1,757,900	$149,500+
Inc.... or Dec....	$ 126,800	$ 84,400	$ 42,400	.....

Approximate earnings for Jan. $526,200, and for 2 weeks ended Feb. 14, $240,500, against $578,200 and $227,100 for same periods 1908.

C.P.R. Earnings, Expenses, etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-8, from July 1, 1908:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
J'ly	$6,292,880.82	$4,018,307.57	$2,274,573.25	$232,279.41 —
Aug.	6,385,956.69	3,807,057.98	2,578,898.71	8,623.56+
Sept.	6,391,672.48	4,277,064.71	2,114,607.77	36,745.58—
Oct.	7,381,970.41	4,726,703.70	2,655,266.71	25,050.93—
Nov.	7,303,303.20	5,082,223.85	2,221,079.35	223,954.86—
Dec.	6,955,874.11	4,759,122.54	2,196,751.57	119,561.99+
	$40,711,657.71	$26,670,480.35	$14,041,177.36	$389,845.23—
Inc.. or Dec..	$ 143,838.36	$216,006.87	$389,845.23	.....

Approximate earnings for Jan. $4,711,000, and for 2 weeks ended Feb. 14, $2,292,000, against $4,458,000 and $1,742,000 for same periods 1908.

Mileage operated 9,844 miles.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross earnings for Dec., 1908, $223,245.92; expenses, $163,336.86; net earnings, $59,909.06, against $217,947.08 gross earnings; $173,542.67 expenses; $44,404.41 net earnings for Dec., 1907. Gross earnings for 6 months ended Dec. 31, 1908, $1,451,345.27; expenses, $987,261.74; net earnings, $464,083.53, against $1,781,249.47 gross earnings; $1,277,834.00 expenses; $503,415.47 net earnings for same period 1907. Approximate earnings for Jan., $196,058, and for 2 weeks ended Feb. 14, $96,842, against $200,111 and $85,840 for same periods 1908.

MINERAL RANGE RD.—Gross earnings for Dec., 1908, $65,367.30; expenses, $54,928.14; net earnings, $9,439.16, against $61,499.69 gross earnings; $53,176.72 expenses; $8,322.97 net earnings for Dec., 1908. Gross earnings for 6 months ended Dec. 31, 1908, $429,380.11; expenses, $339,906.91; net earnings, $89,473.20, against $423,663.12 gross earnings; $335,752.05 expenses; $87,911.07 net earnings for same period 1907. Approximate earnings for Jan., $61,660, and for 2 weeks ended Feb. 14, $31,162, against $58,794 and $25,626 for similar periods 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for Dec., 1908, $930,472.10; expenses, $565,896.73; net earnings, $364,575.37, against $1,081,117.73 gross earnings; $569,248.33 expenses; $511,869.40 net earnings for Dec., 1907. Gross earnings for 6 months ended Dec. 31, 1908, $7,038,800.16; expenses, $3,653,605.09; net earnings, $3,385,195.07, against $6,773,878.65 gross earnings; $3,945,622.89 expenses; $2,828,255.76 net earnings for same period 1907. Approximate earnings for Jan., $762,360, and for 2 weeks ended Feb. 14, $371,753, against $697,283 and $282,004 for same periods 1908.

Grand Trunk Ry. Earnings, Expenses, etc.

Subject to audit, the accounts for the half-year ended Dec. 31, 1908, show the following results:

Gross receipts		£3,382,800
Working expenses		2,422,400
Net receipts		£ 960,400
Net revenue charges for the half-year, less credits		478,700
Balance		£ 481,700
Deduct Canada Atlantic Ry. deficiency for the half-year	£43,400	
Less, Detroit, Grand Haven and Milwaukee surplus for the half-year	3,100	40,300
Surplus		£441,400

This surplus of £441,400 added to the balance of £1,600 from June, 1908, makes a total amount of £443,000 available for dividend, which will admit of the payment of the dividend for the half-year on the 4% guaranteed stock, the full dividend of 5% for the year on the first preference stock, and a dividend of 2½% for the year on the second preference stock, leaving a balance of about £12,000 to be carried forward.

The accounts of the G.T. Western Ry. for the half-year show a surplus of £24,300, which amount is carried forward to the current half-year.

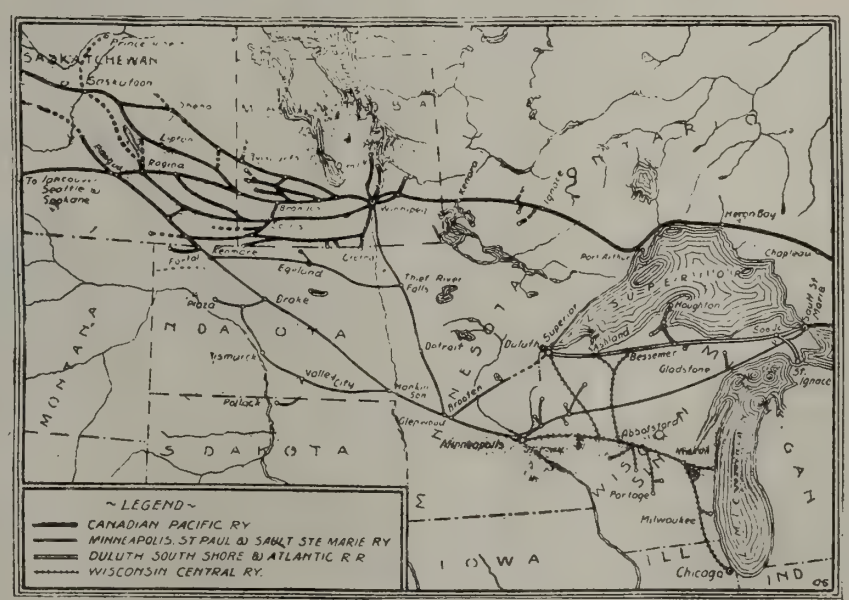
Approximate earnings for Jan., $2,640,416, and for 2 weeks ended Feb. 14, $1,235,220, against $2,768,444 and $1,005,226 for same periods 1908.

Mileage operated, 2,874.

TRAFFIC RECEIPTS OF THE SYSTEM.

Aggregate from Jan. 1:

	1909.	1908.	Increase.	Decrease.
Grand Trunk	£408,948	£428,289	....	£19,341
Canada Atlantic	23,220	25,126	...	1,906
G. T. Western	85,556	86,113	....	557
D., G. H. & M.	24,827	29,331	....	4,504
Total.....	£542,551	£568,859		£26,308



The Wisconsin Central Railway and its Connections.

The above map, which is reproduced from the Railway and Engineering Review, shows the Wisconsin Central Ry. and its connection with the Minneapolis, St. Paul and Sault Ste. Marie Ry., by which it has been practically acquired, also the Duluth, South Shore and Atlantic Ry., another C.P.R. subsidiary, and the C.P.R. lines in Northwest Ontario, Manitoba and Saskatchewan.

The President of the W. C. R. has announced that plans to shorten the main line between Chicago, Minneapolis and St. Paul are under consideration. The plans are said to involve a cut off from Mukwonago, Wis., to Grand Rapids, 135 miles, and from Spencer, Wis., to Owen, 15 miles. These, it is stated, would reduce the distance between Chicago and St. Paul by 45 miles.

BOOKS for Railroad Men

PUBLISHED BY

The Engineering News Book Department

220 Broadway NEW YORK

Economics of Railway Operation

By M. L. BYERS

C.E., Ch. Eng. M. of W., Miss. Pac. Ry.

Buckram, 6 x 9 ins.; 672 pages, many figures, diagrams and forms illustrating the best modern practice - $5.00 net

The only publication explaining in detail the operative systems of American railways. Sir William Van Horne says of it: "I regard it as a most useful and valuable book."

Track and Track Work

(Third Edition, Revised and Enlarged)

By E. E. R. TRATMAN

Assoc. M. Am. Soc. C.E.

Cloth, 6 x 9 ins., 520 pages, 232 illustrations, 44 tables and an appendix of statistics of standard track construction on American railways - - $3.50 net

The standard treatise on this subject.

Design of Typical Steel Railway Bridges

By W. CHASE THOMSON

M. Can. Soc. C.E. Assist. Eng. Dominion Bridge Co.

Cloth, 6 x 9 ins., 178 pages, 21 figures, 5 folding plates - - - - $2.00 net

This book has been developed from lectures given by the author, and treats of the commonest types of railway bridges, which were chosen because they seemed best suited to illustrate the problems which occur most frequently to the bridge designer. These include a 60-ft. deck plate girder, a 100-ft. deck Warren girder, a 150-ft. through Pratt truss, a 200-ft. through Pratt truss with curved top chord, a 170-ft. swing bridge and a railway viaduct.

Any of these books will be sent, postpaid, on receipt of price, or further details with full list of contents will be given if desired. We can supply promptly, and at lowest price, any book published

KEEP YOURSELF POSTED ON THE LITERATURE OF YOUR SPECIALTY

For the guidance of technical men we issue, at intervals, notices of **new** and **recommended** books on various subjects, by all publishers. This service is **absolutely free** to all and involves no obligation of any kind whatever.

Mark on the attached coupon the special subjects on which **you** wish to be kept informed regarding **new** publications, adding any subjects not mentioned thereon in which you are interested. Send us this coupon **at once** and we will send you these notices as issued.

Engineering News Book Dept. R.M.W. 39

220 Broadway, New York

Send me notices of new books on

Engineering: ..Civil ..Electrical ..Marine ..Mechanical ..Mining ..Municipal ..Railroad ..Architecture ..Automobiles ..Chemistry ..Commercial Technology ..Contracting ..General Science ..Metallurgy

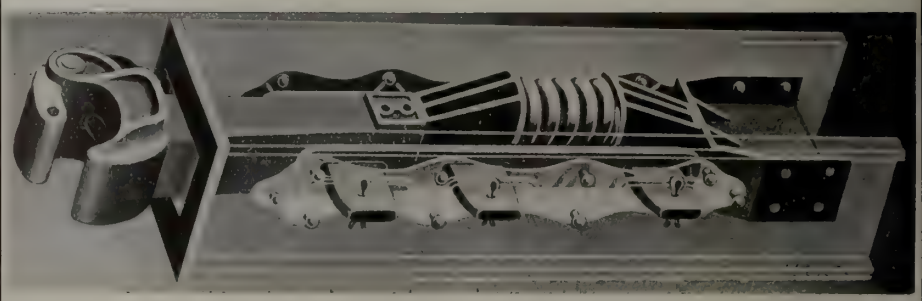
Name.....

Address.....

.....

THE

FARLOW TWIN SPRING DRAFT GEAR



Designed for Wooden or Steel Cars and Engines.

Pulling Strains Distributed Equally on the Three Cross Keys.

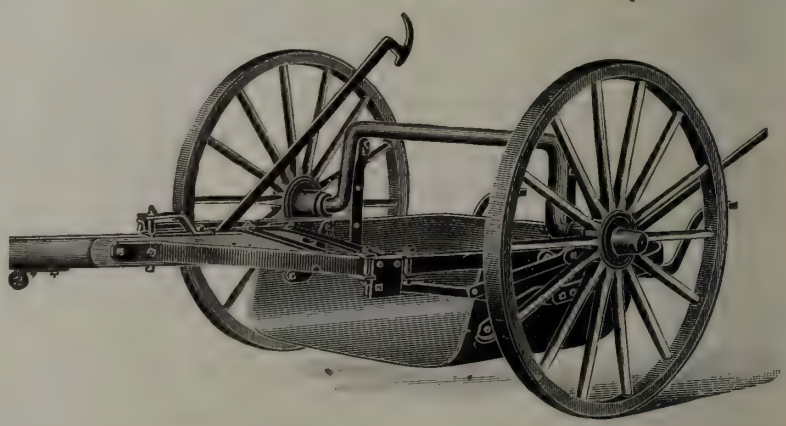
Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.

BALTIMORE, MD. CHICAGO, ILL.

THE TORONTO PRESSED STEEL CO.

TORONTO, CANADA LIMITED



Our **SOLID PRESSED BOWL DRAG** and **WHEEL SCRAPERS** are the most satisfactory in the market. They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies, including

PLOUGHS **DUMP CARS**
DUMP WAGONS **DUMP CARTS**
WHEELBARROWS **TRUCKS**
CEMENT MIXERS **WAGONS**
etc., etc.

PROMPT SHIPMENTS **SEND FOR CATALOGUE**

MAINLY ABOUT PEOPLE.

C. R. Hosmer, director C.P.R., has been elected a director of the Dominion Textile Co.

Sir Wm. Van Horne sailed from New York, Feb. 1, on a visit to Cuba, and returned Feb. 22.

Lord Strathcona has given $5,000 to the University College Hospital, Gower St., London, Eng.

C. Strong, for some years Michigan Central Rd. Agent at Perry, Ont., died there Jan. 29, aged 33.

Sir Thos. G. Shaughnessy is reported to have bought three stores on St. James St., Montreal, for $15,000.

Hon. L. J. Forget, President Montreal St. Ry., with his family, sailed from New York, Feb. 3, for the Mediterranean.

Miss Maud Angus, daughter of R. B. Angus, C.P.R. director, was married to Dr. W. W. Chipman, at Montreal, Feb. 15.

A. M. Nanton, Managing Director Alberta Ry. and Irrigation Co., has been elected first President of Winnipeg Stock Exchange.

A. S. McAllister, Secretary of the Point St. Charles Railway Y.M.C.A., has been transferred to a similar position at Kenora, Ont.

J. W. Leonard, General Manager C.P.R. Eastern Lines, remained at Preston Springs, Ont., during February, on account of ill-health.

W. Stitt, General Passenger Agent C.P.R. Eastern Lines, who has been seriously ill with pneumonia, was reported, Feb. 25, to be progressing favorably.

T. J. Drummond, Montreal, Vice-President Lake Superior Corporation, has been elected a director of the Royal Bank of Canada.

E. F. Osler, eldest son of E. B. Osler, M.P., a C.P.R. director, was married in Toronto, Feb. 16, to Miss N. J. H. Kerr, daughter of Hon. J. K. Kerr.

Sir H. Montagu Allan is suing the city of Montreal for $4,603, damage sustained to walls surrounding his house, caused by leakage from the high level reservoir.

I. McMichael, Vice-President and General Manager Great North Western Telegraph Co., Toronto, is spending a holiday in Florida, where he owns an orange grove.

Arthur Fletcher, a C.P.R. ex-employe, is reported by a Winnipeg press despatch to have inherited £500,000 through the death of an uncle in New South Wales.

Senator W. Gibson, Beamsville, Ont., railway and general contractor, has been appointed chairman of the Senate committee on banking for the current session.

Probate of the will of the late W. Becket Hill, Managing Director Allan Steamship Co., was recently granted in Liverpool, Eng. The estate was valued at about £24,254.

S. B. Mitchell, Agent C.P.R. at Taber, Alta., was presented with a gold watch, fob and charm, Feb. 10, by the townspeople, on his removal to a similar position at Lethbridge, Alta.

W. Gell, Master Mechanic, G.T.P.R., at Rivers, Sask., was operated on at St. Joseph's Hospital, London, Ont., early in Jan., and was reported, Feb. 22, to be progressing favorably.

R. Campbell, who was for some time Manager of the Inverness Ry. and Coal Co. in Nova Scotia, has been appointed General Manager of the Northern Crown Bank, Winnipeg.

J. E. Quick, General Baggage Agent G.T.R., Toronto, has been re-elected Secretary-Treasurer of the American Association of General Baggage Agents for the 25th consecutive year.

Owen McKay, Chief Engineer Essex Terminal Ry., Windsor, Ont., was a member of the board of examiners for certificates of land surveyors for Ontario, sitting at Toronto in Feb.

Major R. W. Leonard, C.E., St. Catharines, Ont., who was engineer in charge of construction of the Cape Breton Ry., is now President and General Manager of the Coniagas Mines, Cobalt.

James Brown, at one time locomotive foreman G.T.R., at Hamilton, Ont., died there recently, aged 83. He was in the employ of the G.W.R. and G.T.R. for over 30 years, and retired about 20 years ago.

H. G. Elliott, Assistant General Passenger and Ticket Agent G.T.R., Montreal, has been elected President of the Province of Quebec Fish and Game Protective Association for the current year.

M. K. Cowan, K.C., Assistant Solicitor G.T.R., has recovered from the illness which prevented his appearing at the recent sittings of the Board of Railway Commissioners at Toronto, at the end of Jan.

R. J. Smith, chief ticket clerk C.P.R. Passenger Department, Montreal, has been appointed as the Eastern Canadian Passenger Agents' Association's representative on the Inter-territorial Ticket Committee.

G. W. Stephens, Chairman of the Montreal Harbor Commission, was, it is announced, married in London, Eng., Feb. 24, to Signorita Bisacchi di Belmente, of Naples, Italy, whom he met while abroad during 1908.

T. H. White, C.E., formerly Chief Engineer of Construction Mackenzie, Mann & Co.'s eastern lines, and Mrs. White, who have spent over a year in travelling in Europe and Africa, have returned to Toronto.

Three men were arrested on Queen St., Toronto, Jan. 27, for having stolen an automobile from the residence of D. D. Mann, Vice-President Canadian Northern Ry. The arrest was made within an hour after the machine was missed.

Senator Beique, who acted for the Delaware and Hudson Co. in the purchase of the lines forming the Quebec, Montreal and Southern Ry., has been appointed chairman of the Senate committee on railways for the current session.

T. F. Scott, who was engaged as a construction engineer on the Temiskaming and Northern Ontario Ry. at Cochrane, Ont., has been recommended for appointment as assistant to the City Engineer of Toronto at a salary of $3,250 a year.

John Starr, of John Starr, Son & Co., electrical contractors, etc., Halifax, N.S., who died there Feb. 15, aged 80, was father of D. A. Starr, General Manager Clyde Valley Electric Power Co., Glasgow, Scotland, and formerly Manager of the Cornwall, Ont., Electric Ry.

R. Whitehead, who died at Smith's Falls, Ont., recently, aged 80, is said to have been the first locomotive engineer on G.T.R. construction in 1854, and remained in the company's service until 1876, when he joined the C.P.R. service, from which he retired on pension a few years ago.

Wm. and Mrs. Mackenzie, Miss Ethel Mackenzie, A. M. and Mrs. Grantham, and Z. A. Lash, K.C., returned to Toronto, Feb. 24, after about three weeks' absence, during which they visited Monterey, Mexico, and Mexico City. The party travelled in Mr. Mackenzie's private car Atikokan.

J. Duguid, who has been appointed General Foreman G.T.R. shops, Toronto, was presented with a gold watch, Feb. 20, by the employes of the machine and erecting shops, Stratford, Ont., on his leaving there to assume his new duties. At the same time Mrs. Duguid was presented with a silver tea service.

T. Henry, W. Stitt and G. T. Bell have been appointed to represent the Eastern Canadian Passenger Association to confer with other passenger associations respecting arrangements for the sale of variable route summer tourist tickets from southeastern territory to resorts north of the Ohio and Potomac Rivers.

The late H. C. Hammond's will, which has been filed in Toronto for probate, disposes of an estate valued at $1,205,944.91. Amongst the public bequests are: The Toronto Free Hospital for Comsumptives, $20,000; Sick Children's Hospital, $5,000; Home for Incurables, Toronto, $5,000; Children's Aid Society of Toronto, $3,000.

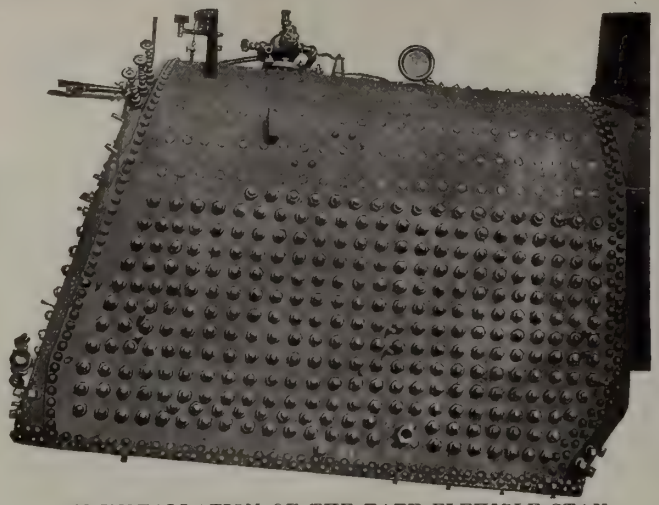
Lord Mount-Whyte, who has been living on the big estate in Scotland which he bought from Andrew Carnegie, is now spoken of as the next Governor-General of Canada. The choice old ex-Canadian says he will only accept the exalted position on one condition, and that is that his official duties must not be allowed to interfere with his annual shooting holiday in the west every autumn.—"Ten Years Hence," Winnipeg Tribune.

E. N. Todd, whose appointment as Export Freight Agent, C.P.R., Montreal, was announced in our Jan. issue, was born at Huntington, Que., Oct. 17, 1879; and entered C.P.R. service May, 1896, as junior clerk, Foreign Freight Department, Montreal, since when he has been: June, 1899, to May, 1900, chief import clerk, same department; May, 1900, to Aug., 1901, in service with the Franco-Canadian Steamship Line; Aug., 1901, to 1904, chief correspondence clerk, Foreign Freight Department, C.P.R., Montreal; 1904 to Jan., 1909, Export and Import Freight Agent, C.P.R., Toronto.

T. Lowry, President of the Minneapolis, St. Paul and Sault Ste. Marie Ry., died at Minneapolis, Minn., Feb. 4, after several months' illness. He was born in southern Illinois, Feb. 27, 1843, and entered railway service in 1886, as a director of the Minneapolis, Sault Ste. Marie and Atlantic Ry. He was elected President of the M., St. P. and S.S.M. Ry. in 1889, and again in July, 1891. In referring to Mr. Lowry's death, Sir Thos. G. Shaughnessy, President C.P.R., said, recently: "He was recognized as one of the foremost men in the northwestern States. He was an energetic and enterprising business man, and was of the type that the world finds it difficult to spare.

A unique dinner took place at the Windsor Hotel, Montreal, Feb. 12, those present being: Seven Presidents of international associations residing in Montreal, viz., G. T. Bell, G.P. & T.A., Grand Trunk and G.T. Pacific Rys., and President American Association General Passenger and Ticket Agents; J. H. Callaghan, General Storekeeper C.P.R., and President Railway Storekeepers' Association; W. J. Camp, Electrical Engineer C.P.R., and President Association of Railway Telegraph Superintendents; C. H. Gould, Librarian McGill University and President American Library Association; W. McNab, Principal Assistant Engineer G.T.R., and President American Railway Engineering and Maintenance of Way Association; J. Powell, chief draughtsman G.T.R. Motive Power Department, and President Society of Railway Club Secretaries; and H. H. Vaughan, Assistant to Vice-President C.P.R., and President American Railway Master Mechanics' Association.

Press reports state that a scheme is under consideration to inaugurate a company to operate a line of airships between Ottawa and Montreal. M. D. Baldwin, Montreal, is said to be interested in the project, which, if it may be considered at all seriously, may be said to be "in the air." In the meantime no serious fluctuations of railway stock quotations have been noted.



AN INSTALLATION OF THE TATE FLEXIBLE STAY

THE TATE FLEXIBLE STAYBOLT.

THE PERFECT STAY

For Locomotive Fire Boxes

Over a million and a half bolts in service on over 100 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited
TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, = Pittsburgh, Penn., U.S.A.

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

THE ALGOMA STEEL CO., LIMITED

SAULT STE. MARIE, ONTARIO

IS NOW BOOKING ORDERS FOR **STEEL RAILS** FOR DELIVERY DURING THE SEASON OF 1909

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to ensure desired deliveries.

Office:
CANADA LIFE BUILDING,
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS

Railway Rolling Stock Notes.

The Minneapolis, St. Paul and Sault Ste. Marie Ry. has ordered 4 locomotives for early delivery.

Rhodes, Curry & Co., Ltd., Amherst, N.S., between Jan. 15 and Feb. 15, delivered 30 box cars, 60,000 lbs. capacity, to the G.T. Pacific Ry.

The Temiskaming and Northern Ontario Ry. has ordered 2 switching locomotives from the Canadian Locomotive Co., Kingston, Ont., for delivery before July 31.

The House of Commons is being asked to vote $170,550 for additional rolling stock, and $95,800 for providing new machinery for locomotive and car shops, for the Intercolonial Ry.

The G.T. Pacific Ry., between Jan. 15 and Feb. 15, received the following additions to rolling stock: 200 box cars, nos. 308150 to 308349, and 6 first-class cars, nos. 2010 to 2015.

The G.T.R. is utilizing the steam locomotives which were in use in the St. Clair tunnel prior to its electrification, one of which was illustrated in our Feb. issue, for switching purposes.

The C.N.R., between Jan. 15 and Feb. 15, ordered the following rolling stock: 4 first-class cars, 2 second-class cars and 2 combination passenger and baggage cars, from the Silliker Car Co., Halifax, N.S.

J. J. Gartshore, Toronto, has sold two standard gauge saddle tank locomotives recently, one to the Tomiko Lumber Co., Tomiko, Ont., and one to the Standard Chemical Co. for its new works at Fassett, Que.

The I.C.R. between Jan. 14 and Feb. 16 has ordered the following rolling stock: 2 baggage cars from the Preston Car and Coach Co., Ltd., Preston, Ont., and 3 baggage cars from the Crossen Car Co., Cobourg, Ont.

The Crossen Car Mfg. Co., Cobourg, Ont., delivered between Jan. 13 and Feb. 13, 3 second-class sleeping cars to the Intercolonial Ry., 8 cabooses and one private car, named Athabasca, to the Canadian Northern Ry.

The C.N.R., between Jan. 15 and Feb. 15, received the following additions to rolling stock: 8 cabooses from the Crossen Car Mfg. Co., Cobourg, Ont., and 6 consolidation locomotives from the Canadian Locomotive Co., Kingston, Ont.

The C.P.R. between Jan. 12 and Feb. 13 received the following additions to rolling stock: 318 box cars, 2 snow plows, 2 Pacific type locomotives from its Angus, Montreal, shops; 8 vans from its Farnham, Que., shops, and 80 steel frame box cars from the Dominion Car and Foundry Co., Montreal.

The C.P.R. between Jan. 12 and Feb. 13 placed the following orders for rolling stock: 131 box cars, 1 box baggage car, 1 stock car, 1 steel coal car, 1 Hart-Otis ballast car, at its Angus, Montreal, shops; 7 vans at its Farnham, Que., shops; and 30 Pacific type locomotives at the Montreal Locomotive Works, particulars of which were given in our Feb. issue.

The G.T. Pacific Ry., between Jan. 15 and Feb. 15, placed orders as follows: 10 colonist cars, nos. 3005 to 3014; 5 parlor cafe cars, nos. 3900 to 3904; 16 first-class cars, nos. 2018 to 2033; 8 second class cars, nos. 1010 to 1017; 3 dining cars, nos. 4000 to 4002; 8 sleeping cars, to be named, with the Canada Car Co., Montreal, and 25 eight-wheeled locomotives (details of which were given in our Feb. issue) with the Montreal Locomotive Works.

Following are chief particulars of the Pacific type locomotive, class G2d, which the C.P.R. is building at its Angus, Montreal, shops, as mentioned in our Jan. issue:

Weight on drivers	136,000 lbs.
Total weight	215,000 lbs.
Cylinders	21" by 28"
Drivers, diar.	69"
Boiler, type	wagon top, radial stayed
" pressure	200 lbs.
Heating surface	2,952 sq. ft.
Tubes, no. and diar.	193-2¼", 22-5"
" length	19' 6"
Firebox	94⅛" by 70"
" material	Otis steel
Grate area	45' 6"
Capacity, water	5,000 Imp. gals.
" coal	10 tons
Axles	Krupp steel
Brake beams	Simplex trussed
" shoes	C.P.R. standard
Couplers	Tower
Headlight	Pyle National Electric
Journal bearings	Canadian bronze
Sight feed lubricators	Detroit
Steam heat equipment	Gold
Tires	Krupp crucible
Wheel centres	cast steel
Superheater	Vaughan-Horsey

Highway and Farm Crossings Regulations.

The general regulations affecting highway crossings have been amended by the Board of Railway Commissioners as follows:

1. That unless otherwise ordered by the Board, the width of approaches to rural railway crossings over highways be 20 ft. road surface on concession and main roads, and sixteen feet on side and bush roads.

2 That a strong, substantial fence or railing, 4½ ft., with a good post-cap 4 x 4 inches, a middle piece of timber (1½ by 6 inches), and a 10-inch board firmly nailed to the bottom of the posts to prevent snow from blowing off the elevated roadway, be constructed on each side of every approach to a rural railway crossing, where the height is 6 ft. or more above the level of the adjacent ground, leaving always a clear road surface 20 ft. wide.

3. That the width of approaches to rural railway crossings made in cuttings be not less than 20 ft. clear from bank to bank.

4. That, unless otherwise ordered by the Board, the planking or paving blocks or broken stone, topped with crushed rock screenings, on rural railway crossings over highways (between the rails and for a width of at least 8 ins. on the outer sides thereof), be 20 ft. long on concession and main roads, and 16 ft. on side and bush roads.

REMOVAL OF PLANKING FROM CROSSINGS.

The Board of Railway Commissioners passed the following order 6255, Feb. 10: In the matter of the practice of certain railway companies of removing the planking at highway and farm crossings during the winter months; and in the matter of secs. 30, 235 and 253 of the Railway Act; upon the report and recommendation of the Chief Engineer of the Board, it is ordered:

1. That every railway company subject to the Board's jurisdiction be forbidden to remove the planking from any highway crossing on its line of railway during the winter months.

2. That in the operation of those portions of its main or branch lines where the snowfall is such as to require the running of snowplows or flangers, the company may, on Dec. 1 in each and every year, remove the planks from the inside of the rails at any farm crossing, for a space not exceeding 12 ins. in width, provided that the planks so removed be replaced by the company in the spring, as soon as the snow is off the ground.

3. That, in the case of farm crossings not used during the winter months, the company may, on Dec. 1 in each and every year, remove all the planking at such crossings, subject to the condition that the same be replaced as soon as the snow is off the ground in the spring.

Sanitary Precautions for Railways.

The Board of Railway Commissioners has sent out the following draft of an order which it proposes to issue and which will be considered at a Board meeting in Ottawa in March:

In the matter of the application of the Montreal Board of Trade, under secs. 269 and 284 of the Railway Act, for the adoption by the Board of regulations prohibiting the practice of spitting in railway cars and in railway stations and waiting-rooms, except in proper receptacles provided for the purpose; and requiring the railway companies to properly clean and disinfect railway cars, stations and waiting-rooms, in order to prevent the dissemination of tuberculosis or other infectious diseases: In pursuance of the powers conferred upon it by secs. 30 and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf, it is ordered that every railway company subject to the legislative authority of the Parliament of Canada, be required within three months from the date of this order:

1. To properly clean and disinfect, and thereafter to keep clean and disinfected, its passenger cars, stations and waiting-rooms, in order to prevent dissemination of tuberculosis or other infectious or contagious diseases.

2. To cause printed notices to be placed and maintained in each of its passenger coaches, one at each end of the car, and in some conspicuous place in each of its stations and waiting-rooms, prohibiting the practice of spitting in the said cars, stations and waiting-rooms, except in proper receptacles provided for the purpose, and prescribing a penalty for violations thereof. In the Province of Quebec such notices to be printed in French as well as English.

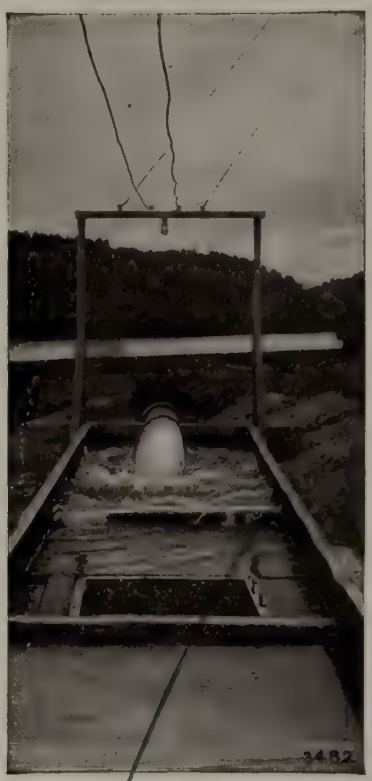
3. That every such railway company be liable to a penalty not exceeding $50 for every failure to comply with the foregoing regulations within the time for their coming into force and thereafter.

Grain Receipts at the Dual Ports.

Frank E. Gibbs, Grain Inspector, Fort William, Ont., has furnished the following statement showing cars of grain received over the C.P.R. and C.N.R. from Sept. 1, 1908, to Jan. 31, 1909, at Fort William and Port Arthur:

	C.P.R.	C.N.R.
One Hard	54	66
One Northern	4,981	3,257⅓
Two Northern	7,326	3,047
Three Northern	6,460	3,370⅓
No. Four	2,584	1,406
No. Five	1,327	603⅓
No. Six	614	319⅓
Feed	315	176
Condemned	3	6⅓
Goose	1	
One Red Winter	355⅓	
Two Red Winter	527⅓	
Three Red Winter	552	
Four Red Winter	202⅓	
Five Red Winter	132	
One White Winter	5⅓	
Two White Winter	6⅓	
Three White Winter	12	
Four White Winter	5	
Five White Winter	3⅓	
One Mixed Winter	22	
Two Mixed Winter	9⅓	
Three Mixed Winter	1	
Four Winter	4	
Rej. for Seeds	422	419⅓
Rej. for Smut	2,011⅓	918⅓
Rej. Winter, Smut	242	
No Grade	760⅓	307⅓
Wheat	28,939⅓	13,898
Rye	8	....
Oats	3,334	1,607⅓
Barley	796⅓	944⅓
Flax	1,238	105
	34,316	16,555
Total		50,871 cars.
Corresponding period, Jan. 31, 1908:		
C.P.R.		23,425 cars.
C.N.R.		10,297 "
Total		33,722 "

PUMP YOUR WATER
BY
COMPRESSED AIR



For pumping mines, sand, mine tailings, condensing and factory water, from rivers or lakes having a great rise or fall, the RAND "RETURN AIR" is unquestionably the most economical system known.

Its essential principle, distinguishing it from other pneumatic displacement pumps, is the use of the same charge of air over and over, thus utilizing its expansive power.

No system is so simple to manage or maintains such a high original efficiency indefinitely.

Full information on request.

CANADIAN **RAND** CO., LIMITED
MONTREAL, QUE.

BRANCHES AT:
TORONTO, HALIFAX, WINNIPEG.
VANCOUVER, ROSSLAND, COBALT.

New Trails to the
Canadian Game Lands

Before the six railways of the Canadian Northern System followed the old fur trails into the Canadian game lands, only a hardy few dared to go in. But now, the back places of the woods—wealthy in moose, caribou, deer and bear—may be quickly and easily reached. The Canadian Northern system serves a wide range of undisturbed territories. Here are a few suggestions:

The country between Parry Sound and Sudbury, traversed by the CANADIAN NORTHERN ONTARIO RAILWAY, is a land of lonely muskeg and brulé, the native country of the white-tailed deer. From Sudbury north to Sellwood this same line goes in through a moose hunting territory unequalled in Ontario.

The CANADIAN NORTHERN QUEBEC and QUEBEC AND LAKE ST. JOHN RAILWAYS span the native country of the ouananiche, northern brook trout, and the spruce-shored lakes of the Roberval country, where moose and caribou abound.

The eastern shore of Nova Scotia, from Yarmouth to Halifax, is served by the HALIFAX AND SOUTH WESTERN RAILWAY. On the barrens, slightly inland from the railway, are some of the best places for big moose in the east.

THE CANADIAN NORTHERN RAILWAY from Port Arthur to Edmonton, with many branches, griddles almost undisturbed haunts of moose, caribou, deer, wolves, bear, and all species of four-footed and feathered game.

For Information, General and Special, Address the Information Bureau, Canadian Northern Railway, Toronto

ANGLE BARS

We roll these for 80 lbs. A.S.C.E. Steel Rails, punched as required and cut to any length.

They are rolled from the very best material, and will stand the closest inspection.

THE MONTREAL ROLLING MILLS CO.

TRANSPORTATION APPOINTMENTS.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Board of Railway Commissioners.—It was recently announced in an Ottawa paper that E. A. Primeau had been assigned to the Secretary's work of the Board, in so far as it relates to telegraph, telephone, power and pipe crossings, and also the accident and equipment departments. We are officially advised that Mr. Primeau was appointed Assistant Secretary last spring and that the assigning of any duties to him is a mere matter of internal arrangement of the Board's work. There has been no change in his title. E. W. McNeill has been placed in charge of the Board's record department.

Canadian Pacific Ry.—E. W. Champion has been appointed District Master Mechanic, district 1, Eastern Division, vice B. Pendleton, transferred. Office, Farnham, Que.

R. Preston, formerly Master Mechanic, Ontario Division, who has been on leave of absence, has been appointed acting Shop Superintendent, West Toronto.

A Maynes, heretofore Rule Examiner, West Toronto, has been appointed District Master Mechanic, district 1, Ontario Division, vice J. R. Spragge, transferred, a position he held prior to his appointment as Rule Examiner. Headquarters, West Toronto,

J. K. Spragge, heretofore District Master Mechanic, district 1, Ontario Division, has been transferred to district 3, vice A. E. Stewart, which position he held prior to his transfer to district 1. Headquarters, West Toronto, Ont.

A. E. Stewart, heretofore acting District Master Mechanic, district 1, Ontario Division, West Toronto, has been given a position as locomotive engineer.

B. Pendleton, heretofore District Master Mechanic, district 1, Eastern Division, Farnham, Que., has been appointed Locomotive Foreman, London, Ont.

Duluth, Rainy Lake and Winnipeg Ry.—J. D. Morton, Chief Accountant Canadian Northern Ry. and General Auditor Canadian Northern Ontario Ry. and allied eastern lines, has also been appointed Secretary and General Auditor, D., R.L. and W.R. Office, Toronto.

L. W. Mitchell, acting Treasurer C.N.R., Toronto, has also been appointed Treasurer D., R.L. and W.R. Office, Toronto.

M. A. Murphy, heretofore General Manager, has been given the title of Superintendent, reporting to the head office, Toronto. Office, Duluth, Minn.

G. R. Hall will continue to act as Traffic Manager. Office, Duluth, Minn.

Grand Trunk Pacific Ry.—P. Desmond, heretofore in charge of the yards at Wainwright, Alta., is reported to have been appointed Roadmaster at Watrous, Sask.

Grand Trunk Ry.—Jas Duguid, heretofore foreman of the machine shop, Stratford, has been appointed General Foreman, Toronto, vice J. C. Garden, promoted.

C. Geldart has been appointed foreman machine shop, Stratford, vice J. Duguid, promoted.

The following agents have been appointed: C. H. Ranson, Prescott, Ont.; R. J. Parker, Dublin, Ont.; F. N. Chambers, Burt, Mich. Outside Agencies, A. R. Dingman, Kingsville, Ont.

In our last issue it was stated that R. Bushby, Eastern Passenger Agent, Cortland, N.Y., had, at his own request, been transferred to other duties. We are advised that he retains a connection with the company, but holds no official position.

Intercolonial Ry.—W. U. Appleton, chief clerk to the Superintendent of Motive Power, has also been appointed Assistant to the Superintendent of Motive Power, and will in addition to his duties as chief clerk act as general assistant in matters relating to the Mechanical Department. Office, Moncton, N.B.

The position of Master Mechanic in charge of Moncton shops, which became vacant by the death of A. B. McHaffie, has been abolished, and their supervision has been rearranged as follows: H. D. Mackenzie, heretofore Mechanical Foreman at Stellarton, N.S., has been appointed General Foreman of Locomotive Shops, and A. B. MacDonald, heretofore car foreman, has been appointed General Foreman of Car Shops, with jurisdiction and responsibility over all employes and work in their respective departments.

Jas. Blair was appointed acting Mechanical Foreman at Stellarton, N.S., Feb. 2, vice H. D. Mackenzie, promoted, and on Feb. 10 he was appointed Mechanical Foreman.

Mackenzie, Mann & Co.'s Eastern Lines.—A. F. Stewart, heretofore Assistant Chief Engineer of Construction, has been appointed Chief Engineer of Construction, lines in Ontario and Quebec, vice T. H. White, who has been on leave of absence for the past year and who has now been assigned to other duties.

New York Central and Hudson River Rd.—R. G. Cullivan, heretofore General Foreman Locomotive Department, has been appointed Division Superintendent of Motive Power of the Hudson and Middle Divisions, vice E. A. Watson, resigned. Headquarters, West Albany, N.Y.

Northern Navigation Co.—C. A. Macdonald, heretofore Auditor Freight and Passenger Accounts, has been appointed Comptroller—his former title being discontinued. Office, Collingwood, Ont.

Richelieu and Ontario Navigation Co.—The title of J. W. Canvin, Travelling Passenger Agent Alexandria Ry., N.Y., has been changed to District Passenger Agent.

Temiskaming and Northern Ontario Ry.—G. A. McCarthy, Chief Engineer, has resigned to enter private practice in Toronto. The resignation will take effect Apr. 1.

A. J. Parr has been appointed Assistant Freight and Passenger Agent, in charge of rates, traffics, and claims.

G.T.R. Stratford Shops.

The formal opening of the recently erected shops at Stratford, Ont., was signalized, Feb. 18, by a dinner given by the Stratford municipality to C. M. Hays, Second Vice-President and General Manager, and other G.T.R. officials. Mr. Hays, in responding to the toast of the G.T.R., paid a high tribute to the Motive Power Department, especially mentioning the services rendered by W. D. Robb, Superintendent of Motive Power, and R. Patterson, Master Mechanic, Stratford. He considered the shops a model, and said they would be a training school for many men, both on the G.T.R. and the G.T.P.R., and would put the company to the fore in all departments. The G.T.R. had, during his term, doubled its earnings, and largely increased its passenger traffic and mileage. Referring to the agitation for the elimination of level crossings, the G.T.R. had 3,000, and to fix these, it was estimated, would require an expenditure of $50,000,000, which would take years to provide for. On the question of a new station at Stratford, Mr. Hays said, that in due course it would be built, but moderation in immediate demands was necessary.

U. E. Gillen, Superintendent Middle Division, gave the following statistics: Canada has one mile of railway to every 289 people, or to every 161 sq. miles, in all 30,000 miles, of which 8,000 are in Ontario. These carry 33,000,000 passengers annually, and 64,000,000 tons of freight. Their net revenue is $46,000,000, with 3.66 % profit on the investment.

A full description of the shops, with details of lay out, was given in our Dec., 1907, issue.

Report on I.C.R. Connecting Lines.

The Minister of Railways laid on the table of the House of Commons, Feb. 11, a report as to the advisability of securing for the I.C.R. a number of connecting lines to act as feeders. During last year the question was discussed in Parliament, and it was contended that, were the I.C.R. not a Government railway, several of these connecting lines would have been absorbed. The Minister of Railways promised that an investigation would be made, and as a consequence, in Sept., 1908, E. Tiffin, General Traffic Manager; D. A. Storey, General Freight Agent, I.C.R.; and W. A. Bowden, Engineer of the Department of Railways, were appointed to enquire and report into the condition of the various connecting lines, and the possibilities of their proving remunerative, should it be deemed advisable to absorb them into the I.C.R. system.

The conclusions arrived at, as contained in the report, are mainly as follows: "We would express the unanimous feeling as gleaned from interviews with the people living along these lines that great good to the country would follow the suggested absorption. There is not a dissenting voice amongst all the people we interviewed as to the good the country and its people would derive, and there can be no question as to the impetus such action would have on business that is now lagging and falling away because of want of facilities for the proper conduct of the present traffic. It is a well-established fact that in nearly every case where branch lines have been absorbed by trunk lines such a policy has proved to be of great value to the branch lines as well as furnishing additional revenue to the main line and then becoming valuable feeders to them as they increase the traffic and earning powers of the trunk lines. Hampered by lack of capital and inefficient equipment, it cannot be expected that the branch lines can provide the services or facilities needed for the development of the country which they profess to serve, and, further, we are constrained to say the branch lines are to-day not in a position to give a satisfactory service, and, in fact, we believe they have now about reached that stage of becoming more of a hindrance than a help to the proper development of the country. We are satisfied that the careful nursing of present industries and the development of new ones which would necessarily follow the absorption of these branch lines would make their absorption of vital interest and one worthy of the best consideration. Furthermore, the people of the Maritime Provinces, who, as a rule, are but poorly served by the branch lines, are asserting that in view of the large amount of money or other assistance accorded to the Canadian northwest for the purpose of developing the country, they are entitled to at least a measure of generous treatment for similar purposes."

The report does not deal with all the connecting railways, as there are a number of lines, with which any such deal would be out of the question, but only with such lines as it is considered would be likely to be willing to be absorbed, and which it is surmised could with advantage be taken over and operated as feeders. An additional report, prepared by the N.B. Government, deals with connecting lines in New Brunswick.

In our Oct., 1908, issue we dealt fully with the various lines connecting with the I.C.R. in Quebec, New Brunswick and Nova Scotia, quoting mileage, capital employed, subsidies granted, both Dominion and Provincial, and rolling stock in service.

A petition is reported to have been extensively signed in Alberta, asking the Dominion Parliament to make it illegal to employ a man upon railway work for longer than eight hours a day.

REDUCE YOUR LABOR THREE-FOURTHS

If you could reduce your force 75 per cent. without curtailing the efficiency of your system, wouldn't you do it?

You CAN lessen, that much or more, the labor involved in handling your oils by installing

The Bowser System of Oil Storage

Storage Tanks filled direct from car—
Self-measuring pumps, drawing and measuring EXACTLY the amount desired at one operation—
Automatic Power Pumps that measure accurately from one to one thousand gallons—
That's the Bowser System; more about it in Bulletin 18.

S. F. BOWSER & COMPANY, LTD., 66-68 FRASER AVE., TORONTO

THE

NEW HOTEL BREVOORT CHICAGO

The Twentieth Century Hotel **Absolutely Fireproof**

Centrally Located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG, PROPRIETORS

ARTHUR M. GRANT, MANAGER

MONTREAL

MARITIME EXPRESS

Leaves MONTREAL 12.00 noon
DAILY EXCEPT SATURDAY

QUEBEC

INTER COLONIAL

THE FAST LINE
THE PEOPLE'S RAILWAY

ST. JOHN
HALIFAX

NOTED FOR EXCELLENCE
SLEEPING AND DINING CAR SERVICE
FOR RESERVATIONS, TICKETS, TIMETABLES, ETC., APPLY TO

THE SYDNEYS

TORONTO TICKET OFFICE
51 KING STREET EAST

GENERAL PASSENGER DEPT.
MONCTON, N.B.

Steam Railway Track Laid in 1908.

In our last issue we gave a preliminary statement of steam railway track laid in Canada in 1908. Revised and completed returns since received show that 1,505.95 miles was laid by the different companies, against 1,469.65 in 1907. This mileage was distributed by provinces as follows:

	Miles.
Saskatchewan	657.70
Ontario	238.04
Quebec	229.14
Manitoba	166.30
Alberta	74.90
New Brunswick	67.00
British Columbia	56.87
Nova Scotia	9.00
Yukon	7.00
Total	1,505.95

The mileage was laid by the different companies as follows:

	Miles.	Miles.
ATLANTIC, QUEBEC AND WESTERN RY.		
Port Daniel to Anse à la Barbe	5.00	
Grand Pabos to Anse aux Canards	2.00	
		7.00
CANADIAN NORTHERN QUEBEC RY.		
Garneau to Quebec		60.90
CANADIAN NORTHERN ONTARIO RY.		
Connecting track at French River	7.90	
Orillia branch	3.60	
		11.50
CANADIAN NORTHERN RY.		
Rossburn branch north of Rossland	22.30	
Saskatoon southwesterly	75.00	
Pas Mission branch	20.00	
Carlton branch, Dalmeny northerly	28.00	
Thunder Hill branch, Benito westerly	21.00	
Connection at Fort Frances, Ont	1.50	
		167.80
CANADIAN PACIFIC RY.		
Northern Colonization Ry.—From 2 miles north of Nomining, Que., towards L'Orignal	30.74	
Georgian Bay and Seaboard Ry.—Coldwater Junction to Victoria Harbor	11.50	
Walkerton and Lucknow Ry.—Mileage 26.2 to Walkerton, Ont.	11.50	
Tillsonburg, Lake Erie and Pacific Ry.—Code Junction to Embro, Ont	5.69	
St. Mary's and Western Ontario Ry. From Embro to St. Mary's, Ont	15.90	
Toronto-Sudbury branch—From Naiscontyong to Pickerel	25.25	
From Teulon northerly, Man	2.00	
Mowbray extension, Man	4.00	
Stoughton-Weyburn Line, Sask	25.00	
Wolseley-Reston line, Sask	24.00	
Sheho-Lanigan line, Sask	46.10	
Pheasant Hills branch, Sask	74.60	
Moose Jaw northwesterly, Sask	101.60	
Lethbridge-Macleod line, Alta	12.00	
		389.88
CENTRAL ONTARIO RY.		
From Maynooth to Lake St. Peter		8.00
DELAWARE AND HUDSON CO.		
Quebec, Montreal and Southern Ry.—From Pierreville to St. Philomene		48.50
EASTERN BRITISH COLUMBIA RY.		
From McGilvray to Corbin Mines, B.C.		14.00
GRAND TRUNK PACIFIC RY.		
Lake Superior Branch—Mileage 99.6 to mileage 188.8, Ontario	89.20	
Winnipeg to Portage la Prairie, Manitoba	45.00	
Mileage 312 to mileage 414.9, Saskatchewan	102.90	
Mileage 466.64 to mileage 627.1, Saskatchewan	160.50	
Mileage 627.1 to mileage 685, Alberta	57.90	
Mileage 786.6 to mileage 791.6, Alberta	5.00	
		460.50
GREAT NORTHERN RY. (U.S.)		
Between International boundary and Olivers, B.C., 11.33 miles, less 0.86 in 1907	10.47	
Between Olivers and Brownsville, B.C., 9.72 miles less 5.22 laid in 1907	4.50	
Between Cloverdale and Sumas, B.C., 29.28 miles, less 1.38 laid in 1907	27.90	
These mileages were laid on the line known as the Vancouver, Victoria and Eastern Ry.		
		42.87
INTERNATIONAL RY. OF NEW BRUNSWICK.		
From end of mileage 35 to 62		27.00
SYDNEY AND LOUISBURG RY.		
From Grand Lake Jct. to Colliery 12	7.00	
From No. 14 Jct. to Colliery 14	2.00	
		9.00
TEMISKAMING AND NORTHERN ONTARIO RY.		
From Wateybeag to Cochrane, Ont.	44.00	
From Englehart to Charlton, Ont.	8.00	
From Cobalt to Kerr Lake, Ont.	4.00	
From milepost 110 to Moore's Cove on Lake Temiskaming, Ont.	2.00	
		58.00
TRANSCONTINENTAL RY.		
Moncton, N.B., westerly	37.00	
Chipman, N.B.	3.00	
Bellaire, Que., 7 miles e. to 11 miles w.	18.00	
St. Thickle, Que., 16 miles w. to 17 miles e.	33.00	
La Tuque, Que., 16 miles e. to 15 miles w.	31.00	
Winnipeg towards Superior Jct.	48.00	
		170.00
WHITE PASS AND YUKON RY.		
Macrae to Copper Mines		7.00
WINNIPEG CITY POWER PLANT LINE.		
Lac du Bonnet to Point du Bois, Man.		24.00
Total		1,505.95

Of this mileage 1,260.58 miles were laid in connection with three systems, as follows:

	Miles.	Miles.
Transcontinental Ry.	170.00	
G.T. Pacific Ry.	460.50	
		630.50
Canadian Pacific Ry.	389.88	
		389.88
Canadian Northern Que. Ry.	60.90	
C.N. Ontario Ry.	11.50	
C.N. Ry.	167.80	
		240.20
		1,260.58

The remaining mileage was laid by nine different companies, the most important piece of construction being the completion of tracklaying on the Temiskaming and Northern Ontario Ry., to the junction with the Transcontinental Ry. at Cochrane, Ont.

Penny Fares on the G.T.R.

The Judicial Committee of the Privy Council delivered judgment in London, Eng., Feb. 17, in the case of Robertson vs. G.T.R., on the appeal of the G.T.R. from the judgment of the Supreme Court of Canada, compelling the G.T.R. to issue third-class tickets at the rate of one penny per mile for each mile travelled, and to provide at least one train having in it third-class carriages, which shall run every day between Montreal and Toronto.

The case against the G.T.R. dates back to Nov. 1, 1906, when proceedings were commenced in the Toronto Police Court against C. M. Hays, Second Vice-President and General Manager, for a violation of the provisions of sec. 138 of the criminal code. A technical conviction was registered, and the matter sent to the Appeal Court, where the conviction was quashed Mar. 4, 1907. Application was then made to the Board of Railway Commissioners, and the late A. C. Killam, then Chief Railway Commissioner, delivered judgment, and an order was issued July 3, 1907, directing the G.T.R. to run every day, throughout the length of its line between Montreal and Toronto, at least one passenger train having in it third-class carriages for passenger traffic; and that the fare for each third-class passenger, by any train on the said portion of its railway, do not exceed 2 cents for each mile travelled. The order also granted the company leave to appeal to the Supreme Court of Canada. This judgment was published in full in our Sept., 1907, issue. The appeal came before the Supreme Court Oct. 28, 1907, and judgment was delivered Dec. 13, 1907, sustaining the Board of Railway Commissioners' order and granting the company leave to apply to the Privy Council for leave to appeal the case to the Judicial Committee. Leave was granted Mar. 19, 1908, and the case was heard Feb. 16, 1909, when the decisions of the Board of Railway Commissioners and the Supreme Court of Canada were sustained.

The Lord Chancellor, in delivering judgment, said that the section of the G.T.R. Act of Incorporation, which required that the fare for each third-class passenger by any train on the company's railway should not exceed one penny currency for each mile travelled, and that at least one train having in it third-class carriages should run every day throughout the length of the company's line between Montreal and Toronto, was still in force. The whole question was whether the section was inconsistent with the Railway Act of 1906. He held that it was not, and also that the Privy Council could not decide whether or not the section referred to was left on the statute book by desire or because it was overlooked. The appeal was dismissed with costs.

Great Northern Railway Lines in Canada.

Manitoba Great Northern Ry.—Application is being made to the Manitoba Legislature by L. W. Hill, President of the Great Northern Ry., and others, for an act incorporating a company with this title, for the purpose of constructing railways in the province.

Midland Ry. of Manitoba.—The Manitoba Legislature is being asked to pass an act authorizing the company to construct certain lines in addition to those which it was originally authorized to construct, viz.: From Winnipeg to Brandon, Elkhorn, and the western boundary of the province, and from Morden, northwesterly to Rathwell, thence to the first-mentioned line.

A Winnipeg press despatch states that it is the intention of both the Great Northern Ry. and the Northern Pacific Ry. to operate in Manitoba, under the charter of the Midland Ry. of Manitoba.

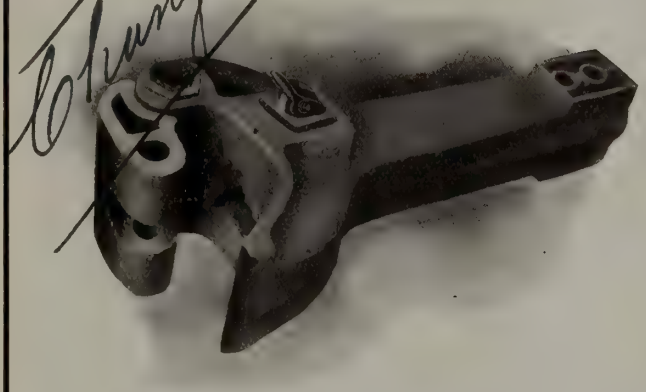
Vancouver, Victoria and Eastern Ry. and Navigation Co.—H. A. K. Drury, of the Board of Railway Commissioners' engineering staff, has completed an official inspection of the company's recently completed lines from Cloverdale to Sumas, and from Olivers, B.C., to the International boundary.

L. P. Gilman, Assistant to the President G.N.R., and President Elliot, Northern Pacific Ry., and a number of officers of both companies, arrived in Vancouver Feb. 4, concerning the location of terminals on False Creek, in the east end of the city. They waited on the city council and asked for the co-operation of the city in securing the remaining properties required to carry out the plan of providing union terminals on a large scale, and making the creek available for deep sea shipping. The companies, it was stated, had expended $600,000 in acquiring properties at the head of the creek, but further purchases were blocked by the abnormal prices asked, hence the desire to secure the aid of the city. The proposals for the improvement of the Vancouver harbor was presented to the authorities Feb. 5. They involve the construction of a breakwater two miles long, from Spanish bank across the mouth of English bay, creating an enclosed harbor of 3,600 acres at the mouth of False Creek, at an estimated cost of $1,000,000. Other parts of the scheme contemplate the construction of locks in False Creek, making the waterway available for shipping at all stages of tide, and cutting the canal to the coal harbor at the head of Burrard Inlet, connecting the city's two harbors. The council decided to send a deputation to Ottawa to consult with the Dominion Government in regard to the matter. The city will apply to the Provincial Government for authority to expropriate an extensive tract of land at False Creek. (Feb., pg. 107.)

A. O. Norton, manufacturer of jacks, Boston, Mass., and Coaticook, Que., was a passenger, as also were Mrs. and Miss Norton, H. A. and Mrs. H. A. Norton, on the White Star s.s. Cretic from Boston, Feb. 27, for the Azores and the Mediterranean.

J. N. Bastedo, Passenger Agent Atchison, Topeka and Santa Fe Ry., Detroit, Mich., died there Feb. 27, aged 51. Prior to going to Detroit, he was engaged in Toronto, where he was well known. The funeral was arranged to take place from his brother's residence in Toronto Mar. 1.

WASHBURN STEEL COUPLERS



Freight, Passenger and Engine.

MANUFACTURED IN CANADA

Write us for Catalogue and Quotations.

TAYLOR & ARNOLD

180 ST. JAMES ST., MONTREAL

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING
232 ST. JAMES STREET, MONTREAL

DOMINION IRON AND STEEL CO.

LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1909. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICE AND WORKS: SYDNEY, CAPE BRETON, CANADA

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

PUBLICATION OFFICE,
157 Bay Street, Toronto, Canada.
Local and Long Distance Telephone, Main 3201

UNITED STATES REPRESENTATIVE
A. Fenton Walker
143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.
The Toronto Transportation Club.

SUBSCRIPTION PRICES, INCLUDING POSTAGE

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, MARCH, 1909

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, A. S. Hobson, Sherbrooke, Que.; MANAGER, J. E. Duval, 121 Board of Trade, Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E.J.Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. F. Chapman, Deseronto, Ont.; SEC.-TREAS., T. Marshall, Toronto.

OFFICIAL ORGAN.—THE RAILWAY & MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche. Office, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, L. R. Johnson, Montreal; SECRETARY, J. Powell, St. Lambert, Que.

MEETINGS at Windsor Hotel, Montreal, 1st Tuesday of each month, 8 p.m., except June, July and August

Canadian Street Railway Association.

PRESIDENT, J. E. Hutcheson, Ottawa; SEC.-TREAS., Acton Burrows, 157 Bay St., Toronto.

OFFICIAL ORGAN.—THE RAILWAY AND MARINE WORLD, Toronto.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal.

MEETINGS at 877 Dorchester St., Montreal, every alternate Thursday, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, R. J. Craig, Cobourg, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN.—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto.

MEETINGS at Rossin House, Toronto, 3rd Tuesday each month, except June, July and August.

Dominion Marine Association.

PRESIDENT, C. J. Smith, Montreal; COUNSEL, F. King, Kingston, Ont.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto SECRETARY, R. B. Wolsey, C.E., Toronto. Rooms, 96 King St. West, Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee.

CHAIRMAN, A. A. Heard, Albany, N.Y.
SECRETARY, Jas. Morrison, Montreal.

Quebec Transportation Club.

PRESIDENT, E. A. Evans; SECRETARY, A. H. Davis, Box 324, Quebec.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

Western Canada Railway Club.

PRESIDENT, Grant Hall, Winnipeg; SECRETARY, W. H. Rosevear, Winnipeg. Meetings at Royal Alexandra Hotel, Winnipeg, 2nd Monday of each month, except June, July and August.

Alphabetical List of Advertisers.

	PAGE
Abbott, W.	230
Acme Railway Equipment Co.	172
Alexander Car Replacer Mfg. Co.	226
American Brake Shoe & Foundry Co.	186
American Car & Equipment Co.	234
American Hoist & Derrick Co.	174
American Specialty Co.	226
Babcock & Wilcox Ltd.	236
Banwell, Hoxie Wire Fence Co., Limited.	214
Beatty, M., & Sons, Ltd.	226
Belle City Malleable Iron Co.	232
Bowser, S. F., & Co., Limited.	194
Bradstreet Company	228
Brown Hoisting Machinery Co.	172
Burnham, Williams & Co.	216
Burrows,—Acton Burrows, Limited.	Cover 1
Butterfield & Co.	226
Canada Car Co., Ltd	170
Canada Iron Corporation	202
Canadian Bridge Co., Ltd.	222
Canadian Bronze Co., Ltd.	234
Canadian Fairbanks Co., Ltd.	166
Canadian Gold Car Heating & Lighting Co., Ltd.,	198
Canadian Locomotive Co., Ltd.	200
Canadian Northern Railway	192
Canadian Office & School Furniture Co., Ltd.	232
Canadian Pacific Railway Land Department	218
Canadian Railway Accident Insurance Co.	Cover 1
Canadian Ramapo Iron Works, Ltd.	220
Canadian Rand Co., Ltd.	192
Canadian Westinghouse Co., Ltd.	Cover 2
Cardwell Mfg. Co.	224
Chicago Ry. Equipment Co.	Cover 2
Cleveland City Forge & Iron Co.	224
Cleve-Mor Engineering & Construction Co.	Cover 2
Clifton Hotel, Niagara Falls, Ont.	218
Coddington, W H.	234
Coghlin, B. J., & Co.	228
Continental Iron Works	206
Crossen Car Mfg. Co., of Cobourg, Ltd.	204
Date, John.	230
Delaware and Hudson Co.	232
Dominion Bridge Co., Ltd.	224
Dominion Car & Foundry Co., Ltd.	Cover 4
Dominion Iron & Steel Co., Ltd.	196
Dominion Wire Rope Co., Ltd.	182
Doty Engine Works Co.	210
Dougal Varnish Co., Limited.	Cover 1
Drewry, E. L.	224
Drummond, McCall & Co.	190
Duner Co.	230
Edwards, O. M., Co.	208
Engineering News Book Dept.	188
Falls Hollow Staybolt Co.	224
Farlow Draft Gear Co.	188
Flannery Bolt Co.	190
Galena Signal Oil Co.	158
Galen Hall, Atlantic City, N.J.	214
Galt Malleable Iron Co.	234
Gardner, J. T.	226
Gartshore, J J	222
Gartshore-Thomson Pipe & Foundry Co., Ltd.	228
Goldschmidt Thermit Co.	200
Grand Trunk Railway	204
Greening, The B., Wire Co., Ltd.	230
H and E Lifting Jack Co	198
Hamilton Pattern Works	234
Hamilton Steel & Iron Co., Ltd.	176
Harrison Dust Guard Co.	222
Hart-Otis Car Co., Ltd	
Hayes Track Appliance Co.	202
Holden, N. J., Co.	206
Hopkins, F. H., & Co.	164
Hotchkiss, Blue & Co.	230
Hotel Cadillac, Detroit, Mich.	Cover 1
Hudson's Bay Company	198
Hunt, Robert W., & Co.	220
Hunter-Rose Co., Ltd.	234
Hutton, James, & Co.	226
Illinois Central Railroad	228
Imperial Bank of Canada	232
Intercolonial Railway	194
International Correspondence Schools	180
International Marine Signal Co.	212
International Mercantile Marine Co.	216
Jardine, A. B., & Co.	206
Jessop, Wm., & Sons, Ltd.	222
Kerr Engine Co., Ltd.	208
Knowlton, W. H.	234
Latrobe Steel & Coupler Co.	218
Lehigh Valley Rd.	234
Lewis, Rice, & Sons, Ltd.	190
Lima Locomotive & Machine Co.	222
Lufkin Rule Co.	Cover 1
Mail Job Printing Co., Ltd.	232
McConway & Torley Co.	170
McCord & Co.	178
McGregor-Banwell Fence Co., Ltd.	212
Metcalf, John S., Co.	220
Modoc Soap Co.	234
Montreal Locomotive Works, Ltd.	160
Montreal Rolling Mills Co., Ltd.	192
Montreal Steel Works, Ltd.	168
Mussens Limited	Cover 1 and 162
National Malleable Castings Co.	Cover 1
New Brunswick Wire Fence Co., Limited	228
New Hotel Brevoort, Chicago, Ill.	194
Norton, A. O.	182
Ontario Wind Engine and Pump Co.	222
Orford Copper Co.	234
Ottawa Car Co. Ltd.	Cover 1
Owen Sound Wire Fence Co., Ltd.	230
Page Wire Fence Co., Limited.	216
Parry Sound Lumber Co., Ltd.	234
Phillips, Eugene F., Electrical Works, Ltd.	228
Piper, The Hiram L., Co., Ltd.	234
Piper, N. L., Railway Supply Co., Ltd.	200
Polson Iron Works, Ltd.	176
Porter, H. K., Co.	168
Positive Lock Washer Co.	230
Preston Car & Coach Co., Ltd.	234
Provincial Steel Co., Limited.	186
Pyke, J. W., & Co.	196
Pyle National Electric Headlight Co.	174
Rail Joint Co. of Canada, Ltd.	Cover 1 and 184
Rendle, A. Edgcumbe.	Cover 1
Rhodes, Curry & Co., Ltd.	178
Robb Engineering Co., Ltd.	180
Robertson Machinery Co.	234
Safety Car Heating & Lighting Co.	186
Saxby and Farmer, Ltd.	Cover 1
Sheriffs Mfg. Co.	224
Silliker Car Co., Limited.	184
Simplex Railway Appliance Co., Ltd.	Cover 4
Smart, James, Mfg. Co., Ltd.	208
Standard Coupler Co.	234
Standard Explosives, Limited.	202
Standard Steel Works.	216
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold.	204
Thomas, J. Lewis.	197
Toronto Bolt and Forging Co., Ltd.	210
Toronto Pressed Steel Co., Ltd.	188
Vulcan Iron Works	208
Wallace Supply Co.	226
Washburn Steel Castings & Coupler Co.	196
Waugh Draft Gear Co.	Cover 1
Wire & Cable Co.	Cover 1

J. LEWIS THOMAS
C.E., F.A.I.C.
CONSULTING ENGINEER
43 Bank of Toronto Chambers
LONDON, ONTARIO
Electric and Steam Railways
PROPOSITIONS INVESTIGATED AND REPORTED ON

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

CANADIAN GOLD CAR HEATING & LIGHTING CO. LIMITED

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

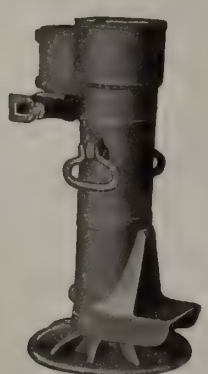
Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished. Improved System of Acetylene Car Lighting.

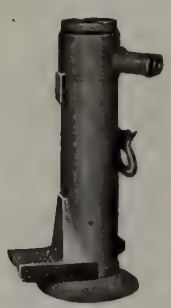
Largest Manufacturers in the World of Car Heating Apparatus

H & E PATENT BALL-BEARING LIFTING JACKS

For Railway and Bridge Work, Contractors' and Builders' Use



Foot-Lift



For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed. Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

Square Base

Journal Jack

Plain

MANUFACTURED BY

H & E LIFTING JACK COMPANY, WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

G.T.R. Betterments, Construction, Etc.

Ottawa Union Station and Hotel.—A deputation waited on the Government Feb. 15 with reference to the hotel part of the new union station project. It is said that a formal report will be drawn up for presentation to the city council. The view generally entertained is that the Government will insist upon the station building being gone on with anyway. W. Wainwright, Fourth Vice-President G.T.R., in an interview, said the architects had stated that the working plans were prepared, tenders had not been called for, but there was sufficient time to do so before the spring. "We purpose," he added, "going ahead with the original idea."

London, Ont., Improvements.—The Board of Railway Commissioners sat in London, Ont., Feb. 25, for the purpose of considering the questions of the Adelaide St. crossing, the G.T.R. crossings in East London, and the West Lorne crossings. It is understood that the question of the track elevation will be affected by the decision in the matter upon the London city crossings. The Mayor had a conference with E. H. Fitzhugh, Third Vice-President G.T.R., prior to the Commission's meeting.

It was stated in London Feb. 12 that the Chief Engineer had completed the company's plans for track elevations, etc., in London, Ont., and that they would be submitted shortly for the consideration of the General Manager. The plans, it is said, provide for the elevation of the tracks for five or six blocks, and the erection of a new station.

Corrections for the Erring.

"Mr. T. Hattie, G.T.R. master mechanic at Montreal, has been appointed superintendent of motive power at St. Alban's."—Canadian Engineer, Jan. 29.

T. McHattie, not Hattie, who was formerly Master Mechanic, Eastern Division G.T.R., Montreal, has, as announced in our last issue, been appointed Superintendent of Motive Power and Car Department, Central Vermont Ry., with office at St. Albans, Vt.

"W. P. Hinton, General Passenger Agent of the Grand Trunk, has been appointed Assistant Passenger Traffic Manager of the Grand Trunk Pacific, with office at Winnipeg, Man."—Railroad Age Gazette, Feb. 12.

W. P. Hinton is not General Passenger Agent G.T.R. He is Assistant General Passenger Agent, G. T. Bell being General Passenger and Ticket Agent. Up to Feb. 24, Mr. Hinton had not been appointed to any position on the G.T.P.R. The daily press has published a lot of rumors about such an appointment, and our contemporary has probably been misled by some of these.

"The quarterly meeting of the executive committee of the Canadian Street Railway Association was held last Saturday. Mr. J. F. Hutcheson, superintendent of the Ottawa Electric Railway Company, presided. Others who took part were: Acton Burrows, secretary of the Association; Duncan Macdonald and P. Dube, of the Montreal Electric Railway; E. A. Evans, of Quebec; William Hopper, of St. John, N.B.; C. B. King, London; W. McCrea, Toronto, and James Anderson, Windsor. Details of several matters dealt with by the Association in Ottawa a few months ago were disposed of, and some arrangements made for the annual meeting, which takes place in Winnipeg in midsummer."—Canadian Engineer, Feb. 19.

The meeting referred to was not a "quarterly meeting," as the executive committee does not meet quarterly. It was not held on a "Saturday," but on Friday, Feb. 12. J. E., not "J. F.," Hutcheson is Superintendent of the Ottawa Electric Ry. The Montreal St. Ry. officials on the committee are Duncan McDonald and P. Dubee, not "Duncan Macdonald and P. Dube." There is no "William Hopper" on the committee. H. M. Hopper, of St. John, is a member of it. "W. McCrea, Toronto," was not at the meeting. W. McRae, Toronto, is, however, a member of the committee. The annual meeting will not take place in Winnipeg "in midsummer."

A Great Purchasing Railway

The following portions of the remarks made by Sir Thos. G. Shaughnessy, President of the Canadian Pacific Ry., in moving the adoption of the directors' report at the recent annual meeting are of especial interest as showing the enormous purchases made by that great railway corporation and as pointing out that its policy of keeping abreast of the requirements of traffic will be pursued in the future with even greater vigor than in the past. Sir Thomas said:

"You will be asked at the special general meeting, to be held immediately after this meeting, to sanction an increase in the ordinary capital stock from $150,000,000 to $200,000,000, and to empower your directors to utilize the additional stock in such amounts from time to time as may be desirable in connection with the company's capital requirements. It is not easy to designate in advance, with any degree of particularity, the purposes for which money will be required, excepting in the matter of rolling stock. In the six years, 1902 to 1908, there was an increase in your equipment of 659 locomotives, 842 sleeping cars and day coaches, and 25,190 freight cars, at an approximate cost of $37,000,000. This is equivalent to one locomotive every three working days, one passenger car every two days, and 14 freight cars each day during the entire period of six years, and yet the prospects are that within the next six weeks the demand will be in excess of the supply of freight cars. While it is a healthy sign to have a shortage rather than an excess of equipment, it is due to the public, and in the best interests of the company, that neither money nor effort should be spared to meet the reasonable requirements of shippers along your line, and, therefore, we must continue to build or purchase locomotives and cars as quickly as the development of traffic may warrant. In the ordinary course of events the volume of traffic on your lines should increase with a fair degree of rapidity, and an expansion of traffic necessarily involves not only additional cars and locomotives, but enlarged accommodation and greater facilities to care for it at very many new places over your 9,500 miles of railway, and in providing these, large sums of money are quickly absorbed."

In connection with the above we may be permitted to point out that THE RAILWAY AND MARINE WORLD is taken by every C.P.R. official who has in any way anything to do with the placing of orders for rolling stock, etc., as well as by the other officials of the company. And the same may be said of the officials of the Grand Trunk, Canadian Northern, Intercolonial, and other Canadian lines, our circulation covering all the companies throughout Canada and Newfoundland. The lesson to be deduced from this by locomotive and car builders, manufacturers of railway specialties, etc., is obvious, and that is why so many of them use the columns of Canada's only railway periodical for advertising purposes.

W. S. Stout, President and General Manager Dominion Express Co., left Toronto early in Feb., accompanied by F. H. Chrysler, K.C., of Ottawa, and is attending the Board of Railway Commissioners' sittings at various points west of Lake Superior, where matters pertaining to the operation of express companies are being brought forward.

Joseph Hobson's Life Work.

Referring to the life work of Joseph Hobson, whose portrait was published in a recent issue in connection with the electrification of the St. Clair tunnel, the Hamilton Times recently said: "There is one really great Canadian whose title to recognition of merit, disputed by none, has been too long overlooked, and that the neglect is hardly creditable to our people—especially to our great institutions of learning, which are sometimes very free in awarding their honors. We refer to Jos. Hobson, M. Inst., C.E., the veteran railway engineer. Of Mr. Hobson's many great works, the construction of the St. Clair tunnel, recently electrified, is one that renders his fame secure and has made his name familiar to the engineering world. It is an honor to Canada that such a work should have been projected and carried to completion by one of her own people. It will be his memorial, testifying to his ability to accomplish great things in his chosen profession. But why should our universities —Toronto, McGill, Kingston, and the rest— not be forward in placing the seal of their approval upon Mr. Hobson's genius and achievements? They have not always been tardy in recognizing Canadian worth. Has it been an oversight? Whatever the explanation, they should see to it that they honor themselves by honoring Mr. Hobson. Canada has many knights infinitely less worthy of the Sovereign's decoration than is the modest gentleman who has, with such beneficent results, left his impress upon the G.T.R., to the immense benefit of his country. Shall Canadians be unappreciative or ungrateful?"

"Silent Partners" in Railway Building.

A correspondent, in reporting a conversation with a G.T.P.R. official regarding the "Silent Partner" in railway construction, says: "There is M. H. McLeod, who was Chief Engineer, now General Manager, of the Canadian Northern Ry. He has lived years in the open, slept out in the snow, sleet and rain to find a trail for Mackenzie & Mann. There is Jack Callahan, Superintendent of Construction of the C.P.R. west of the lakes. He is another one of these 'Silent Partners,' and there is Bob Jones, who figures in Cy. Warman's last two books as 'Smith the Silent.' This man had his habitation in the wilderness west of Edmonton for three years. He and others above and below him are responsible for the level line that leads away from the Prairie Provinces to the Pacific Coast, and when people travel, as they will within the next few years, through this western wonderland, through the very heart of the Rockies at the rate of a mile a minute, they should not forget that it would be impossible to do so but for the patient toil of these 'Silent Partners.' Here is a quotation from a letter written by a well-known engineer to a friend of his in Montreal:

"'I have known hardships, hunger, poverty and loneliness. I have toiled in the desert, in tropical swamps and in Canadian winters for my profession, my art—for many years. I have possessed little but I have been free always. I come when I will, I go when I please. I acknowledge that by the usual standard I am a failure, but the pleasure of planning and waiting has been mine, and the moments I have lived when I have been able to do with my brain what others would do by men, muscle and money, have been worth much to me. I have never sacrificed my profession to my interests or ambition, and still retain the ideals I started with. If I have accumulated nothing material, I have at least kept my professional honor.'"
—Montreal Gazette.

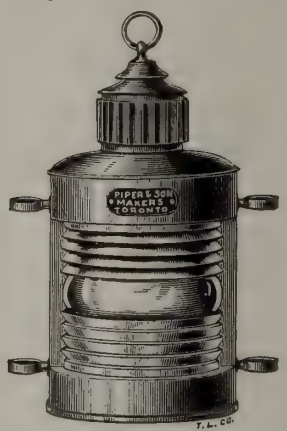
THE **N. L. PIPER RAILWAY SUPPLY CO.,** LIMITED

314 FRONT ST. WEST

TORONTO

MANUFACTURERS OF

ANCHOR LIGHTS



MAST HEADS

SIDE LIGHTS

SHIP LAMPS ETC.

CANADIAN LOCOMOTIVE Co. LTD.,

KINGSTON, ONT.,

Builders of Simple and Compound **LOCOMOTIVES** Adapted to every variety of service.

WELDING

LOCOMOTIVE CYLINDER, REPAIRED WITH THERMIT

Locomotive Frames, Connecting Rods, Driving Wheel Spokes, and Mud Rings

By the THERMIT PROCESS, welds may be made to all kinds of steel sections without removing the broken part. Locomotive frames and mud rings may be welded without dismantling the engine. Stern-posts and rudder frames of steamships may be quickly repaired without removing them from the ship. Furthermore, all this may be accomplished in one or two days, depending on conditions.

Write for descriptive pamphlet No. 18-N and for "REACTIONS," the Thermit Quarterly.

Goldschmidt Thermit Co.

103 Richmond St. W., Toronto, Ont.

General Offices: 90 West St., New York.
Pacific Coast Branch: 432-6 Folsom St., San Francisco.

The Passenger Traffic of a Transcontinental Railway.

By H. W. Brodie, Assistant General Passenger Agent, Central and Western Divisions, C.P.R.

The following paper was read at the annual divisional time meetings of the central, western and Pacific divisions, C.P.R., recently:

In this address to you, the superintendents of the operating department, it is my desire to present only a general outline of what is required to organize, develop and successfully handle passenger traffic on a transcontinental railway, embracing, as it does, a large local business, and participating in what we might almost term around-the-world passenger traffic. In addition, to endeavor to make plain the relationship existing between the operating and passenger departments of a great system, and the responsibilities that rest upon you if the business is to be successfully conducted; also to outline in general the requisite qualifications of a successful head of the passenger branch of the service, and what must be done to develop the business.

RESPONSIBILITY OF THE OPERATING DEPARTMENT.

When the construction department of a railway company completes its work and turns over a new highway to be used for the transportation of persons and property from one portion of a country to another, it becomes at once a necessity for the owners to select special men for the carrying out of the various works to be performed. As these few remarks relate specifically to two departments, we shall not consider the construction of others. One man must be selected whose duty it will be to arrange for the movement of traffic in a safe and satisfactory manner at a minimum amount of cost, and another to organize and develop the passenger business.

It is almost universally recognized that the standing of a railway in the eyes of the public is measured by the standard of its passenger service; the reason being that but a small percentage of the population of a country is made up of shippers, compared with the number who find it necessary to be transported from one place to another, either for pleasure or the pursuit of business. The leading American railways to-day gained their reputations by furnishing the very best possible service, eliminating the time handicap for the commercial interests, better enabling them to develop great industries and business institutions, of great value to the line, through the development of a large freight traffic. The public, generally, are keenly interested in the operation of railway trains, and the importance of the successful transportation of passengers should be fully realized by every person connected with their movement.

Let us study a few of the features which present themselves to the passenger man. We shall first devote our attention to the relationship that exists between the operating department and the passenger organization of a railway. The work and constant effort put forth to secure traffic, hereafter outlined, will soon fail and its effect be lost if you, as the heads of the operating department, do not carry well the burden of the responsibility resting upon you—the responsibility of fulfilling in every detail your obligation to carry out what we have represented you are capable of doing. First and foremost, you must fully realize that you deliver the commodity we sell. We advertise the line, the trains you operate, the country they pass through. If you fulfil your part, the people who pass in one direction over the rails will return in the opposite direction later on. If you fail they will not return. It is a recognized principle in handling passenger traffic, that it is even more difficult to hold traffic than it is to secure new traffic. The man who purchases transportation expects value for his expenditure, just the same as the man who buys a coat. If he finds its qualities have been misrepresented and that it does not fit, he changes his tailor; and, in like manner, the passenger changes his route. Every passenger who goes through your hands in one direction should, under normal conditions, sooner or later return.

We do not have, at present, fixed rules of operation, governing the size of passenger trains in respect of the number of cars to be carried, or standards of tonnage, making allowance, under certain conditions, for wind resistance and other drawbacks—in this respect being behind the freight movement, where tonnage is closely figured, and it is known almost to a certainty what the engine performance will be. Is this as it should be? It is recognized as important that freight shipments should not be delayed in transit. How much more important that passengers should not be? It means the breaking of important business engagements, loss of valuable time, and sometimes it is a question of life and death. A shipper will express annoyance if his freight is delayed, but if, when he travels on the same line, he is delayed and loses valuable time, his annoyance becomes intensified tenfold, and he is unsparing in his denunciation, and not infrequently carries it to a point of concluding that the line is not a satisfactory highway for the transportation of either his person or property. Watch closely your passenger trains. See that all connections are made. Run them on time.

Close observation seems to prove that the constant handling of the public by railway men has a tendency to cause them to become indifferent, and to forget that their responsibility never ceases. Therefore, the necessity of eternal vigilance and constant supervision on your part. Every person interested must do his best at all times to maintain an enviable reputation for the road. When your engines are turned out for service on a passenger train, they should be neat and cleanly in appearance, and capable of doing their work, which is to carry the train over the division in precisely the allotted time. Engineers should understand that they are responsible for the reputation of the road as a whole, and every time a train is delivered on time that reputation is not only maintained, but the engineer proves himself. Train dispatchers share in this responsibility, and should at all times assist engineers and conductors responsible for the movement of passenger trains. Not only should they operate their trains on time, but should handle them smoothly, avoiding sudden jars, which are sometimes noticeable when pulling into stations or stopping at water tanks. Such jars create a bad impression in the minds of passengers, and make them feel that we are not careful of their comfort. The equipment of trains should be uniform, clean outside and in. Dirty car windows, aisles and seats are inexcusable in the eyes of passengers. All heating arrangements should be in proper condition, also ventilating appliances, so that the temperature of the cars may be properly regulated. Capable train crews only should be in charge, who thoroughly understand these details of service and attend to them.

The train conductor is an important man. He stands in the same relation to his passengers as the captain of a ship. He should be neat in appearance, careful and considerate in dealing with his passengers. It should be his duty to keep a close watch and a firm hand on his brakemen, for if he fails to train a brakeman in the way he should go, it means, in all probability, that he will become an inefficient conductor later on. As he is, so to speak, on parade when in charge of his train, he should be alert and active, for the impression he creates in the minds of his passengers reflects on the discipline and organization maintained by his company. Even the mind of an immigrant is impressionable, and it takes a long time to change his view, if, upon his arrival, he is harshly treated on the dock, bundled into inferior coaches, and transported to his new place of abode at a slow rate of speed, in the care of an indifferent train crew, and possibly finds when he reaches his destination that his baggage has not arrived, and when it does that it has been roughly handled; and if, in addition, when he complains to the company's representative—the station agent—he receives a curt reply, and sometimes no reply at all. There is but one result. When the time comes for him to return on a visit he seeks a new highway. The same applies to the Asiatic steerage passenger, and, although possibly in a lesser degree, to the first-class tourist.

It is of great importance that people located on branch lines should receive the same careful consideration at all times as those who journey over the main line. They should have engendered in them a feeling that should not be permitted to leave them, viz., that the branch line service is so good they need have no doubt about the main line. Otherwise, what do we find? A constant scanning of the papers for advertisements of what appear to be more attractive outlets, and when they pay we get the short haul, for they will even inconvenience themselves to reach the lines of a competitor. Therefore, because your branch line passenger travels but a limited distance the greater portion of the year he must not be lightly considered, for he has a large amount to spend at other times. If we fail to procure that revenue, the object for which the branch was built or acquired, viz., to feed its trunk line, is defeated.

All stations should be kept neat and clean, and you should endeavor at all times to do away with unsightly objects on or about the premises. Local agents should be selected with care and properly schooled. They are the representatives of the company who come in direct, daily contact with the people, and should, in addition to a knowledge of rules and regulations, have a full appreciation of their responsibilities as the company's sales agents. They should cultivate a desire to serve the people with the same degree of cheerfulness as they would if running a business for their own profit. A great many agents think, because it is necessary for people to come to them, that they are the custodians of the locality and what it contains, rather than representatives of a company dependent upon the people for its livelihood. You are in close touch with the agents at all times and should endeavor to instruct them so that they may have the proper viewpoint in relation to their employment.

All plans for taking care of passengers at important terminal and junction points should be carefully considered, and everything possible done to simplify the arrangements. Proper notices, giving explicit directions, should be displayed in conspicuous places to assist the traveller. Baggage and express staffs should be taught to respect the travelling public, and not be permitted to roughly push their trucks and express wagons through numbers of people, something which not infrequently happens at terminal and junction points. Car cleaners, inspectors, and those whose business it is to refill water tanks require constant supervision. A passenger objects to being bumped with a bucket of ice, or sprinkled by a carelessly adjusted hose on the roof of a car.

It requires long years of constant effort

THE CANADA IRON CORPORATION

Successors to: LIMITED

CANADIAN IRON & FOUNDRY CO., LIMITED
CANADA IRON FURNACE CO., LIMITED
ANNAPOLIS IRON CO., LIMITED
JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE — MONTREAL, P.Q.,

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and Gas Pipe, Specials, Valves, Hydrants, Etc. Castings of All Kinds

W. T. RODDEN, Managing Director J. F. JOHNSON, Secretary-Treasurer
GEO. C. TUNSTALL, Jr., Sales Manager

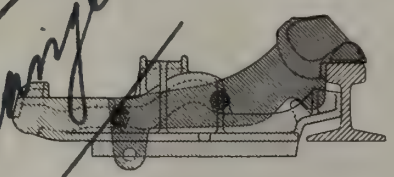
STANDARD EXPLOSIVES

LIMITED

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL
Works: L'ISLE PERROT, NEAR VAUDREUIL, P.Q.



Simplicity in a track device is a prime requirement. As parts are added troubles multiply. Two pieces are all that go to make up a complete Hayes Derail of the pipe-operated models. The guide box is readily made a fixed part of the track; the derail block moves back and forth with little effort and with the usual switch stroke. When on the rail it is firmly locked in position by the seats in the front end of the guide box.

The derail block clears its path of snow when moving in either direction. This feature makes the Hayes Derail preëminent for economy in winter.

We make prompt shipments from our works at Hamilton, Ontario.

Address: Hayes Track Appliance Co., Geneva, N.Y.

and careful endeavor to satisfactorily transport the public. We must, in our treatment of them, adopt golden rule principles. By the exercise of constant supervision and vigilance you will assist materially in the work and bear your proper responsibilities in your relationship to the passenger branch of the business of a transcontinental railway, which you are especially designated to attend to. In concluding this part of the address, let me be understood, in making these remarks, that we are not unmindful or unappreciative of what you have already done. Our present standing in comparison with others speaks plainly.

RESPONSIBILITIES OF THE PASSENGER DEPARTMENT.

A discussion of the passenger business of a transcontinental railway would not be complete if it did not contain proper reference to those who look after the management of the department responsible for the securing and building up of the traffic, and deal with their responsibilities. It is not my intention to discuss in detail what must be done, but rather to give you a more complete idea of the other side of the question we have been dealing with, outlining the responsibilities that rest upon such men, the special qualifications they should possess, and the work expected of them. Therefore, so that you may fully appreciate the standard of requirement, let me particularize to the extent of describing the successful head and his work. Please do not misinterpret these remarks as a desire to impress upon you what we are, for that is not the intent or purpose, but rather, as indicating our own shortcomings. No one person realizes or more fully appreciates his own inefficiency than does a conscientious head of the passenger branch of the service.

The man who is to successfully supervise the passenger business of a large system must have in his constitutional make-up a good imagination—for he must anticipate developments and requirements; a clear, far-sighted vision—for he requires to scan continually, not only his own line at home, but, in addition, large areas abroad; patience—a most essential virtue for one whose work brings him constantly in contact with the travelling public; tact, and at the same time shrewdness—for many negotiations must be carried on with competitors where harmonious working is essential to satisfactory results; (antagonistic methods invariably develop conditions that ultimately mean sacrifice of legitimate revenue). At all times he must be ever ready and quick, not only to see but to grasp, and take advantage of an opportunity; resourceful—for he must know how to meet and overcome, what I may characterize as a flanking movement, quickly executed at a critical time, by an adversary.

He does not work on fixed rules, nor is he limited in his field of operations to prescribed districts. The scope is world-wide, and it is a necessity that he should be able to study and comprehend industrial conditions everywhere, as such conditions invariably have a direct effect upon the traffic of his road. The advancement of the settlement of the territory through which the line runs, and tributary thereto, is of paramount importance and he must advance such settlement at opportune times. In order to do so successfully, he must study individuals and their conditions elsewhere. It is always problematical whether a prospective settler will locate in one place or another. His final decision must be the result of influence brought to bear upon him.

The development of competing lines requires close attention, and must be carefully analyzed and criticized with respect to the service furnished, so that at all times the management may be advised of what is taking place, and thereby enabled to meet like business conditions by furnishing equal or better facilities. It is his duty at all times to observe carefully and watch closely over the passengers transported, being ever mindful of them, anticipating their requirements, smoothing out difficulties that may arise, and keeping them comfortable and happy.

Finally, he must be a good salesman, standing, in his relation to the company he represents, as the manager-in-chief of their sales department, establishing numerous agencies over a large area, in all kinds and conditions of fields of operation, gathering revenue in exchange for the commodity offered, viz., transportation, advertising his commodity effectively at the most reasonable cost, obtaining returns for every dollar of expenditure.

The passenger man to-day is not the free agent he was a few years ago. He is now subject to all kinds and conditions of governmental control and regulation. It requires watchfulness to see that, in the construction of his fares to be charged, in all districts, under all conditions, he complies with the laws of the country as a whole, or of a particular province or state. The tariffs must be carefully constructed, for they require to be filed with expert commissions, who dissect them in detail. There is no sliding scale and he cannot shave a price, or give something for nothing as a consideration for a wholesale movement. The hundreds of representatives must be taught to understand and respect the law, and not, in their anxiety to secure traffic, overstep the bounds of regulation, and, as an inevitable consequence, inflict severe penalties on his company.

There is a great responsibility in the development of the traffic of the line. At the commencement of operation there is to be found ready for movement a considerable volume of business known as local passenger traffic, or, to more clearly define, traffic originating on the line or in the immediate vicinity. It is of great importance that such local traffic be supplemented by business to be gathered from outlying districts, and brought to the company's rails at its own junction points with connecting systems, operating not only in our own country but in foreign countries lying adjacent thereto; also from foreign countries across the seas to be delivered at our ocean terminals.

If a transcontinental railway depended entirely upon its local traffic for revenue, the business would be unremunerative. Therefore, it is imperative that such business as above-mentioned be directed over the line. It is necessary to reach to China for the homeward-bound Englishman, diverting him from his old accustomed route by way of the Red Sea; also for the Oriental, moving outward and homeward in large numbers; the traveller from Australia or New Zealand, carrying them to the Pacific Coast termini; and, on the other hand, the European must be considered, not only the high-class tourist who travels for pleasure, but the peasant class, especially the latter, who are, so to speak, transplanted, and in due course of time become citizens and steady contributors to the revenue of the line.

From the North, and particularly from the South, people must be gathered, including business men, tourists, land-seekers and settlers. In order to successfully accomplish this work at all such places must be located what I may call, for better illustration, sales agents, who present our commodity in its best light and effect sales of transportation. They work continuously, at all times their efforts supplemented by effective advertising, judiciously placed, and so it is that the trunk line trains become filled with revenue-bearing business. A passenger, journeying in one of the through trains for the first time, little appreciates the efforts that have been put forth to induce him to make the trip. It is the result of the continous working of one great machine. And so it comes about if this machine runs smoothly and does its work properly, one extensive branch of the railway business fulfils what is expected of it. With a full knowledge of our joint responsibilities, with the hearty co-operation of all, a necessity in the carrying out of any undertaking, we may, with confidence, take up our burden, and with cheerfulness proceed to make a reputation worthy of men entrusted with so great a responsibility.

Accidents at Level Crossings.

In connection with the investigation now in progress under the Board of Railway Commissioners with regard to the most feasible means to adopt for the protection of level railway crossings in Canada, an Ottawa dispatch says statistics have been prepared showing the number and character of fatal accidents at crossings during the past five years. Since the Board was created in 1903 records have keen kept as to all railway fatalities in the Dominion, and in nearly every case there is on file a report from one of the Board's officials giving particulars as to the accidents. During that period there have been altogether 270 fatalities at level crossings. But the striking fact in connection with an analysis of the various fatalities is that nearly 95% of them have been due to the carelessness or recklessness of the victims themselves, rather than to the fact that the crossings were unprotected. In Prince Edward Island there has not been a single level crossing fatality in five years, and on the Intercolonial Ry. there have been only 13 in that period.

G. F. Webb, Hamilton, Ont., has issued a writ against the St. Mary's and Western Ontario Ry. for damages for having wrongfully deprived J. E. Webb of certain railway contractors' plant. J. E. Webb was a contractor upon the St. M. & W.O.R. construction between Embro and St. Mary's, Ont., and made an assignment to G. F. Webb. The railway company took over the contract and completed the work.

Allan Cameron, General Traffic Agent, C.P.R., who has recently been transferred from London, Eng., to New York, wrote, Feb. 10: "While in England I was receiving THE RAILWAY AND MARINE WORLD, and would be very pleased to have your mailing department send it to New York to me. I do not wish to miss the valuable transportation information concerning Canadian companies which your paper contains."

On the recommendation of the American Association of General Passenger and Ticket Agents, a uniform prepared order for handling interline prepaid ticket business will be adopted in Eastern Canadian Passenger Association's territory on May 1, the prepaid order to be issued at the time deposit is accepted, a uniform fee of 50c. to be paid for the order, whether for local or interline tickets, same not to be subject to refund.

During Dec., 1908, 22 employes were killed and 21 injured in the course of their work on Canadian railways. Of the fatalities, 6 were due to being run over, 4 to collisions, 3 each to being caught between cars, and to being struck by locomotives, 2 to a cave-in, and one each to a fall; to blood poisoning from a steel splinter, to being frozen, and to a dynamite explosion; while of the other accidents, 5 were due to derailments, 4 to being struck by locomotives, 3 each to machinery and to collisions, 2 to an explosion of steam, and one each to tools, to flying material, to being caught between cars, and to a fall.

CROSSEN CAR MFG. COMPANY
OF COBOURG, LIMITED

MODERN HIGH-CLASS
ROLLING STOCK
Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows
Car Castings, Forgings and Repair Parts

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED
BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON [via Boston & Maine R.R. and Cent. Vermont Ry.] MONTREAL, TORONTO and CHICAGO.
THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.
Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"
The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

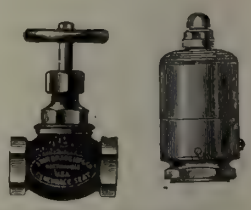
The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, General Passenger and Ticket Agent, MONTREAL, QUE.

"STAR" LOCOMOTIVE CAB FITTINGS
AND OTHER
HIGH-CLASS BRASS SPECIALTIES

STEAM, CAB HEATING, AIR, AND TESTING GAUGES, CHIME WHISTLES

TAYLOR & ARNOLD
Montreal and Winnipeg



RENEWABLE SEAT GLOBE VALVES, OPEN AND MUFFLED SAFETY VALVES

STOCK CARRIED IN WINNIPEG **518-520 SOMERSET BLOCK**

The Wheel Base of Ry. Rolling Stock.

By Roger Atkinson, formerly Mechanical Superintendent C.P.R.

The annual cost for maintenance of track, both as to roadbed as well as ties and rails, depends largely upon the arrangement of engine wheel base and trucks, as well as upon trucks under cars. This is not so obvious to the majority of mechanical department officials, as they do not usually have the opportunity to observe and study the signs of gradual destruction and consequent expense so involved, for, as a rule, they only see the

FIG. 1.

results of an extreme case, such as when a derailment occurs, and then they rarely have a chance to examine the track as well as the rolling stock, on account of the road gang having to get the former into working condition again in the shortest possible time, and the blame for derailment is usually put upon the rolling stock without any competent "devil's advocate" for the accused being present, so as to get at the remote and probable true cause. Under these conditions the charge is commonly formulated by an official, who, while perfectly able in his own department, cannot be expected to know the mechanics of the machine, or the effect of certain forms of construction in detail.

We are all perfectly familiar with the difficulty of pulling out, or pushing in, a drawer in a piece of furniture when the drawer is very wide and short, the least angularity in the

FIG. 2.

moving force, or friction, causing it to bind and lock in a diagonal position. This tendency is absent with a narrow, deep drawer, on account of the length of the guiding slide, but in one that is square, or nearly so, the locking tendency depends upon the lateral play in the guides, to a great extent in a direct ratio, and also to the point of application of the pull, and the direction of pull. When a drawer is once locked diagonally, enough force to wreck the drawer, or burst out the guides laterally, may be applied without getting it to slide.

From the illustration we may derive a comprehension of the effect of a truck under a freight car or tender, having a wheel base of 4 ft. 10 in., on a track of standard 4 ft. 8½ in. gauge, when the truck is out of square, causing one of the leading pair of wheels to bind on the flange against the rail, and by its own friction increases the locking effect, pushes the truck still further out of square, and tends to spread the track, while the leading edge of the flange on the binding wheel tries to mount

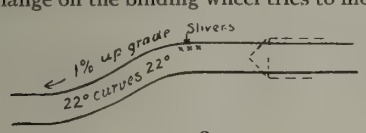


FIG. 3.

the rail, and failing to do so, acts like a pair of scissors or shear blades, destroying both its own flange and the rail head. This flange pressure increases greatly with increase of gauge, as is usual on curves, and when a sharp flange is formed it will actually shear strips off the rail. The flange of a steel-tired wheel will cut away and form a sharp flange quicker than a cast iron wheel under these conditions, and the writer has had cases where the flange was only 9/16 in. thick at the root, as in fig. 1. It will be obvious that this action is increased on such curves as are opposite in curvature to the direction which the wheels tend to take (fig. 2), as well as by the widening of the gauge, which is therefore undesirable, but is rendered necessary to some extent as a compromise for the impossibility of making an engine with a straight centre line conform theoretically to a curved track, and the less it is adopted or required, the more easily can the cars be hauled, thus saving power, and with less damage both to themselves and the track. The reluctance or resistance of the trucks to curving is also greatly increased when the load is carried on the side bearings, and the locking effect may be thus produced with trucks which are perfectly square. To illustrate this point, an instance may be quoted where trouble was experienced on a wharf track, having a 22 deg. reverse curve on a 1% grade. Two locomotives, eight-wheel type, one having 16 x 24 in. cylinders, with 8 ft. fixed wheel base, and rigid centre truck, and the other 17 x 24 in. cylinders, with 8½ ft. fixed wheel base and swing truck, could only haul 30 empty freight cars of 40,000 to 60,000 lbs. capacity, at about 2

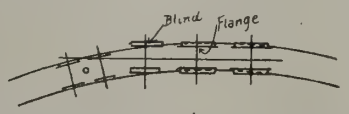


FIG. 4.

miles an hour. On inspection, after the train passed, slivers of rail up to about 5 in. long, wedge shaped in section, and hot, were found inside the outer rail on the curve (see fig. 3), and the gauge of track was found to be 4 x 9¾ in., having to be so made to allow the locomotive with the rigid truck to work without derailment. An 18 x 24 in. six-wheel switcher, with 10 ft. 0 in. fixed wheel base, and blind tires on centre pair, was put on the service, and easily hauled such trains with the curve closed to nearly standard gauge. As the driving wheels of the engines taken off did not show any indications of striking the outer rail, and their flanges were not cut sharp, the cutting could only be done by the freight cars, as it did not occur after the gauge was closed.

As widening on curves, then, is a modification required on account of the engine wheel base, it is advisable to look into and analyze as far as possible the design and results of various arrangements. Something like 20

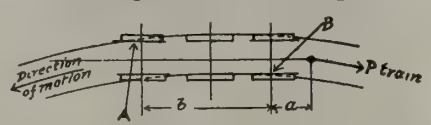


FIG. 5.

years ago some 10-wheel passenger engines were built which had swing trucks and blind tires on the front pair of drivers. These engines, when they struck a curve, had too little guidance from the truck till they got well on the curve, and consequently headed for the ditch until they reached the limit of play of the truck (see fig. 4), with the main driver flange binding on the outer rail, and remained in this posture through the curve when they righted with a wriggle. The opposite curve produced the complementary effect, and the result was two treads on the blind front tires about 2½ in. centre to centre, and cut flanges on the main drivers, and eventually broken main axles, due to heavy flange pressure. In the meantime, however, some of these engines were equipped with a rigid centre truck, and the result was that they went round curves with a saw-tooth motion, like a fish in an aquarium tank, bobbing its nose against the glass as it goes. The wheel base was too rigid and the main drivers cut their flanges against the inside rail, while the truck wheels rapidly acquired side play, sometimes as much as 2½ in., and the repairs to truck boxes on account of side wear, up to ¾ in. and even ⅞ in. deep, could not be kept up within the shops. During this period a couple of engines were equipped with blind tires on centre drivers instead of on the front, and swing trucks with lateral spring control, and were operated on a very crooked division with perfect satisfaction, so that it became standard practice, and not too soon, as the crop of cracked main axles which were removed soon after indicated.

If we pause for a little time to consider the action and direction of the forces called into play, it is plain that if a six-wheel switcher

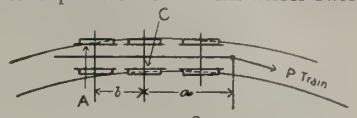


FIG. 6.

with main wheels having blind tires is placed upon a curved track, the centre line of the engine will form a chord to the curve, extending from the centre of the front axle to the centre of the back axle, at right angles to a radius of the curve which bisects the fixed wheel base, and there will be no lateral strain upon the flanges and rails (other than any wedging action, which may be caused by tight flanges), and also no bending of the engine frame.

If this engine pulls a train on the curve, then the angular pull of train, P (see fig. 5), will cause the back wheels to bind on the inner rail at B, and the front wheels to bind on the outer rail at A; the resistance of the point B will form a fulcrum, and the force at A will depend on the ratio of the leverages *a* and *b*, that is, if *a* is small and *b* great, the turning effect on the engine will be small, and also the flange pressure at A, and vice versa, so that a long overhang from B to the drawbar pin

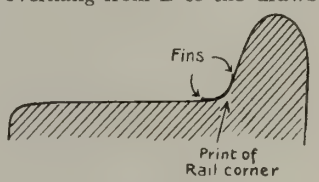


FIG. 7.

will tend to cut the front flange, also to bend the frame and spread the track. Now suppose the engine to have a front truck, either two or four-wheel, as a mogul or 10-wheeler, then, in order to get the truck on the track, it must be jacked over to the correct position with a force depending upon the method of truck suspension and degree of curvature, and when in place it exerts the same force to tend to swivel the engine round until the lateral force is divided between the truck and the back wheel against the outer rail and resisted by the front driver against the inner rail. This is how the guiding force of the truck is provided, and it tends to pull the outer front wheel away from the outer rail, against which it would naturally run, on account of the centre line of the engine being a chord on the curve; it also tends to bend the engine frame to suit the curve. There is another force also tending to cause the outer leading wheel to hug the outer rail, and that is the angular pull of the train on the curve pulling the back end of the engine against the inner rail. If, therefore, the outer front driver flange is to be prevented from cutting, the lateral force of the truck inward must be sufficient to overbalance both of these outward tendencies, and should increase with the degree of curvature. If the guiding power of the truck is too small, the inertia of the engine tending to make it travel in a straight line, also causes it to be projected against the outer rail on entering a curve and tends to overturn the rail, or disturb the track sideways.

Let us now go back to the six-wheel switcher and consider the forces when the centre tires have flanges, as well as the front and back

MORISON Suspension Furnaces

The universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine —Boilers—

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

MANUFACTURED BY

THE CONTINENTAL IRON WORKS, WEST AND CALYER STS., BOROUGH OF BROOKLYN. Near 10th and 23rd Street Ferries. **NEW YORK**

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

PURCHASING AGENTS!!!

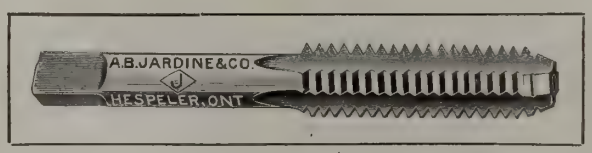
When ordering material to be applied to new equipment, do not overlook the fact that we are sole agents in Canada for the following standard specialties:

MONKBRIDGE (Yorkshire) Staybolt Iron for Locomotive Fire Boxes
Curtain Supply Co.'s Car Window and Vestibule Curtains
Pantasote Curtain and Upholstery Material
"AJAX" Passenger Car Vestibule Diaphragms
FEWINGS Cast Steel Car and Engine Replacers
FORSYTH Safety Deck Sash Ratchets
FORSYTH Car Buffing Device
FORSYTH Draw-bar Centreing Device

Complete literature and prices covering any of the above lines will be promptly sent on request.

MONTREAL 302 St. James Street **N. J. HOLDEN CO., LIMITED** **TORONTO 42 York Street**

"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes



Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.

tires. It is evident that the middle flange on the inside, when on a curve, binds on the inner rail, tending to bend the frame to the curve, and to open the gauge; when the engine hauls a train the angular pull of the train acts on the inner main flange as a fulcrum, see fig. 6, at C, with the distance *a* as a lever, and forces the front outer flange at A against the rail on the short lever *b*. There is, therefore, a great force tending to spread the track, and this turning movement is limited when the back inside driver comes against the inner rail at B. Otherwise it would derail the engine if the curve was great. This action is not relieved to any extent by setting the front and back tires in, because the inset back tire lets the engine turn just as much as the front tire is set in; but the engine is then at a greater angle to the direction of motion, and the outer flanges are at a worse cutting

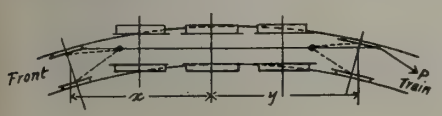


FIG 8.

angle. The same reasoning holds good for a mogul, or 10-wheel, engine wheel base, as the turning fulcrum point is shifted by the main flange from the back wheels to the main wheels, so that the truck loses in guiding power by acting on a shorter distance, while the angular train pull has a longer lever to act upon and force the front of the engine outwards.

In addition to the wear and tear produced in the above manner, the inset of front and back tires permits the engine, when on straight track, to run with a nosing or twisting motion, especially if the counterbalance is not very perfect. This soon develops side wear on the truck boxes, and looseness in the truck, thereby losing guiding power, which reacts on both track and engine. The insetting of front and back tires also induces more wear on frogs and guard rails by contact with the inner wheel flange; the steady or constantly active destructive action thus produced is not visible, but exists, and is important. It is easy to persuade ourselves that these flange strains are not important because they are far below any immediate breaking strain, but it is the perpetual repetition which causes failure and the consequent expense. I have seen a case where a mogul

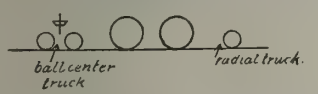


FIG. 9.

engine with all flanged tires newly turned to gauge, and to the M. M. Association form of tread, that in less than 400 miles' running caused the corner of the rail to wear the root of the flange so heavily that the flow of metal formed fins, as shown in sketch (fig. 7), and of course there was equivalent wear of rail over the 400 miles.

It should also be borne in mind that the whole lateral force of the truck which is useful to bring the engine into line with the track when running forward is detrimental to it when running backward, causing the outer back flange to bind on the outer rail, and this is increased when the engine is equipped with flange tires on the main drivers, and still more so by the resistance of the train if it is backing up by the angularity of the pushing force tending to make the back end buck out sideways.

It will therefore now be evident that if we find it is necessary to equip an engine with a rear truck, either to protect the back wheels for backward running, or to carry the back overhang of the engine, that the lateral force required to put this truck on the track on a curve will neutralize the guiding force of the front truck when running forward, because it assists the angular force or pull of the train to keep the engine in line with itself, causing the engine to swing round its centre as a pivot, and bring the outer front driving flange hard against the outer rail. This action is more powerful when main drivers are flanged than when blind, as shown previously by the difference in leverage; and that truck which has the greater distance from the main drivers, *x* or *y*, (fig. 8), will (if the weight on each be the same) bring the engine nearer its own centre line; so that a heavily loaded distant back truck will (both by leverage and weight) exercise control over a lightly loaded, closely set front truck, and vice versa. The swing hangers or other lateral provision for side resistance may be carefully designed to avoid pulling the back end of the engine into line with the train, which in turn renders it useless as a leading truck.

I know of a case in which an eight-wheel engine, with front truck having a ball centre, was converted into a double-ender tank engine (fig. 9), with a radial truck at the back to carry the coal bunker and part of the water tank. When operated, this engine constantly gave trouble when running backwards by the back truck jumping the track, until its guiding power was practically dispensed with by giving it very free lateral motion. Engines which have a long overhang at the back end, from the fixed wheel base to the pin in front end of the tender drawbar (see fig. 10), are therefore most easily deflected from the desired direction by the pull of the tender, and in turn exercise a strong lateral force, F, tending to throw the tender off the track towards the outside of the

FIG. 10.

track on a curve, especially at a frog, which may explain some of the derailments which have been under discussion of late. To illustrate this, on one occasion a coach about 70 ft. long in the body was being turned by an ordinary 10-wheel engine on a Y, which had a rather short curve, connecting two main lines. The engine and coach were backing, and when the back truck of the tender reached the frog at the entrance to the curve, it promptly derailed on the outside of the curve. It was pulled on again, and pushed slowly, but mounted the frog again. The coach was then disconnected, and the tender pushed against it without coupling, as the couplings were quite a distance apart, and no derailment occurred.

As the average tires and rails may be taken to be of about equal hardness, and as a revolving or moving body working upon a standing body is usually less detruded or affected than the standing body, for example, in the blind saw used for cutting rails, etc., which has usually less material removed than the work operated upon, we may take for granted that more material is removed from the rails than from the wheels, and also that the rails, frogs, etc., suffer more damage by displacement than the engine shows, so consequently the cost of maintenance is increased if such wheel base and other arrangements are not adopted as conform with the least strain to the nearest theoretical conditions to reduce curve resistance.

So far as the locomotive is concerned, one of the clearest indications of excessive flange pressure on curves is found in the breaking of main axles, either under the wheel seat or between the wheel and the centre of the journal. This type of failure does not often occur with a back driving axle, and even more rarely with a front axle, and is usually construed as being caused by the cylinder pressure acting on the long main crank pin as a lever. There are two important reasons why this is not entirely the case, first, that sometimes the front or back axles fail, which cannot be caused by cylinder pressure, and, second, if the cylinder pressure were the only cause, the cracks in the axle would be developed on both sides at right angles to the crank pin (see fig. 11), which has never been the case in my experience in many years. The cracks are always found to be at an angle such as indicated in Fig. 12. This seems to show that the maximum bending stress is a combination of the cylinder pressure and a regular recurring flange pressure, due to the lateral twist of the engine, probably due to defective counterbalancing, and which would be naturally increased by such an arrangement as insetting the front and back tires, as it permits a pressure to become a blow by providing distance in which to operate. The breaking of a main axle in the location and manner shown where the driving wheels have blind tires is practically unknown; whereas

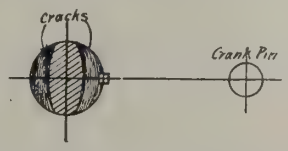


FIG. 11.

both driving wheels, having flanges, have been known to break off one axle in the same accident.

I had, on one occasion, an opportunity to examine a very heavy passenger engine which was under repair, the principal trouble being that sharp flanges had developed on all driving wheels to such an extent that the tires had to be turned down about ¼ in. in order to get a good flange again. All drivers had flanges, and the front and back tires had been set in, as is common practice on some roads. The engine was new and had only been in service for a period of about four months, but not continuously. It would appear that there must have been great wear upon the track, and expense, with risk of derailment, and it is reasonable to think that such a result shows defective engineering.

In mediæval times, when knights wore plate armor, the best point of attack and most liable to produce effective results, was to strike at the joints; and the point where departments overlap, or should do so, is the joint where the general manager can penetrate and get in his lance called "Please explain," and while he may have too many irons

FIG. 12.

in the fire to spare more than one or two of his "argus eyes" for the purpose, he could well be represented by a qualified champion who was both knight and armorer, and expert at both making and breaking joints.—Railway and Locomotive Engineering.

Following are the officers and directors of the Canadian Transfer Co. for the current year: President, W. C. McIntyre; directors, H. Paton, C. Cassils, G. R. Starke and Sir H. Montagu Allan; Manager and Secretary, F. M. McRobie.

The Dominion Ex. Co. recently moved its Winnipeg offices to a new building on Bannatyne Ave., where all the up-town business of the company will be conducted on and after Mar. 1. The new premises give much greater facilities for the handling of business.

The Minister of Railways has issued an order, Feb. 24, that the mechanical staff of the I.C.R. was to be employed at full time of 10 hrs. a day from Mar. 1. The order affects about 2,000 employes. The staff has been working only 8 hrs. a day for some time, with a proportionate reduction in pay.

THE ESTABLISHED 1854 INCORPORATED 1881

JAMES SMART MFG. COMPANY LIMITED

WORKS
BROCKVILLE, ONT.

WESTERN WAREHOUSE
131 Bannatyne Ave., WINNIPEG, MAN.

HARDWARE AND TOOL MANUFACTURERS

Our G TRADE MARK
A Guarantee of Excellence

LETTER PRESSES
FREIGHT TRUCKS
STATION BENCHES

Purchasing Agents will be furnished with Catalogues promptly on application.

ENVELOPE OPENERS, HOOK and SPIKE FILES, WAYBILL COPYING PRESSES, Etc.

KERR'S GLOBE AND GATE VALVES

STRICTLY HIGH GRADE. TESTED & PACKED

THE KERR ENGINE CO. LIMITED
VALVE AND HYDRANT MANUFACTURERS
WALKERVILLE, ONT.

EDWARDS

TRADE "PAOWNYC" MARK

STEEL TRAP-DOOR

FURNISHED COMPLETE, READY FOR APPLICATION

Weighs but a trifle more than a wood door, is **STRONGER** and cannot **WARP** or **SWELL.** Designed for Steel or Wood Coaches.

Write for Prices, Drawings and Further Information.

THE O. M. EDWARDS CO.
SYRACUSE, N.Y.

LOCOMOTIVES

FOR ALL CLASSES OF SERVICE

VULCAN IRON WORKS
WILKES-BARRE, Pa., U.S.A.
Canadian Representatives, Mussens Limited, Montreal.

Railways Outside Dominion Jurisdiction.

In our issue of Oct., 1908, we published a list of railway companies under this heading, the same being copied from a return presented to the Senate, in response to a resolution adopted by that body. We were subsequently informed by the Secretary of the Board of Railway Commissioners that the list as submitted to the Senate was incorrect, and he has since supplied us with the following list of railway companies which are not within the jurisdiction of the Board:

Beersville Coal and Ry. Co.
Bracebridge and Trading Lake Ry.
Brandon Transfer Ry.
Brantford and Erie Ry.
Bruce Mines and Algoma Ry.
Boston and Maine Rd.
Burk's Falls and French River Ry.
Campbellford, Lake Ontario and Western Ry.
Canada Coal and Ry. Co.
Cape Breton Ry.
Caraquet Ry.
Carillon and Grenville Ry.
Central Marmora Ry. and Mining Co.
Central Ry. of Canada.
Crow's Nest Southern Ry.
Gulf Shore Ry.
Halifax and Southwestern Ry.
Halifax and Yarmouth Ry.
Hamilton, Grimsby and Beamsville Electric Ry.
Harvey Branch Ry.
Hereford Ry.
Hillcrest Ry. and Coal Co.
Huron and Ontario Ry.
Irondale, Bancroft and Ottawa Ry.
Indian River Ry.
Intercolonial Ry.
International Coal and Mining Co.
International Ry. of N.B.
Inverness Ry. and Coal Co.
Kaslo and Slocan Ry.
Kent Northern Ry.
Kootenay Ry. and Navigation Co.
Kootenay Valley Ry.
Lenora, Mount Sicker Ry.
Liverpool and Milton Ry.
Lotbiniere and Megantic Ry.
Maganetawan Ry.
Massawippi Valley Ry.
Midland Ry. (Manitoba).
Morrissey, Fernie and Michel Ry.
New Westminster Southern Ry.
Nosbonsing and Nipissing Ry.
Nova Scotia Steel and Coal Co.
Pacific Northern and Omineca Ry.
Phillipsburg Ry. and Quarry Co.
Prince Edward Island Ry.
Quebec Central Ry.
Quebec and Lake St. John Ry.
Sydney and Louisburg Ry.
Temiskaming and Northern Ontario Ry.
Vancouver Copper Co.'s Ry.
Victoria and Sidney Ry.
Victoria Terminal Ry. and Ferry Co.
Wellington Colliery Ry.
York and Carleton Ry.

Telephone Dispatching on the C.P.R.

B. S. Jenkins, General Superintendent C.P.R. Telegraphs, speaking recently on the installation of telephones to replace the telegraph for dispatching on the C.P.R. system, is reported to have said: "During the last few years great improvements have been made in telephone apparatus, with the result that uses can be made of it which were not possible in earlier years. During the last three years the C.P.R., with other roads, has been making experiments in the use of the telephone for train dispatching. Early last season telephone equipment was supplied to the line from Montreal to Farnham, a very busy section, and the success of the test was so marked that the equipment was continued to Newport. Early in the year, Mr. Whyte, Second Vice-President, who keeps in the closest touch with all new developments, asked me for estimates for certain sections of western lines. As a result, appropriations were secured for the immediate installation of telephone equipment on two important sections, namely, from Winnipeg to Brandon, 133 miles, and from Swift Current to Medicine Hat, 150 miles. Heavy copper metallic circuits will be provided, two heavy copper wires being strung on each section. These circuits will be entirely self-contained, the signalling and talking all being done on the same pair of wires."

It was recently reported that the C.P.R. proposed to extend the present area of telephone dispatching on the Eastern Division, by installing it between Montreal and Ottawa, but we are officially advised that there is no such intention and that such a proposition has not received any consideration as yet.

Canadian Pacific Railway Forestry.

The C.P.R. Forestry Department was started in 1906, with the object of experimenting upon small sections through the prairie to ascertain if timber suitable for ties could be grown thereon. Tamarac and jack pine have been planted, but a considerable time must necessarily elapse before any definite conclusions can be drawn as to the possible results. In the spring, European larch and other varieties will be planted. In connection with this work a nursery has been established at Wolseley, Sask., for the supply of seedlings, and another one will be ready at Springfield, Man., early next spring. In addition to this work, small parks have been planted on land adjoining several small towns in the western provinces, the majority of which are co-operating with the company in making a success of the work, which is in the charge of a man formerly employed by the City of Berlin in a similar capacity. Another feature of the department is the planting of trees along the line, to replace snow fencing, and to act as wind-breaks around section houses, etc. A large number has already been planted around section houses, and, with two exceptions, the growth has been extremely satisfactory. Among the varieties to be used are Scotch pine, spruce, laurel, golden and red willows, etc., much depending on the character of the soil, location, climate and rainfall. The trees already planted are as yet not sufficiently grown to make a show from the roadway, but in a few years' time their appearance will considerably enhance the view from all points.

J. R. Binns, the wireless telegraph operator on the s.s. Republic, when she was run down by the s.s. Florida off the Nantucket Shoal recently, was presented with a suitably engraved gold watch, by G. Marconi, on behalf of the Marconi Wireless Telegraph Co , London, Eng., Feb. 9, "in recognition of the efficient discharge of his duties on that occasion."

The appeal of the C.P.R. against the assessment by the British Columbia Government of lands in the Nelson, Slocan, Golden and Fort Steele districts, forming part of the British Columbia Southern Ry. land grant, which the C.P.R. earned by the construction of the Crow's Nest Pass and other lines, came before the Court of Revision at Nelson, B.C., recently. The amount involved is estimated at between $125,000 and $150,000.

ELECTRIC RAILWAYS

Dominion Power and Transmission Company.

The annual meeting of this company, which controls and operates, among other utilities, the Hamilton Street Ry., the Hamilton and Dundas Ry., the Hamilton, Grimsby and Beamsville Ry., and the Brantford and Hamilton Ry., was held in Hamilton Feb. 16. The financial report does not give the earnings and expenses of the various constituent companies. The net earnings for the year 1908 were $249,193.35; bond interest, $125,000; carried to profit and loss, $124,193.35; the balance at the credit of which, on Jan. 1, 1908, was $9,371.41. There was paid in dividend on preference stock $87,451.27, and on limited preference $23,494.50, leaving $22,619.05 at balance of profit and loss Dec. 31, 1908. The combined earnings of properties owned or administered by the company were $1,600,312.25; operating expenses, $974,641.44; bond interest, $323,047.32; balance to profit and loss, $302.623.49.

The directors' action in passing the dividend in order to provide for improvements on the Hamilton St. Ry. was approved. It was announced that, provided satisfactory arrangements could be made with the city council, new tracks would be laid on Herkimer, James and Barton Streets this year, and later on, the York, King St. West and Locke Street lines would be reconstructed. The company wants permission to widen the devil strip from 4 ft. to 5 ft. all over the city

The retiring directors were re-elected. The officers and directors for the current year are: President, J. R. Moodie; Vice-President, Jas. Dixon; Treasurer, J. Knox; Secretary, W. C. Hawkins; other directors: J. W. Sutherland, S. O. Greening, L. Harris, W. Southam, A. Cooke.

It is said that an expert traction manager is to be appointed.

London Street Ry. Co's. Report.

Following are extracts from the report for the year 1908:

EARNINGS.

	1907	1908
Passengers	$226,509.77	$230,866.09
Miscellaneous	5,866.82	4,166.31
Gross Earnings	$232,376.59	$235,032.40

EXPENSES.

MAINTENANCE:		
Way and structures	$ 17,294.91	$ 13,573.55
Equipment	$ 24,279.36	28,128.03
TRANSPORTATION:		
Power plant	32,882.44	30,125.32
Car service	65,864.88	68,845.27
GENERAL	27,703.29	26,894.55
Total operating expense	$168,024.88	$167,566.72
NET EARNINGS	$ 64,351.71	$ 67,465.68

DEDUCTIONS.

Interest on bonds	$ 25,000.00	$ 25,005.82
Interest on overdraft	2,228.64	3,448.92
Total deductions	$ 27,228.64	$ 28,454.74
NET INCOME	$ 37,123.07	$ 39,010.94

"The policy of your directors to keep the properties in the very best condition has been maintained during the year, and in addition the following improvements have been made:

"Track and roadway, Ottaway Avenue derail, $211.12; electric line, lightning arresters, $345.96; power plant equipment, Gould storage battery balance, additional circuit breakers, oiling system, consulting engineer, $7,966.97; cars, fenders, trucks, $1,260.32; electric equipment of cars, five complete, $5,988.01; interest and discount, discount on bonds, $1,000.00; miscellaneous, printing mortgage, issue and delivery of bonds, $66.27; paving, Dundas St., Wellington to Adelaide, 3,900 ft., $13,971.99; total, $30,810.64.

"The tracks have been generally repaired during the year and are in good shape. When the city required Dundas St. repaved between Wellington and Adelaide Sts., it was found desirable to rebuild the double-track in this section and a most substantial construction was adopted, new 70-lb. high T rail in 60-ft. lengths being laid on A no. 1 cedar ties embedded thoroughly in a concrete foundation to a depth of 6 ins., making a very durable job and demonstrating the superiority of T over groove girder rail. While the cost is an abnormal charge on the maintenance at present, we feel confident however that results will show the wisdom of this policy. The rolling stock has been well maintained during the year, the older cars being entirely overhauled and in some cases practically rebuilt with such alterations

The Canadian Pacific Railway Company.

Dividends for the half-year ended 31st December, 1908, have been declared as follows:

On the Preference Stock, Two per cent.

On the Common Stock, Three per cent.

A further sum equal to one-half of one per cent. on the Common Stock will be paid thereon at the same time out of interest on the proceeds of land sales.

Warrants for the Common Stock Dividend will be mailed on 31st March next, to Shareholders of record at the closing of the books in Montreal, New York and London respectively.

The Preference Stock Dividend will be paid on Thursday, April 1st next, to Shareholders of record at the closing of the books at the Company's London Office, No. 62 Charing Cross, London, S.W.

The Common Stock Transfer Books will close in Montreal, New York, and London at 3 p.m. on Monday, March 1st. The Preference Stock Books will also close at 3 p.m. on Monday, March 1st.

All books will be re-opened on Friday, April 2nd next.

By order of the Board,

W. R. BAKER,
Secretary.

Montreal, 8th February, 1909.

NOTICE.—The Canadian Pacific Railway will apply to the Parliament of Canada, at its present session, for an Act,—

I.—Extending the time within which it may construct: (a) the railway which it was authorized by chapter 52 of the Statutes of 1902 to construct from a point at or near Piles Junction, thence to Shawinigan Falls, and thence to Grand Mere.

(b) The railways which it was authorized to construct by section 3 (a), (b), (c), (d), (f), (g) and (i) of chapter 74 of the Statutes of 1907, as follows:

(1) From a point in townships 32 to 34, range 21 to 23, west 2nd, northerly to Prince Albert.

(2) From a point on its Pheasant Hills Branch, in township 39 or 40, range 19 or 20, west 3rd, towards Battle River, thence westerly through township 43, 44 or 45 to a point in range 5 or 6, west 4th, thence southerly and westerly to township 36, 37 or 38, range 11, 12 or 13, west 4th.

(3) From a point in township 27, 28, 29, 30 or 31, range 4, 5, 6 or 7, west 3rd, in a westerly and northerly direction to a junction with the terminus of the Lacombe Branch of the Calgary and Edmonton Railway.

(4) From a point in township 39, 40, or 41 range 3, 4 or 5, west 4th, to a point in township 30, 31 or 32, range 17, 18 or 19, west 3rd.

(5) From Weyburn westerly through township 6, 7, 8 or 9 to a point in range 30, west 2nd.

(6) From a point at or near Estevan to a point in township 4, range 22 west 2nd.

(7) From a point in township 6, 7, 8 or 9, range 30, west 2nd, westerly to connect with the Crow's Nest Pass Branch between range 16, west 4th, and Lethbridge.

II.—Authorizing it to construct a line from a point on the revision of the Crow's Nest Pass Branch in township 9, range 22, west 4th, in a northerly and northwesterly direction to a point of junction with the Macleod Branch of the Calgary and Edmonton Railway at or near Aldersyde, in the Province of Alberta, a distance of about 85 miles.

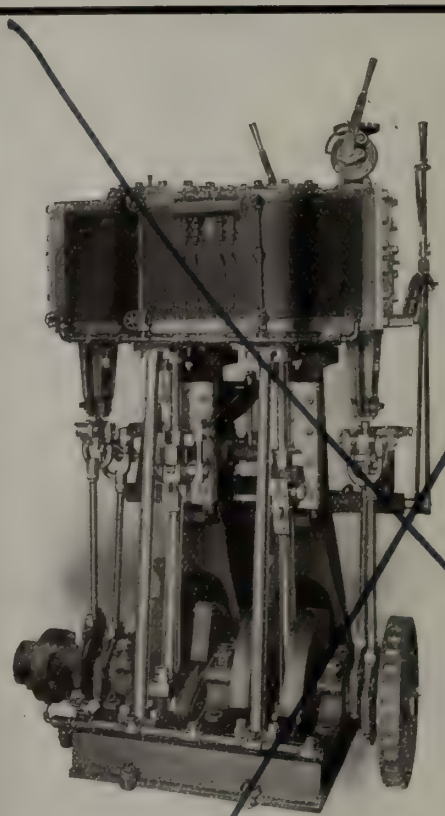
And for other purposes.

WALTER R. BAKER,
Secretary.

Dated at Montreal, 20th January, 1909.

TORONTO BOLT AND FORGING CO.
LIMITED
Manufacturers of
BOLTS AND NUTS
OF ALL KINDS, INCLUDING
Track Bolts
Track Spikes
Lag Screws
Boiler and
Bridge Rivets

TORONTO — CANADA



DOTY ENGINE WORKS CO.
LIMITED
Goderich - Ontario

MARINE ENGINES
MARINE BOILERS

For Fresh and Salt Water Service

We Build Steel, Composite and Wood Hulls

WRITE FOR CATALOGUES AND ESTIMATES

as have been found advantageous, so that all our cars are now in a first-class condition. The complete installation of the 320 ampere storage battery has equalized the extreme demands for power and has made a noticeable decrease in the coal consumption as well as effectively increasing the capacity of the plant. Negotiations with the city relative to the extension of the company's line in the north end of the city are still under consideration. Your directors met the committee of the city council relative to the proposed purchase of the railway by the city in accordance with their request on February 6, 1908, but since then there has been no further development. All agreements with the city have been fulfilled, the two-way service demanded on the Ottaway line having proved satisfactory has been maintained with a fair return. Your directors have great pleasure and satisfaction in being able to state that the sentiment in the community generally is favorable to the company, and it is the constant aim of the management to so improve the service as to merit the goodwill of the patrons. A committee of citizens desirous of obtaining Sunday cars secured the consent of the council to authorize a vote on the matter at the municipal election in January, which resulted with a substantial majority in favor of same. Your directors disposed of $50,000 of bonds during the latter part of the year at a very fair price, considering the financial depression, and prices of like securities. In view of the general decline in business throughout the country we draw your attention with pleasure to the increase in the gross earnings and surplus for the past year. We confidently expect that the coming year will prove quite as satisfactory. There were 63 shareholders of record Dec. 31, 1908.

ASSETS.

Road and equipment, real estate, buildings and plant	$1,105,474.98	
Improvements, additions, etc.	30,810.64	$1,136,285.62
Cash on hand	$ 1,868.98	
Accounts receivable	1,159.35	
Stores	21,107.74	
Coal stock	2,285.36	
Suspense	13,441.11	
Uniforms	223.42	
Sundries—(prepaid accounts)	73.92	
Unexpired insurance	200.00	40,359.88
Total		$1,176,645.50

LIABILITIES.

Capital stock	$ 550,000.00	
Bonds—5%	550,000.00	
Mortgage (Bathurst St. lots)	750.00	$1,100,750.00
Bond interest	$ 8,662.82	8,662.82
Molsons Bank (overdraft)	$ 9,533.88	
Accounts and wages payable	15,289.35	
Dividend payable Jan. 2, 1909	16,442.42	41,265.65
Tickets float (unredeemed tickets)	$ 6,522.92	
Injuries and damages fund	1,418.51	
Profit and loss (surplus)	18,025.60	25,967.03
Total		$1,176,645.50

PROFIT AND LOSS ACCOUNT.

Dividend (3%) payable July 15, 1908	$ 16,269.34
Dividend (3%) payable Jan. 2, 1909	16,442.42
Directors' and auditors' fees	1,470.00
Adjustments	7,642.23
Surplus	18,025.60
Total	$ 60,169.59
Surplus, Jan. 1	$ 21,138.77
Unclaimed wages	19.88
Net income for 1908	39,010.94
	$ 60,169.59

Statistical information: Gross earnings, $235,032.40; operating expenses, $167,566.72; expenses per cent. of earnings, 71.3; net earnings, $67,465.68: net income per cent. of capital, 7.10; passengers carried, 6,442,998; car earnings per revenue passenger, 3.64c.; transfers, 1,062,306; total passengers, 7,505,304; car earnings per passenger, 3.07c.; car mileage, 1,427,353; gross earnings per car mile, 16.47c.; operating expenses per car mile, 11.74c.; net earnings per car mile, 4.73c.; miles of track, 33.25; gross earnings per mile of track, $7,068.64.

At the annual meeting Feb. 3, an increase of $50,000 in the capital stock was authorized for extensions, etc., contemplated for the current year. The officers and directors were re-elected for the current year as follows: President, H. A. Everett, Cleveland, O.; Vice-President, T. H. Smallman, London; other directors, P. W. B. Broderick, W. M. Spencer, London; H. S. Holt, Montreal; E. W. Moore, C. W. Wason, Cleveland, O.; Manager, C. B. King; Sec.-Treas., G. H. Bentson.

Winnipeg Electric Railway Report.

W. Whyte, Vice-President, occupied the chair at the annual meeting in Winnipeg Feb. 10. Following are extracts from the report for the year 1908 signed by W. Mackenzie, President:

"The gross profits were $1,117,222.38, as compared with $946,675.67 in 1907. After providing for percentages on earnings accrued to the city and interest on bonds, your directors declared four quarterly dividends, amounting to $595,789.46, leaving a surplus of $149,613.78, which has been transferred to the credit of profit and loss account, making a total credit to this account to Dec. 31, 1908, of $598,024.41. The percentages of earnings show an increase of 28.08% compared with 1907, while the operating expenses show an increase of 40.36%, as compared for the same period. The net earnings show an increase of 18.01% over those of 1907.

"The roadbed, rolling stock, buildings and other properties have been efficiently maintained. The hydraulic works at Pinnawa Channel, Winnipeg River, have also been very satisfactorily and efficiently maintained, and your directors believe will compare favorably with any power plant of equal capacity. The car service, both as to efficiency of operation and equipment, compares favorably with that of any street car company in America. The following improvements and additions to the company's equipment and system have been made: 17 large double-truck closed cars, equipped with air brakes, heaters in the motorman's vestibule, and other modern appliances, were constructed in the company's Winnipeg shops and put into service. 12.963 miles of track were constructed; 3.381 miles of this being surface track with ballast, 1.935 miles track in wood block pavement, .887 miles track in macadam pavement, and 6.758 miles track with concrete foundation. 1,344 new poles were erected in the extension of power and electric lighting lines, with 302,049½ lbs. of wire. 26,806 ft. of gas main were laid in extending and renewing the system of gas mains. 31,840 ft. gas pipe were laid, installing 558 new gas services and renewing old ones.

ASSETS.

Cost of property, street railway, buildings, plant and equipment; electric lighting, plant and equipment; electric power, plant and equipment; gas buildings, plant and equipment; water power, plant and equipment	$12,722,247.89
Stores	135,545.93
Accounts receivable	104,659.81
Cash on hand	7,976.92
Conductors' working fund	5,819.05
Winnipeg, Selkirk and Lake Winnipeg Ry.	403,550.82
	$13,379,800.42

LIABILITIES.

Capital stock		$ 6,000,000.00
Bonds		5,000,000.00
Accounts payable	$ 705,156.45	
Wages for Dec.	36,791.12	
Interest on bonds paid Jan. 2, 1909	125,000.00	866,947.57
Car license due Feb. 1, 1909	$ 3,500.00	
City percentage due Feb. 1, 1909	44,981.63	48,481.63
Unredeemed tickets		3,267.80
Bank of Montreal		658,297.08
Suspense		204,781.93
		$12,781,776.01
Surplus		598,024.41
		$13,379,800.42

CONTINGENT LIABILITY.

Suburban Rapid Transit Co.'s bonds	$ 500,000.00
Winnipeg, Selkirk and Lake Winnipeg Ry. bonds	400,000.00
Interest and payment guaranteed	$ 900,000.00

REVENUE AND EXPENDITURE.

Gross earnings for year	$2,206,094.88	
Gross expenses for year	1,088,872.50	
Net earnings for year		$1,117,222.38
Fixed charges	$371,819.14	
Dividends	595,789.46	967,608.60
Surplus for year		$ 149,613.78

PROFIT AND LOSS ACCOUNT.

Balance at credit Dec. 31, 1907	$ 806,310.63
Less paid on account stock dividend	357,900.00
	$ 448,410.63
Net earnings	149,613.78
Balance at credit Dec. 31, 1908	$ 598,024.41

The passengers carried in 1908 were 22,019,507, against 20,846,317 in 1907. The number of transfers issued was 7,777,315, against 5,954,067. The railway earnings per capita were 9.80, against 9.84.

The directors and officers for the current year, who were re-elected, are: President, W. Mackenzie; Vice-President, W. Whyte; Secretary-Treasurer, F. Morton Morse; other directors: D. D. Mann, Sir Wm. C. Van Horne, A. M. Nanton, Hugh Sutherland, D. B. Hanna, R. J. Mackenzie; Manager, Wilford Phillips.

Toronto Ry. Co.'s Report.

Following are extracts from the report for the year 1908:

"While it was naturally to be expected that the gross income should be somewhat adversely affected by the recession in general business conditions prevailing throughout the year, which resulted in the closing down in whole or in part of many manufacturing establishments, and the general curtailment of trade, it is very gratifying to be able to present so favorable a report, showing as it does an increase in the net earnings of $103,264.91. A summary of the reports and statements attached shows the following results for the year:

Gross passenger earnings	$3,566,493.72
Maintenance and operating expenses	1,889,046.62
Net earnings	$1,677,447.10
Sundry incomes	43,779.26
Total net earnings	$1,721,226.36

DEDUCTIONS.

PAYMENTS TO CITY:		
Percentages	$ 447,397.67	
Cost of pavements	81,158.00	
Taxes	50,438.89	
Total payments to city	$ 578,994.56	
Bond interest, etc.	195,033.33	774,027.89
SURPLUS		$ 947,198.47
Deduct four quarterly dividends of 1¾% each		479,513.80
Net surplus after payment of all fixed charges and dividends		$ 467,684.67
Percentage of maintenance and operating expenses to passenger earnings		52.9%

"The increase in gross passenger earnings amounted to $147,005.64, which, considering the general depression mentioned above, is very satisfactory. Another favorable feature is the fact that all maintenance and operating departments show decreases. The chief reduction occurs in the cost of power and the shareholders are to be congratulated upon the advantageous outcome of the negotiations whereby this company has secured control of the splendid property of the Electrical Development Co. and its practically unlimited supply of power. In this connection, it is a source of gratification that since the company commenced using power from Niagara Falls, over two years ago, the interruptions to the service have not aggregated three hours.

"During the year $431,870.94 has been expended for extensions, additions and betterments. Over 40 of the latest type

---

NOTICE is hereby given that the Annual Meeting of the Shareholders of the **VICTORIA ROLLING STOCK COMPANY OF ONTARIO, LIMITED**, will be held at the offices of Messrs. Osler & Hammond, 21 Jordan Street, Toronto, on **Wednesday, March 3rd, 1909,** at twelve o'clock noon, for the reception of the Annual Report and election of Directors for the ensuing year.

By order,

R. A. SMITH,
Secretary.

Toronto, February 12th, 1909.

NOTICE is hereby given that application will be made by the Grand Trunk Pacific Branch Lines Company, to the Parliament of Canada, at the present session thereof, for an Act amending its Act of incorporation, 6 Edward VII, chapter 99, by empowering the said company to lay out, construct and operate a line of railway from a point on the company's authorized line at or near Regina, Province of Saskatchewan, thence westerly to Moosejaw, a distance of about 45 miles, and to issue bonds, debentures or other securities in respect thereof to the extent of thirty thousand dollars per mile.

W. H. Biggar,
Solicitor for Applicants.

Montreal, 15th February, 1909.

NOTICE is hereby given that application will be made by the Grand Trunk Pacific Branch Lines Company to the Parliament of Canada, at the present session thereof, for an Act amending its Act of incorporation, 6 Edward VII, chapter 99, by empowering the said company to lay out, construct, and operate the following lines of railway:—(1) From a point on the main line of the Grand Trunk Pacific Railway west of Pembina Crossing, in the Province of Alberta, thence running southwesterly to a point at or near the Embarras River, and thence in a southerly direction towards the headwaters of the Little Pembina River, a distance of about 100 miles; (2) From a point on the main line of the Grand Trunk Pacific Railway, thence along the Embarras River running southwesterly towards the McLeod River, a distance of about 25 miles; (3) From a point on the company's authorized line between Calgary and Coutts and running southwesterly to McLeod, thence through or in the vicinity of Pincher Creek to the western boundary of the Province of Alberta, a distance of about 100 miles, and to issue bonds, debentures or other securities in respect thereof to the extent of thirty thousand dollars per mile.

W. H. BIGGAR,
Solicitor for Applicants.

Montreal, 8th February, 1909.

THE INTERNATIONAL MARINE SIGNAL CO.

OTTAWA, CANADA

MANUFACTURERS OF

Automatic Acetylene Gas Buoys, Beacons and Fog Signals.

Mariners describe our lighted buoys as "floating lighthouses."

IDEAL RAILWAY FENCING
MADE TO LAST
Large gauge (No. 9) hard steel wire is used throughout, decreasing cost of maintenance, insuring durability and serviceability.
IDEAL FENCE has been adopted as a standard by all the leading Railways in Canada. More IDEAL is used by Railways this year than all other makes combined.
Write for Prices and Catalogue
The McGregor Banwell Fence Co.
WALKERVILLE, ONTARIO
LIMITED

of double-truck convertible cars were constructed in the company's shops, and placed in service, thereby affording the company additional facilities for handling the ever increasing traffic.

"The loop lines constructed two years ago have proved of such great advantage to the public that, during the past year, the Richmond St. loop was extended easterly from Victoria to Church St.

"Careful attention has again been devoted to maintaining the different properties of the company and substantial improvements and betterments have been made.

"While our relations with the city council have continued friendly, it is to be regretted that notwithstanding the reports of the city engineer, and of the special expert engaged by the city endorsing the streets selected by the company for new tracks, the city has not seen the wisdom of assisting the company to relieve the congestion which so severely inconveniences the public. The company paid the city in 1908, $578,994.56, an increase of 210% in the last decade. Since the inception of the company in 1891, it has paid into the city treasury $4,554,446.00.

"The earnings of the Toronto and York Radial Ry. Co., during the year, have been very satisfactory. The gross earnings total $314,564.00, as compared with $282,144.00 in 1907. The Lake Simcoe extension to Jackson's Point, 24½ miles, was operated in 1907 for only six months. This line was recently extended to Sutton, 1½ miles, and the extension was opened for traffic in Dec. The revenues of the T. and Y.R.R. Co. are derived as follows: Passenger earnings, $268,808.80; freight, express, mail, $45,755.31; total, $314,564.11. The freight and express earnings continue to improve and show a gain of 23% over the previous year. The company's property has been maintained in excellent condition, and, after all operating expenses have been accounted for, there remains net earnings of $110,202.57, as against $105,740.35 for the previous year."

The number of passengers carried in 1908 was 89,139,571, against 85,574,788 in 1907. The transfers issued were 32,700,576, against 31,370,825 in 1907.

The percentage of operating expenses to earnings, 52.9, compares with previous years as follows: 1907, 53.9; 1906, 52.9; 1905, 56.8; 1904, 58.2; 1903, 55.3; 1902, 55.3; 1901, 51.6; 1900, 51; 1899, 48.8; 1898, 47.4.

ASSETS.

Road and equipment, real estate and buildings, including pavements, etc.	$13,972,891.00
Stores in hand	369,187.09
Accounts receivable	654,820.86
Cash in bank	442,568.63
	$15,439,467.58

LIABILITIES.

Capital stock	$8,000,000.00
Bonds—4½% sterling	2,415,326.66
4½% currency	983,000.00
6% debentures	600,000.00
Injuries and damages insurance fund	38,736.91
Mortgages	70,700.00
Accounts and wages payable	162,063.63
Accrued interest on bonds	69,743.02
Unredeemed tickets	70,371.23
Unearned accrued sinking fund Toronto Power Co.	122,665.44
Dividend no. 50, payable Jan. 2	120,000.00
Contingent account	200,742.10
Profit and loss as at Dec. 31, 1907	2,268,433.92
Balance surplus	317,684.67
	$15,439,467.58

TORONTO AND YORK RADIAL RY. CO.—INCOME ACCOUNT.

Gross earnings	$ 314,564.11
Operating expenses	204,361.54
Net earnings	$ 110.202.57

Wm. Mackenzie, President, who occupied the chair at the annual meeting Feb. 3, said that the earnings for Jan., 1909, were $18,600 over those for Jan., 1908. In answer to a question he announced that the dividend would be advanced from 6% per year to 7% with the next quarterly distribution. The directors were re-elected. The officers and directors for the current year are: President, Wm. Mackenzie; Vice-President, F. Nicholls; Hon. G. A. Cox, W. D. Matthews, Sir H. M. Pellatt, R. Forget, J. Gunn.

Toronto and York Radial Ry.

The Ontario Railway and Municipal Board gave the following judgment, Feb. 1, in the case of the Town of North Toronto vs. the Toronto and York Radial Ry. Co.: When this application came before the Board Nov. 23, 1908, counsel for the parties consented to an inspection and report by J. F. H. Wyse, C.E., the Board's engineer. Mr. Wyse, in the course of his inspection, conferred with the company's engineer and the applicants, and has made his report. The Board heard arguments Jan. 26 upon the report, and the only question now is, as to whether or not the Board has power, under the contract or under the Railway Act, to make an order carrying out the engineer's recommendations.

The chief objection made by the company is in reference to the drains across the tracks, and the macadamizing between the rails and 18 ins. on the outside. The Board has examined the locus in quo on more than one occasion, and knows that the tracks are in a portion of the travelled road. The contract between the parties is found in schedule A to 60, Vic. 1897, cap. 92. Section 10 of the contract is clear that the road within and alongside of the switches and turnouts must be macadamized as the applicants' engineer shall direct. Sec. 13 of the contract provides that the whole space occupied by the track allowance shall be kept in good order and repair to the satisfaction of the applicants' engineer. The Board is of opinion that the only way to keep the tracks in good order and repair is to put in drains and to macadamize as recommended by the Board's engineer. The Board therefore orders that its engineer's recommendations as to drains across the tracks and macadamizing switches, turnouts, and tracks shall be carried out by the company. This work shall be done within 4 months from the date of the formal order. The split switches now in use are faulty in construction for an electric railway, and must be replaced by tongue switches.

"With reference to the Glen Grove cars, the Board is of opinion that they are dangerous to the public from want of renewal and repair, and proper brakes, etc., and by reason of the bad and ragged condition of the fenders. The Board therefore orders that its engineer's recommendations be carried out by the company. The Board thinks that 4 new cars will be sufficient for this service, and that they should be put in commission with all reasonable despatch, and not later than May 1.

"The engineer not having made any recommendation as to the removal of snow, the Board reserves that question for further order and direction.

"In reference to the discrimination between local and through traffic, the Board thinks that if the company's rule as to the right-of-way on the Glen Grove division is observed by the conductors and motormen, it will secure as good a local service as can be given under existing conditions. The Board, however, desires to point out its engineer's recommendation that the company's line through North Toronto should be double-tracked, in the centre of the street. One does not require to be an engineer to know that it is very difficult to make a service satisfactory where cars have to be side-tracked for other cars to pass. This causes delay and irregularity in the service which will always be unsatisfactory to the public. The portion of Yonge St. maintained by the applicants is in very bad condition, hollow in the centre instead of being crowned; in wet weather muddy, and in dry weather full of ruts. The company is prepared to double-track. The town should not only permit the company to do so, but it should crown up the street and macadamize it from side to side. There is no reason why the people of North Toronto should not have, not only a good street railway service, but also a decent street for their vehicular traffic. The Board strongly recommends the town authorities and the company to get together with a view to improving the unsatisfactory conditions that now exist, and are sure to continue so long as the cars are operated on a single track.

"The company will have to pay $20 for stamps on the formal order, but otherwise the Board makes no order as to costs."

Ottawa Electric Railway Company.

Following are extracts from the report for the year 1908: The gross earnings for the year were $616,229.37, against $574,278.46 in 1907. The net earnings for the year were $199,439.81. Dividends amounting to 12% were paid. 13,711,382 passengers were carried compared with 12,623,440 in 1907. While the gross receipts showed a satisfactory increase considering the prevailing business depression, they were more than counterbalanced by exceptional increases in working expenses. This was due to various causes, among them the item of snow clearing, $30,000, being twice as much as the average year; the expense caused by the extreme lowness of the Ottawa River last fall, necessitating the use of steam power, and the heavy damages resulting from a collision between two cars on the Britannia line on May 24.

During the year the water power users, including this company, have constructed a concrete dam above the Chaudiere Falls, which, in connection with a series of storage dams to be built by the Dominion Government on the upper reaches of the Ottawa River, will overcome the water shortage, and will add to the value of the company's water powers.

The net earnings have been disposed of as follows: Interest paid on bonds and loans, $26,736.11; four quarterly dividends of 2½% and a bonus of 2%, $146,818.70; mileage payments, $12,302.13; placed to credit of contingent account to be applied to reduction of track renewal, car equipment and other accounts, $13,582.87; total, $199,439.81. The balance remaining at credit of profit and loss account is $34,988.88, and of rest account $200,000.

Last summer a contract was entered into with the Minister of Agriculture for the extension of the tracks from Holland Ave. through the Experimental Farm. This work was completed in the fall. At the same time the Holland Ave. tracks were relaid with heavy rails, and the gradient much improved. Eighty-pound rails were also put down on Somerset St. from Bay St. to Bronson Ave., where a new asphalt pavement was laid, and on Princess Ave. from Government House gate to the Rockcliffe car barns. A new car barn has been erected on the west side of Cobourg St. on lots purchased last summer, which will give storeroom for 48 single-truck cars. Two single-truck pay-as-you-enter cars were put into service last fall, and have proved so satisfactory that it has been decided to increase the number, and 12 more are under construction. In compliance with an order made by the Board of Railway Commissioners the Somerset St. bridge was widened 14 ft. One-fourth the cost of this

work will be paid by the city. Your directors look forward to a successful business during the coming year.

ASSETS.

Roadbed and equipment, water power property and plant, real estate and buildings	$2,183,590.78
Stores	5,495.48
Cash	9,973.14
Accounts receivable	2,457.18
Insurance paid in advance	5,150.00
	$2,206,666.58

LIABILITIES.

Capital stock	$1,247,700.00
First mortgage, 4% bonds	500,000.00
Dividend, payable Jan. 1, 1909	56,140.77
Interest on bonds, payable Jan. 5, 1909	10,000.00
Unpaid dividends	390.67
Pay list to Dec. 31, 1908	12,386.15
Bills payable	130,000.00
Accounts payable	1,477.24
Contingent account	13,582.87
Rest account	200,000.00
Profit and loss account	34,988.88
	$2,206,666.58

PROFIT AND LOSS ACCOUNT.

Balance at credit Dec. 31, 1907	$ 34,988.88
Net profit for 1908	199,439.81
	$ 234,428.69
Dividends and bonus	$ 146,818.70
Interest on bonds and loans	26,736.11
Mileage payment	12,302.13
Contingent account	13,582.87
Balance at credit Dec. 31, 1908	34,988.88
	$ 234,428.69

The passengers carried during the year were 13,711,382, against 12,623,440 in 1907. The percentage of operating expenses to receipts was 66 4/10%, against 59 8/10% in 1907.

At the annual meeting Feb. 1 the directors were re-elected. Following are the officers and directors for the current year: President, T. Ahearn; Vice-President, P. Whelen; other directors: G. P. Brophy, Hon. G. A. Cox; W. Y. Soper, T. Workman; Secretary-Treasurer, J. D. Fraser.

Projects, Construction and Betterments.

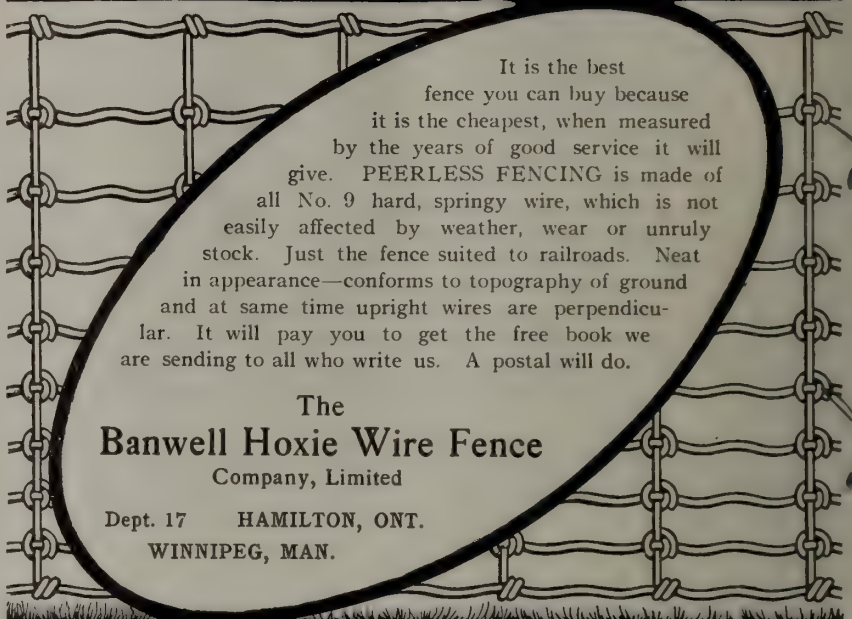
Calgary, Alta.—Tenders were received to Feb. 18, for the supply of three water tube boilers, equivalent to 1,000 h.p., with piping and induced draft system for 2,500 h.p.; one 500 k.w. generator connected to a 750 h.p. high speed engine for railway system, with condensers, switchboard, etc; 397 tons of 80-lb. steel rails, 746 tons of 60-lb. steel rails, with special work, angle irons, etc.; 12 standard street railway cars; 1 street railway sprinkler and 1 street railway sweeper; and also for the overhead work necessary on the street railway system under construction. (Feb., pg. 135.)

Cobourg, Port Hope and Havelock Ry.—At a meeting of Hamilton township council, Feb. 5, a resolution was passed recommending the legislature to pass the act of incorporation, "as being the one route and company in our opinion in the best interests of the township and this community." (Feb., pg. 135.)

Dominion Ry. and Plaster Co.—The Cape Breton, N.S., county council has decided to grant a bonus of $2,000 a mile and exemption from taxation to this company, which is promoting the construction of an electric tramway from Sydney, N.S., to the plaster quarries at East Bay. (See Sydney-East Bay Electric Tram Ry., Feb., pg. 137.)

Fort Erie and Buffalo Bridge Co.—Application is being made to the Dominion Parliament for an act incorporating a company with this title, to construct a highway and general traffic bridge across the Niagara River within the corporate limits of Fort Erie, Ont., and extending to Ferry St., Buffalo, and with power to operate an electric railway over the bridge. Power is also asked to co-operate with a company incorporated in the State of New York, with similar objects. German and Norwood are solicitors for applicants.

PEERLESS
The Fence that saves Expense



It is the best fence you can buy because it is the cheapest, when measured by the years of good service it will give. PEERLESS FENCING is made of all No. 9 hard, springy wire, which is not easily affected by weather, wear or unruly stock. Just the fence suited to railroads. Neat in appearance—conforms to topography of ground and at same time upright wires are perpendicular. It will pay you to get the free book we are sending to all who write us. A postal will do.

The
Banwell Hoxie Wire Fence
Company, Limited

Dept. 17 HAMILTON, ONT.
WINNIPEG, MAN.

STRONGER
Than Stock-Weather and Wear

The Salt Breath of the Sea Brings Health

GALEN HALL ATLANTIC CITY, N.J.

Hotel and Sanatorium

GALEN HALL
Atlantic City, New Jersey

New Stone, Brick and Steel Building, with every convenience, luxuriously furnished and superior table. ALWAYS OPEN. ALWAYS READY. ALWAYS BUSY. Half an acre of Medicinal and other Baths, with trained operators and attendants.

F. L. YOUNG - - General Manager

In the New York State Legislature a bill is under consideration to incorporate a company with the title of the Lower Bridge Co., to construct a bridge across the Niagara River a short distance below the existing G.T.R. bridge. The names mentioned in connection with the incorporation of the company are: W. German, M.P.; Jas. and John Bampfield, C. S. Warner, for the Canadian, and H. G. Nichols, J. L. Nice, M. J. Maloney and L. Hinkey, for the U.S. interests.

Hamilton Street Ry.—In the bill which the Hamilton, Ont., city council is asking the Ontario Legislature to pass, it is sought to have power to raise $125,000 by debentures, the sum necessary to pay the city's share of the cost of construction and repair of the pavements upon certain streets in the city, rendered necessary by the reconstruction of Hamilton St. Ry. tracks. (Feb., pg. 135.)

Hamilton, Waterloo and Guelph Electric Ry.—Surveys are being made upon the route of this projected railway. It is reported that the right-of-way from Rockton to Galt, Ont., has been secured, and that it is expected to obtain the remainder of the land required within a couple of months.

The Huron and Ontario Ry. Co. is applying to the Dominion Parliament for an act extending the time within which the railways authorized by its several acts may be constructed. It is also desired to have power to issue securities to the amount of $40,000 a mile of single-track and to $50,000 a mile of double-track railway constructed.

Montreal and Southern Counties Electric Ry.—The by-law voted upon by the St. Lambert taxpayers, Jan. 21, was carried by 246 against 26. (Feb., pg. 136.)

Montreal Terminal Ry.—The Dominion Parliament is being asked to pass an act authorizing the company to construct within five years an elevated railway from the western limits of Montreal to the eastern limits of Maisonneuve, Que. The route of the railway is to be approved by the municipalities through which it passes, and in the event of disagreement between the company and the councils it is provided that the route shall be determined by the Board of Railway Commissioners. The bill provides that the railway shall be erected at a height of not less than 20 ft. from the surface of the streets, and that the mode of construction and the manner of operation shall be approved by the municipalities, or in the event of disputes, by the Board of Railway Commissioners.

The Niagara-Welland Power Co., which has power, among other things, to construct an electric railway from Niagara Falls to a number of points north of Lake Erie, is asking the Dominion Parliament to grant it an extension of time within which it may carry out the several works.

North Midland Ry.—It was stated, Feb. 6, that a proposition had been prepared for presentation to the London city council, with regard to the construction of this projected railway. The officers of the company say that they have a guarantee that British financial men are prepared to put up $800,000 upon condition that $200,000 is raised in Canada. The suggestion is that the city of London should exchange bonds with the company so as to aid in raising the amount.

People's Ry.—A statement has been issued by the promoters of this project showing that within a three-mile radius of the various points through which the line would pass there is a population of 74,224, or 1,216 per mile of the 61 miles. The company's idea is to make this a municipal line, the municipal councils taking $300,000 of preferred stock; to issue $600,000 of common stock to the public, and to allot $100,000 of common stock to the promoters. (Feb., pg. 136.)

The Port Arthur and Fort William St. Ry. is being operated by a joint commission representing the city councils of Port Arthur and Fort William. On the Fort William portion of the line the city proposes to carry out improvements upon the track within the city limits. In the fall of 1908, the council removed half a mile of 40-lb. rails—single track—and replaced it with a double track. The work already done has been performed by day labor, and it is proposed to do further work in the same way. S. L. Farquharson is Construction Superintendent for Fort William.

The South Western Traction Co. has under consideration a proposal to extend its line to Aylmer and Delaware, Ont., during the current year. The St. Thomas city council has suggested that it would be prepared to guarantee the company's bonds in respect of such construction if the S.W.T. Co. will take over the municipal line in the city.

Tillsonburg and Southern Counties Radial Electric Ry.—The Ontario Legislature is being asked to pass an act incorporating a company with this title, to construct a system of electric railways from Tillsonburg, and to operate in the townships of Bayham, South Dorchester, Middleton, Houghton and North Walsingham, with power to extend the lines to be constructed to London, Woodstock and Ingersoll, with all powers conferred by the Ontario Railway Act of 1906, and such sections of the Light, Heat and Power Act as may be necessary for the successful operation of the said railway.

The Toronto, Niagara and Western Ry. is asking the Dominion Parliament to pass an act extending the time within which it may construct the railways authorized by its various acts. The lines authorized include lines from Toronto to Niagara Falls, Ont., and from Niagara Falls through the counties north of Lake Erie.

Toronto Ry.—The city of Toronto is making application to the Ontario Legislature for authority, among other things, to raise $135,000 without first obtaining the consent of the ratepayers, for the cost of bridges, grading, repaving, purchase of lands, etc., necessary to afford access for a street railway to the Exhibition grounds through the Garrison commons, or to use a portion of the revenue derived from the Toronto Ry. for such purposes. Also to authorize the issue of street railway debentures for $422,396.37 to pay for construction, repaving and renewing pavements on portions of streets occupied by right-of-way of the Toronto Ry.

The Toronto Suburban Ry. Co. is applying to the Ontario Legislature for an act extending the time within which it may construct the various lines authorized.

Electric Ry. Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for Dec., 1908, $206,050; operating expenses, $105,991; net operating earnings, $100,059; renewal funds, $11,544; net earnings, $88,515; income from investments, $13,550; net income, $102,065; against $182,510 gross earnings; $87,952 operating expenses; $94,558 net operating earnings; $10,750 renewal funds; $83,808 net earnings; $11,036 income from investments; $94,844 net income for Dec., 1907. Gross earnings for 6 months ended Dec. 31, 1908, $1,143,639; net earnings, including income from investments, $535,139; against $996,800 gross earnings and $502,320 net earnings for same period 1907.

Cape Breton Electric Co.—Gross earnings for 12 months ended Dec. 31, 1908, $247,545.69; operating expenses, $142,509.21; net earnings, $105,036.48; interest and taxes, $48,511.93; improvement fund, $10,950; dividends, preferred stock, 6%, $14,040; balance, $31,534.55. The company does the entire electric lighting and electric railway business in Sydney, N.S., and the entire electric lighting business in North Sydney; and operates the ferry between Sydney and North Sydney, and an interurban electric line between North Sydney and Sydney Mines. It owns $220,000 of the $427,000 outstanding first mortgage bonds, and $250,000 of the $500,000 capital stock of the Sydney and Glace Bay Ry., which has a line of 19 miles between Sydney and Glace Bay. The company has authorized first mortgage, 30 year 5% gold bonds, due Jan. 1, 1932, of $1,500,000, of which $860,000 is outstanding; authorized capital stock, $2,000,000; authorized preferred 6% non-cumulative stock, $250,000. Of the preferred stock, $234,000 is issued, and of the common stock $1,000,000 is issued. The earnings and expenses above quoted include one-half of those of the S. and G.B. Ry. The managers of the company are Stone and Webster, Boston, Mass.

Edmonton, Alta.—In the application for additional powers which the Edmonton city council is making to the Alberta Legislature, a clearer definition of the city's right to operate its tramway lines within the city limits is asked for, with a view of setting right some indefiniteness in the acts previously passed. It is also desired to secure an amendment of schedule A of the Edmonton charter, making the borrowing powers thereby conferred in relation to the municipal public works, and those conferred by chap. 45 of the statutes of 1906, on the Strathcona Radial Tramway Co., with such modifications as may be deemed advisable applicable to all public works or utilities, now or hereafter operated by the city.

Halifax Electric Tramway.—Total receipts for 12 months ended Dec. 31, 1908, $190,134.00, against $174,859.06 for 1907. Receipts for Jan., $13,785.59; and for 2 weeks ended Feb. 14, $6,199.52, against $12,920.09; and $5,767.08 for same periods 1908.

Montreal St. Ry.—Gross earnings for Jan., $295,453.37; expenses, $202,344.45; net earnings, $93,108.92; city percentage on earnings, $15,230.09; interest on bonds and loans, $15,107.19; rent leased lines, $498.67; surplus, $62,272.97; against $285,515.36 gross earnings; $202,503.94 expenses; $83,011.42 net earnings; $14,756.41 city percentage on earnings; $16,732.41 interest on bonds and loans; $444.43 rent leased lines; $51,078.17 surplus for Jan., 1908. Gross earnings for 4 months ended Jan. 31, $1,230,524.47; expenses, $759,639.47; net earnings, $470,885.00; standing charges, $113,304.88; surplus, $357,530.13; against $1,188,238.38 gross earnings; $742,026.88 expenses; $446,211.50 net earnings; $115,187.05 standing charges; $331,024.45 surplus for same period 1907-08.

St. Thomas Street Ry.—An offer is under consideration by the city council of St. Thomas, Ont., for the leasing of the electric railway in the city. The South Western Traction Co., which has a line from London to Port Stanley, has offered to take over the St. Thomas city line upon certain conditions. The Street Railway Commissioners have suggested that the S.W.T. Co. take over and operate the line without remuneration in consideration of the city guaranteeing the company's bonds for the extension of its suburban line to Aylmer. The matter is still being discussed.

South Western Traction Co.—Application is being made to the Ontario Legislature for an act increasing the company's borrowing powers from $25,000 to $33,000 per mile of railway, and authorizing the company to secure the increased indebtedness by giving such securities and creating such liens and charges as may be necessary or expedient.

Toronto Suburban Ry.—Application is being made to the Ontario Legislature for an act to repeal section 6 of chap. 94, Vict.

Baldwin Locomotive Works

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND

LOCOMOTIVES

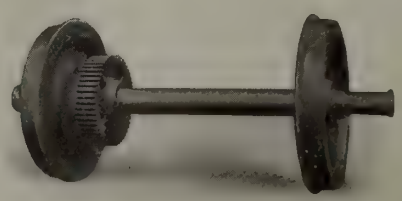
Mine, Furnace and Industrial Locomotives
Electric Locomotives with
Westinghouse Motors and Electric Trucks

BURNHAM, WILLIAMS & COMPANY
PHILADELPHIA, PA., U.S.A.
Cable Address:—"Baldwin," Philadelphia

Standard Steel Works Co.

HARRISON BLDG., PHILA., PA., U.S.A.

THE BRYDGES ENGINEERING & SUPPLY CO. Limited
WINNIPEG, MAN. REPRESENTATIVES



Wheels mounted on axles fitted with motor gear ready for application to equipment

Standard

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

FENCE TALK No. 2

All wire is not the same. We explained in our talk No. 1 that we supply two grades, the 0.30 carbon, known as "High Carbon," and another grade, the 0.10 carbon, generally known as "Hard Drawn" wire. This latter is for those buyers who think they save a cent or two first cost.

Before buying railroad fencing,

Find out for yourself the strength difference between "High Carbon" wire and other kinds. Needn't buy blindfold any more. Test for yourself—this way:

Take a foot-long piece of the horizontal wire from the other kind of fence—and a piece from a Page "High Carbon" Fence.

Heat both pieces cherry-red. Drop them in cold water. And then—

Try to bend them—both of them.

The "High Carbon" wire will be found to have taken such a temper that it will cut glass. The other wire will bend like sheet-tin and easier.

That test proves Page wire to be a real "High Carbon" Wire that will take a temper—which simply means it is high class steel—hence far greater strength, toughness, power to stand strain and stand up.

And that test also proves "Hard Drawn" a wire that softens if you try to temper it. Such wire is more likely to stretch too much in service—make saggy fences.

Make the test; you'll see then why the cent or two more Page "High Carbon" Wire Fence costs per rod is a great investment—because it gets you a fence that will outlast other kinds two-to-one—because Page Fence is fully a third stronger than the others.

And you will see, too, that this great strength makes it possible to stretch Page "High Carbon" Fence tighter—and to use fewer posts to hold it tight. The saving in posts figures 5 to 8 cents a rod—and yet the Page Fence will be a stauncher fence.

Let us send you a booklet that proves why Page Fences wear best and tells how you can prove fence-quality before you buy it. The Page Wire Fence Co., Ltd., Walkerville, Toronto, Montreal, St. John, Vancouver, Victoria.

"PAGE FENCES WEAR BEST"

OCEAN STEAMSHIP OFFICES

AMERICAN LINE

Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.

Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE

New York—London
Sailing from New York Saturdays.

WHITE STAR—DOMINION LINE

Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Docks
(Bristol and Antwerp)

RED STAR LINE

New York—Antwerp—Paris
Sailing from New York Wednesdays.

WHITE STAR LINE

New York—Liverpool—Queenstown—
Sailing from New York Saturdays.

N.Y.—Plymouth—Cherbourg—Southampton
Sailing from New York Wednesdays.

Boston—Queenstown—Liverpool
Regular Departures

NEW YORK AND BOSTON MEDITERRANEAN SERVICE

Azores—Gibraltar—Naples—Genoa

Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured

H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO,
41 KING ST. EAST, TORONTO.

The Imperial Bank has opened a branch at Cochrane, Ont., the new town located at the junction of the N.T. and T. and N.O. Rys.

57, and confirming in lieu thereof a mortgage deed securing a new issue of bonds.

The Winnipeg Electric Ry. Co.'s stocks were listed at the opening of the Winnipeg Stock Exchange, Feb. 1.

Electric Railway Notes.

The St. John, N.B., Ry. intends putting on a pay-as-you-enter car as an experiment.

Frank Ross is the largest holder of the Quebec Ry., Light and Power Co.'s common stock, with 6,887 shares. Rodolphe Forget, M.P., is the next largest holder, with 4,594 shares.

When the Toronto Ry. constructed the new loop at Sunnyside, it laid tracks, with the approval of the Toronto city council, on a lane which was believed to be public property. Mrs. M. Brett claimed a property right on a portion of it, and Chancellor Boyd has upheld her claim, giving her $250 damages.

E. P. Coleman, of Taunton, Mass., enters the Dominion Power and Transmission Co.'s service at Hamilton, Ont., Mar. 1. We are advised that he will devote his time to the Company's railway matters more from the business and administrative end than from the operating. His title has not been decided on as yet.

The Toronto and York Radial Ry. Co. has passed the following by-law, which has been temporarily approved by the Ontario Railway and Municipal Board: "No person, except officials of the company, will be allowed to stand in the front vestibule or on the front platform of any cars. On open cars only the seating capacity of the front seat will be allowed. Children under 12 years of age, except when accompanied by their parents, must not be allowed to sit on the front seat."

The Niagara Falls, Ont., Board of Trade has made application to the Ontario Railway and Municipal Board, alleging that the International Ry., through its subsidiary, the Niagara Falls Park and River Ry., has exclusive control for electric railway purposes of the Niagara River bank between Bridge St., Niagara Falls, and Chippewa, thus having a monopoly of the scenic route along the river road in Niagara Falls, through the Queen Victoria Niagara Falls Park, passing the Falls, skirting the upper rapids, and on through to Chippewa; and that all persons desiring to travel along the river road to the park or rapids are compelled to use this railway; and that the minimum cash fare on the company's cars is 10c., no matter how short the ride, and it prays for relief, and that the company be compelled to adopt a 5c. fare for distances not exceeding 3 miles.

The Comptroller of Railway Statistics issued a circular to electric railway companies recently, informing them that the Department had decided on a new form of classification to be adopted in the keeping of their accounts, and that the same must be applied retroactively as from July 1, 1908. The circular admitted that great inconvenience would be caused to companies' accounting officials by this change, but claimed that the advantage of having a uniform system of accounting in Canada and the United States would be a counterbalancing advantage. The new classification is practically identically the same as that adopted by the U.S. Interstate Commerce Commission, which, however, gave six months' notice before its introduction. The Canadian Street Railway Association's executive committee has protested vigorously against the system being made retroactive. The schedules or forms of returns to be made by companies are not yet obtainable, the blame for the delay being attributed to the Government printing bureau at Ottawa. It is said they are very elaborate, and ask for information on a variety of questions that are not in any way necessary for statistical purposes.

Canadian Street Railway Association.

A special meeting of the executive committee was held in Ottawa, Feb. 12, those present being: The President, J. E. Hutcheson, Superintendent Ottawa Electric Ry., in the chair; J. Anderson, Manager Sandwich, Windsor and Amherstburg Ry.; P. Dubee, Secretary Montreal St. Ry.; H. M. Hopper, Secretary-Treasurer St. John Ry.; and Acton Burrows, Secretary-Treasurer. Considerable routine business was disposed of. The Hull Electric Co. was elected as a member. It was decided to hold the annual meeting at Winnipeg in May, and the Secretary-Treasurer was authorized to make the necessary arrangements.

Following the meeting of the executive committee the Association's special committee on transfers met and decided on certain recommendations which will be considered at the Association's next meeting.

Electric Railway Track Laid in 1908.

The total length of new track laid, reported by electric railway companies in Canada as laid during 1908, was 32.94 miles, against 72.27 miles in 1907. With the exception of the Brantford and Hamilton Ry., which completed and placed in operation its line, and the Mount McKay and Kakabeka Falls Ry., a new line at Fort William, Ont., the new track laid consisted entirely of extensions of existing lines. Of the new track laid, 23.66 miles were in Ontario, 6.00 miles in Manitoba, and 3.28 in Quebec. The mileage, as distributed among the various companies, is as follows:

	Miles.	Miles.
BRANTFORD AND HAMILTON RY.		
Ancaster to Brantford, Ont.		16.00
MONTREAL ST. RY.		
Extension Papineau Ave.	0.56	
Extension Westmount Ave.	0.75	
		1.31
MONTREAL PARK AND ISLAND RY.		
Plateau Ave. to Montreal W.		1.97
MOUNT MCKAY AND KAKABEKA FALLS RY.		
Fort William westward		3.00
OTTAWA ELECTRIC RY.		
Extension to Experimental Farm		1.80
SARNIA ST. RY.		
To Pere Marquette station		1.25
TORONTO AND YORK RADIAL RY.		
Jackson's Point to Sutton, Ont.		1.38
TORONTO RY.		
Various extensions		0.23
WINNIPEG ELECTRIC RY.		
Various extensions		6.00
Total		32.94

Grain Elevator Notes.

A rumor on the Winnipeg Grain Exchange recently credited the T. Eaton Co. with having arranged with the Grain Growers' Grain Co. to join in the grain and elevator business. This was, however, denied by President J. C. Eaton.

E. H. Heaps, President Vancouver Board of Trade, in an interview recently, is reported to have said: "If grain elevators are not built in Vancouver by private enterprise, the C.P.R. will take the task in hand, just as it did in Fort William. The C.P.R., however, does not desire to build elevators, but will do so if private enterprise does not come to the rescue."

The Western Terminal Elevator Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $500,000, and office at Winnipeg, to carry on an elevator, warehousing, wharfinger, shipping and navigation business. The provisional directors are: R. Siderfin, A. H. Campbell, F. D. Dilts, W. M. Graham, G. D. Munro, Winnipeg.

The various trades and labor councils throughout the Prairie Provinces passed resolutions, Feb. 3, in support of the Grain Growers' Association's attitude on the question of Government ownership of interior elevators, on the ground that such action is in accord with one of the clauses of the trades congress charter, supporting Government ownership of public utilities.

The Goderich Elevator and Transit Co., Ltd., Goderich, Ont., is reported to be about to increase its machinery and accommodation. Heavier driving motors and a new marine leg to elevate 18,000 bush. an hour, new turn shovel engines, and larger distributing conveyers, are among the improvements contemplated. The company recently completed a successful year, and paid a 10% dividend.

The National Elevator Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $500,000 and office at Winnipeg, to construct or otherwise acquire and operate grain elevators, including company elevators, terminal elevators, and the requisite docks, wharves, sheds, etc., and to carry on a general elevator and grain business, and in connection therewith to own and operate steam and other vessels, and other means of transportation by land and water. The provisional directors are: H. H. Palethorpe, R. J. McClelland, H. W. Whitla and H. Phillips, Winnipeg.

R. Dawson Harling, in a paper before the Engineers' Club of Toronto recently, on the Manchester Ship Canal, gave the following particulars of the company's grain elevator, which was the first one to be built in Great Britain on the Canadian plan. It has a capacity of 1,500,000 bush., divided into 268 bins, and can receive grain from vessels at the rate of 350 tons an hour, move the grain within the elevator for changing bins or delivery, and weighing in bulk at 500 tons an hour; sack, weigh and load into 40 railway cars and 18 delivery wagons simultaneously, and load barges or coasting vessels at the rate of 150 tons an hour in bulk, or at the rate of 250 sacks an hour when bagged.

Government Ownership of Elevators.

The reply of the Premiers of Manitoba, Saskatchewan and Alberta, to the proposals put forward by the Grain Growers' Association regarding the question of Government ownership of elevators. was made public Jan. 30. In the course of their reply, they say: "We understand that you take the position that nothing further can be hoped for by amendments to existing legislation, in so far as internal elevators are concerned, and to obtain what your executive desire. Several matters presented involve in their institution, carrying out and performance, considerations of unusually grave and complicated questions, constitutional, financial and legislative.

"The three Provinces are asked to wholly provide, operate and maintain on the public credit the requisite quota of elevators for the storage of grain, and to regulate generally the manner in which the shipment and transportation of grain is conducted. This will necessarily involve, as you will understand, a new constitutional principle not hitherto exercised and means the incurrence of heavy financial responsibility and the putting into practical form by constructive, regulative and restrictive legislation the right of absolute Provincial Government control of the matters involved."

Arguing from this standpoint, the Premiers contend that to fulfil these obligations would necessitate amendments to the B.N.A. Act, or otherwise the action might prove futile and possibly disastrous. It would be a distinct invasion of the powers and prerogatives of the Federal Parliament, as defined in the clause which says none of the subjects which the Federal Parliament is given control of shall be deemed to come within the class of matters of local or private nature. Elevators are a public utility, monopolistic establishments, and the operation thereof

cannot be claimed to be purely local or private in character, and, therefore, one in which the Parliament of Canada has exclusive jurisdiction. The B.N.A. Act also specifically provides that the exclusive legislative authority of Parliament shall extend to certain classes of subjects, among which are regulation of trade and commerce, weights and measures, and national railways, such as the C.P.R., C.N.R. and G.T.P.R. They contend that they cannot find that any Province has ever attempted to deal with any of these questions, and from this they take the ground that the requests of the grain growers can be complied with only in one of two ways, either by legislative action of the Parliament of Canada, which now possesses ample powers of dealing therewith, or by securing amendments to the British North America Act, conferring full and absolute control and authority on the Provinces in the premises as follows: To wholly and absolutely control, regulate and govern storage and handling of grain. To prescribe and regulate weights and grades of grain, subject to no other authority. To fully control transportation companies, railways, etc., in the matter of expropriation of elevators and sites, distribution of cars, and in other regulations and restrictions, which shall be essential to convenient handling of grain. Also generally all such powers and authority as to trade and commerce and weighing and grading of grain necessary to give the Provinces complete inherent and ex-territorial jurisdiction in every respect, that is to say, full authority within the Provinces and also outside, where the grain may be handled at terminal points.

Dealing with the financial side of the question, the reply continues: "C. C. Castle, Warehouse Commissioner, has furnished official statements to us, showing, among other things hereinafter set forth, the following information, namely, that the number of elevators under operation last season was 1,334, with a storage capacity of 39,724,000 bush. To put into effect any practical scheme of public ownership of elevator facilities and complete Government control over the handling and shipment of grain would involve the Provinces in a very large financial undertaking. It would be necessary to provide, in the first place, the requisite number of elevators to handle the business; not any part, but the whole of it, for the monopoly should be absolute in all respects, and in the next place, for the cost of maintenance and management. Mr. Castle states that the cost of constructing an ordinary standard 25,000-bush. elevator is between $5,000 and $5,400. The initial outlay, therefore, to be provided for by the Provinces to establish and equip an adequate elevator system or to acquire that already in existence would be between $7,000,000 and $10,000,000. Then would arise the question of providing the necessary funds. This could only be accomplished by issue of bonds by the Provinces. We are of the view that without the Provinces possessing the fullest power to legislate in the premises, the proffered securities would not be deemed desirable in the money markets of the world. It is, therefore, apparent that a solution of the problem is not only complicated in detail financially, but presents, as before stated, grave and constitutional difficulties.

"Mr. Castle further officially states to us that for the 12 months ended Aug. 31, 1908, the total amount of wheat inspected at Winnipeg was 54,404,150 bush., of which approximately 42,000,000 bush. were shipped through the elevators, and 12,500,000 bush. from loading platforms; thus about 22 per cent. of the total wheat crop was loaded from the loading platforms.

"For the 3 months ended Nov. 30, 1908, he states there were 44,672,500 bush. of wheat inspected at Winnipeg, of which 30,094,078 bush. were shipped through the elevators, and 14,578,422 bush. were shipped over

THE CLIFTON HOTEL

NIAGARA FALLS, CANADA.

Rates $4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

THE ONLY HOTEL THAT COMMANDS AN UNRIVALLED VIEW OF BOTH FALLS

HOW TO REACH THE CLIFTON HOTEL

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes.

Arriving on Michigan Central Rd., Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make CANADA plain in the address.

C.P.R. LANDS

THE CANADIAN PACIFIC RAILWAY COMPANY have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10 W., 4th Meridian(generally)	8.00 " "
Map No. 5—South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta—Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre.

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160 Acres at	$ 8.00	per acre, cash payment	$191.70	first year's interest	$65.28	and nine instalments of	$160.00
" "	9.00	" "	215.70	" " "	73.46	" "	180.00
" "	10.00	" "	239.70	" " "	81.62	" "	200.00
" "	11.00	" "	263.60	" " "	89.78	" "	220.00
" "	12.00	" "	287.60	" " "	97.96	" "	240.00
" "	13.00	" "	311.55	" " "	106.10	" "	260.00
" "	14.00	" "	335.60	" " "	114.32	" "	280.00
" "	15.00	" "	359.50	" " "	122 44	" "	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-settled districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

THE LATROBE COUPLER

MADE ONLY IN STEEL

POSITIVE LOCK

POSITIVE LOCK SET

EFFECTIVE KNUCKLE THROWER

LATROBE STEEL AND COUPLER CO.

MAIN OFFICE: 1200 GIRARD B'D'G, PHILADELPHIA

Works: MELROSE PARK, ILL.

BRANCH OFFICE: 1720 OLD COLONY B'D'G, CHICAGO

the loading platforms, or about 33% of the total shipment. And that if the next crop is reasonably clean he would not be surprised if 40% of the total shipment was from the loading platforms.

"We fully appreciate the magnitude and importance of the whole question, and are fully alive to our responsibilities in the matter, and in conclusion beg to assure your association of our willingness at all times to consider any grievances of the agriculturists of our respective Provinces, our sympathy with them, and our readiness to co-operate with them in any measure or measures that will place them in a more advantageous position to carry on their labors. That upon the procurement of the necessary amendments to the B.N.A. Act, giving to the Provinces the powers hereinbefore indicated, to completely establish and control a public monopoly, in the storage, handling and inspection of grain, that we are quite willing to endeavor, subject to the approval of our respective assemblies, to frame a scheme financially safeguarded for the giving of effect to the desire of your executive."

MARINE DEPARTMENT.

Notices to Mariners.

The Dominion Department of Marine has issued the following notices:

No. 5. Jan. 22.—10. Quebec, River St. Lawrence, Hare Island, Middle Bank, change in character of buoy.

No. 6. Jan. 25.—12. Ontario, Lake Huron, entrance to Georgian Bay, Cove Island, change in sounding of fog alarm. 13. Ontario, Georgian Bay, west side, Flowerpot Island, fog alarm established. 14. Ontario Georgian Bay, west side, Cabot Head, new fog alarm building.

No. 7. Jan. 27.—15. Ontario, River St. Mary, St. Joseph Island, Sailors' Encampment range, light masts replaced by towers.

No. 8. Jan. 28.—16. Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Cap Levrard, changes in buoyage.

No. 9. Feb. 4.—17. Ontario, Georgian Bay, Owen Sound, range lighthouses rebuilt.

No. 10. Feb. 4.—18. Nova Scotia, west coast, Pubnico whistling buoy replaced by gas and whistling buoy. 19. Nova Scotia, south coast, off entrance to Shelburne Harbor, whistling buoy replaced by gas and whistling buoy. 20. Nova Scotia, south coast, off Liverpool Bay, whistling Buoy replaced by gas and whistling buoy. 21. Nova Scotia, south coast, off north-east shoal, whistling buoy replaced by gas and whistling buoy. 22. Nova Scotia, south coast, Halifax harbor approach, Thrumcap shoal, gas and bell buoy. 23. Prince Edward Island, south coast, Indian Rocks, whistling buoy replaced by gas and whistling buoy. 24. Prince Edward Island, south coast, Hillsborough Bay, Prim reefs, bell buoy replaced by gas and whistling buoy.

No. 11. Feb. 11.—25. Ontario, Lake Huron, Goderich, temporary range of lights established.

No. 12. Feb. 16.—26. Ontario, River St. Clair, east of St. Clair middle ground, gas buoy established.

No. 13. Feb. 18.—27. General, Canadian Government wireless telegraph stations, information respecting aids to navigation furnished to vessels.

A London, Eng., press dispatch states that negotiations have been opened with a view to arbitration in connection with the Allan Steamship Line's protest against the White Star Line's Canadian service.

Atlantic and Pacific Ocean Marine.

The White Star s.s. Laurentic was thoroughly tested on her trial trip at Belfast, Ireland, Jan. 31, with satisfactory results.

By the completion of the work of clearing obstructions from its approach, no. 6 berth, at St. John harbor, was made ready for use Feb. 13, and will be occupied by the Allan Steamship Line's vessels.

The British Colonial Secretary has requested the Governor-General to intimate that the Imperial Government has appointed Oct. 1 as the date on which the provisions of the Merchant Shipping Act, 1904, relating to the load line and life saving appliances, will be applied to foreign ships in the ports of the United Kingdom.

The Cunard Line s.s. Mauretania, in arriving off the Ambrose Channel lightship Feb. 18, created a new series of records over the long route. The passage was completed in 4 days 17 hrs. 50 mins., being 1 hr. 46 mins. better than the previous record. The highest 24 hr. run on the trip was 671 miles.

The White Star Line has filed a claim in the U.S. District Court against the Lloyd Italiano Societa de Navigazione, owners of the s.s. Florida, for $1,000,000 damages for the vessel, and $500,000 for her cargo, as a result of the recent collision between that vessel and the company's s.s. Republic off Nantucket Shoal. The statement of claim asserts that the collision was wholly the fault of the Florida, which did not maintain an efficient lookout, did not give proper whistles, paid no heed to the Republic's whistles, failed to indicate changes of helm, proceeded at an immoderate speed, and neither stopped nor reversed her engines. It is further asserted that the Republic, when the Florida's whistles were heard in the fog, put her engines full speed astern and helm hard aport. The statement asks the court to lay the blame for the accident on the Florida, and to order the payment of $2,000,000 to the owners of the Republic. The owners of the Florida have also filed an action in the same court, claiming that the collision was caused solely by neglect on the part of the Republic, and also asks the court to fix the company's liability to a sum not exceeding $224,000, claimed to be the damage value of the Florida. The Florida has been seized under a writ of attachment.

The claim of the Ulster Steamship Co., owners of the s.s. Malin Head, against the Allan Steamship Line, owners of the s.s. Corinthian, and counter-claim by the latter against the former, were before the Admiralty Division of the High Court of Justice in London, Eng., recently, as a result of the collision between the two vessels near Grosse Isle in the River St. Lawrence, Sept. 13, 1908. The matter was investigated by Commander O. G. V. Spain, R.N., Dominion Wreck Commissioner, and judgment given, fixing the blame on the Corinthian's master and pilot, fining the latter $100, and exonerating the Malin Head's master, pilot and officers. The full text of the judgment was given in our Jan. issue. An additional investigation was held before the British Admiralty Court, and it is said that the judgment delivered is in full accord with that of Commander Spain. The case was argued before the court Feb. 4, the chief points for the defence being that the scrap log of the Malin Head could not be relied on, owing to omission to enter up details of the collision, and that she should have been beached immediately after the collision instead of attempting to take her to Quebec. Justice Bargrave Deane, in reserving judgment, said he did not think he could find those on the Malin Head were wrong in the course they took in that respect.

Maritime Provinces and Newfoundland.

B. Atkinson has been appointed Harbor Master at Apple River, N.S.

A. Wyman has been appointed Government wharfinger at Short Beach, N.S.

The name of the dredge No. 1 has been changed by order-in-council to Wingfield.

B. Richards has been appointed Government wharfinger at Murray Harbor North, P.E.I.

The name of the schooner Effort, no. 107,299, registered at Annapolis Royal, N.S., has been changed to Ready Now, by order-in-council.

The name of the schooner Quick Step, no. 88,504 on the Canadian register, with Sydney, N.S., as its port of registry, has been changed to Leonice by order in-council.

An order-in-council has been issued changing the name of the steamer Rona to Valdes. The Rona was registered at Vancouver, B.C., in Dec., 1908, as Valdes, with no. 126,324 as given in the list of steam vessels registered, published in our Feb. issue.

The harbor facilities committee of the St. John, N.B., city council has recommended that the C.P.R.'s offer to transfer a 1,600 ft. strip of land to the city in exchange for shore rights behind Sand Point, be accepted, subject to some minor provisions to be decided on by a sub-committee.

The Minister of Marine, in reply to a question in the House of Commons Feb. 8, said that the ice-breaking steamship now under construction by Vickers, Son and Maxim, in England, will be ready on contract time, May 11. The cost of the vessel would be £103,000, of which $125,316 has been paid.

The work of dredging the St. John, N.B., harbor to the south of Sand Point, was commenced Feb. 18 by the dredge Iroquois. It is understood that this dredging is a part of a contract made by the Public Works Department for the removal of 800,000 cubic yards of material, under a Government scheme for the construction of additional wharves and terminal facilities.

During Jan. 60 steamships, with an aggregate tonnage of about 248,000, arrived at Halifax, N.S., against 48 with a tonnage of about 199,000 in Jan., 1908. The number of coasting steamers was less than previously, being 57, as against 80 for the same months. This difference is explained by the number of small steamers utilized in bringing the cargo ashore from the wrecked s.s. Mount Temple last year.

In connection with the recent visit of inspection to life-saving stations on the Nova Scotia coast, by Admiral Kingsmill, it is reported that a number of improvements to be made during the current year are in contemplation. Amongst them are; a cable connection between the mainland and Sambro Island, and the establishment of central stations at St. John, N.B., and Cape Sable and Halifax, N.S., where large motor boats will be maintained. It is also said that the station at Grand Manan will be moved to a more advantageous point.

The Maritime Steamboat Co. is making application to the N.B. Lt.-Governor in Council for a charter of incorporation by letters patent, with power to operate one or more steamboats for towing and for carrying passengers, freight, mails, etc., on the Bay of Fundy, and plying between any points in the counties of Charlotte and St. John, and to build, purchase or otherwise acquire steam and other vessels. The proposed capital of the company is $20,000, and the head office at Black's Harbor, N.B. The provisional directors are: L. Connors, P. W. Connors, W. J. Campbell, B. Connors, R. Thompson, Black's Harbor, N.B.; J. A. Thompson, G. F. Paul, Beaver Harbor, N.B.

Province of Quebec Marine.

E. de Chantal has been appointed Government wharfinger at Coteau Landing, Que.

The Prime Minister informed the House of Commons Jan. 26 that the cost of the icebreaking steamship Montcalm to Dec. 31, 1908, had been $762,538.01, viz., construction, $301,233.25; repairs, $144,669.42; maintenance, $316,635.34. The repairs necessitated by the collision of May 21, 1908, cost $21,857.65.

A request has been made by merchants and manufacturers at places along the north shore, that navigation between Quebec, Rivière Ouelle, Malbaie and St. Cimon be kept open through the winter. They claim that with a powerful steamboat like the Montcalm this could easily be done, as generally the river along the north shore at places like Murray Bay, St. Cimon and Tadousac is free from ice.

The Minister of Railways and Canals, in the House of Commons Feb. 9, on the question of a vote for construction of wharf and basins on the Lachine Canal, said work was started in Dec., 1908, but it was not expected to complete it this year. To complete the wharf and basins $150,000 is being asked; $30,000 was asked last year, and $40,000 has been spent for cement. A further $29,000 is asked for to stop leaks in the north bank at Cote St. Paul.

The Rhine Shipping Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $32,000 and office at Montreal, to build, own and charter steam and other vessels, and to carry on the business of shipowners and common carriers within and without the Dominion. The provisional directors are: G. I. Dewar, Ottawa; W. A. Taft, Arlington, Mass.; W. H. Chandler, Newton, Mass.; J. B. Fallon, Boston, Mass.; W. McKissock, Brookline. Mass.

The Timandra Shipping Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $32,000 and office at Montreal, to build, own and charter steam and other vessels, and to carry on the business of shipowners and common carriers within and without the Dominion. The provisional directors are: G. I. Dewar, Ottawa; W. A. Taft, Arlington, Mass.; W. H. Chandler, Newton, Mass.; J. B. Fallon, Boston, Mass.; W. McKissock, Brookline, Mass.

Tenders were recently invited for a ferry service between Quebec and Levis under new regulations adopted by the joint committee of the Quebec and Levis councils, but up to Feb. 2, the last day for receiving them, none had come to hand. The Quebec and Levis Ferry Co., the present holders of the franchise, did not, as it was anticipated, tender, and it has been stated that it has received an offer to transfer its boats to a point in Ontario for the operation of a ferry service there.

Ontario and the Great Lakes.

C. A. Macdonald, heretofore Auditor of Freight and Passengers' Accounts, Northern Navigation Co. of Ontario, has been appointed Comptroller, and the former title has been discontinued.

Application is being made to the Ontario Legislature, by the town of Sault Ste. Marie, for an act to validate and confirm a by-law granting aid to J. O'Boyle for the construction of a dry dock there.

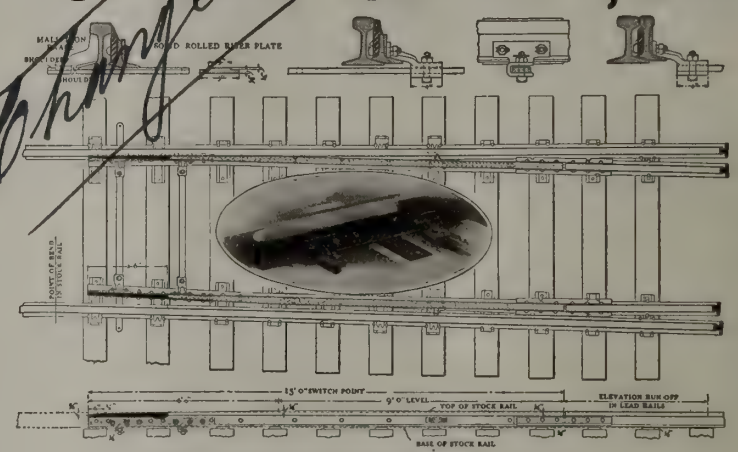
Howard S. Folger, General Manager Thousand Islands Steamboat Co. and St. Lawrence River Steamboat Co., has been also elected President of both companies, to succeed his late father, Henry Folger.

The Ottawa Forwarding Co. is building at Ottawa a steam tug for service on the Ottawa River, 70 ft. long over all, 16 ft. beam, 7½ ft. deep, with 16 in. square cut-off engine, with Fitzgibbon boiler, 130 lbs. working pressure. It is intended to have her ready for service by May 1.

The Lake Vessel Owners' Association is the name of the organization formed Feb. 15, on the lines indicated in the Dominion Marine Association report printed on another page. The association represents a capital of about $100,000,000, and takes over 5% of its insurance on its own account.

The large dredge which is being built for the Great Lakes Dredging Co. by Horrigan and Beagle, Port Arthur, for dredging

FOR HARD SERVICE, USE THE



It Will Save You Both Labor and Money

CORRESPONDENCE SOLICITED

RAMAPO MANGANESE POINTED SWITCH.- STYLE NO. 12

MANUFACTURED BY

CANADIAN RAMAPO IRON WORKS, Limited

NIAGARA FALLS, ONT.

DOMINION BUREAU

ROBERT W. HUNT & CO.

ENGINEERS

BUREAU OF INSPECTION

TESTS AND CONSULTATION

CHEMICAL AND CEMENT LABORATORIES, MONTREAL

NORFOLK HOUSE, CANNON ST., LONDON

CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

JOHN S. METCALF CO.

ENGINEERS AND CONTRACTORS FOR

GRAIN ELEVATORS ONLY

CONCRETE——STEEL——WOOD

Plans and Specifications our Specialty

MIDLAND, ONTARIO CHICAGO, ILL.

the mouth of the Rainy River, is under way at Keewatin, Ont. Work is being pushed so that the dredge may be at work as soon after the opening of navigation as possible.

The directors of the Northern Navigation Co. of Ontario have appointed an executive committee, consisting of W. J. Sheppard, President; H. Y. Telfer, Vice-President; C. E. Stephens, Secretary-Treasurer, and F. A. Lett, to deal with any questions arising which may require to be handled promptly and before a directors' meeting can be called.

The Northern Dredging Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of $199,000 and office at Durham, to conduct a general dredging business, to contract for and to construct wharves, piers, etc. R. H. McWilliams, Durham, Ont.; V. Ratz, Parkhill, Ont.; and S. G. McKay, Woodstock, Ont., are the provisional directors.

Forwarders, Ltd., the incorporation of which was announced in our Feb. issue, advises us that it intends particularly to transfer grain from Mooer's elevator, owned by Cereals, Ltd., Kingston, Ont., to Montreal. Some barges will be purchased and some leased for the forthcoming season, and the company intends to build a number of steam barges later on.

The Haileybury Navigation Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of $40,000, and office at Haileybury, Ont., to carry on the business of a navigation, warehousing, carrying and trading company, etc. The provisional directors are: J. M. Wood, A. Gibson, G. McIntosh, W. D. Leslie, J. C. A. Crawford, Haileybury, Ont.

The Admiralty Exchequer Court has delivered judgment in favor of the Richelieu and Ontario Navigation Co., as owners of the s.s. Quebec, against the owners of the s.s. Imperial, maintaining the Admiralty Court's jurisdiction and reversing Justice Dunlop's decision thereon. The two vessels were involved in a collision some time since, the Wreck Commissioner's judgment being in favor of the R. and O.N. Co.

The following officers are announced to have been appointed to the Northern Navigation Co.'s s.s. Hamonic, when she is put into service in June: Captain, R. D. Foote, formerly of the s.s. Huronic; Chief Engineer, S. Brisbane; Steward, J. Gardhouse; Purser, J. Ronan. To fill vacancies, transfers as follows will take place: Capt. A. L. Campbell, from the Saronic to the Huronic; Capt. A. Wright, from the Majestic to the Saronic.

Judgment was given at Welland, Feb. 5, awarding the Welland Steamboat Co. $2,200 and costs in its action against the Ontario and Quebec Navigation Co., for damages for failure to supply a certificate according to agreement; for it to use the steamboat Niagara for passenger and excursion business between Welland, Port Colborne, Dunnville, Crystal Beach and Buffalo. The action was tried some time ago at St. Catharines, the delay being taken to fix the damages.

The Temagami Steamboat and Hotel Co. is adding two steamboats to its fleet. They are being built by the company at Temagami, and will be completed and ready for service by the opening of the season. One of them is 70 ft. long by 12.6 ft. beam, and will have a speed of about 15 miles an hour. The other is 65 ft. long, and will be used more for private excursion parties. The company is also rebuilding the hulls and renewing the machinery of its steamboats Spry and Chance.

The Dominion Government's twin-screw steamboat Simcoe, which is under construction on the Tyne, Eng., was launched there recently. The vessel will be equipped with appliances for lifting heavy weights, and it is designed for safe navigation through ice. She will have triple-expansion engines, two water tube Babcock and Wilcox boilers, and a wireless telegraph installation. It is intended to use her as a lighthouse tender, and for buoy service in Georgian Bay. Her dimensions are: Length, 180 ft.; beam, 35 ft.

The Hamilton and Fort William Navigation Co. is seeking to obtain an order declaring it entitled to certain material, lying partly at the Canadian Shipbuilding Co.'s, Bathurst St. yards, Toronto, and partly at Bridgeburg, Ont., or for the repayment to them by E. R. C. Clarkson, liquidator of the latter company, of $30,000, the amount of advances made in 1907 for the purchase of material for the construction for plaintiffs of a 460-ft. freighter, to cost $297,000. The Canadian Shipbuilding Co. went into liquidation in Jan., 1908.

J. T. Mathews, who recently returned to Toronto from Great Britain, announces that he has placed a contract in Sunderland, Eng., for the construction of a steel bulk freighter for the Merchants Steamship Co., Toronto. He says that the vessel will contain a number of novel principles in construction, and that in this respect she will be unique. She will, it is anticipated, arrive on the lakes early in July, when she will at once be placed on the Fort William-Montreal route. A press report states that the name Mapleton has been selected for her, but we are advised that no name has yet been decided on.

An order-in-council of Jan. 15 makes regulations regarding the operation of a ferry across the Rainy River, between Rainy River, Ont., and Baudette and Spooner, Minn., providing for the maintenance of a suitable landing wharf on the Canadian side; that the boat to be used shall be not less than 30 ft. long by 6 ft. wide, and shall be properly equipped; that it shall ply between the points named from 6 a.m. to 6 p.m. daily, except Sundays, from May 1 to Oct. 1, each year; that the fares be for adults 25c., children 15c., including return if made the same day; and for the giving of sureties for the full compliance with the terms of the license.

The Minister of Public Works, replying to questions in the House of Commons Jan. 25, said the dredge Industry was purchased Sept. 3, 1908, for $157,378.78, and a 500-yard scow was purchased at the same time for $10,000, out of the appropriation for new dredging plant Maritime Provinces. The dredge was bought at Massena, N.Y., and was delivered to the Government at Cornwall, Ont.; from thence she was towed to Toronto for a new boiler to be put in at the Polson Iron Works. Repairs were also being made at Toronto on the scow. The dredge was built at Superior, Wis., and was designed for work on the Great Lakes. She was last employed on dredging the waterway for the St. Lawrence River Power Co. She should be ready for work May 1, and will cost about $175,000, including plant, but not duty of $39,351.85.

Manitoba, Saskatchewan, Alberta, Etc.

The Dominion Department of Public Works report for the year ended Mar. 31, 1908, refers to the lock and dam under construction at St. Andrews Rapids, near Winnipeg, and adds: "It is expected that the close of another year will see the structure well on towards completion. This improvement will provide continuous navigation from the city of Winnipeg to the large lake of the same name, a distance of 48 miles, and it is hoped will do much towards solving the fuel problem of the Prairie City, where coal is scarce and consequently dear, as well as providing easy means of shipment for the products of the quarry and the mine.

B.C. and Pacific Coast Marine.

Capt. D. A. McInnis has been appointed harbormaster at Vancouver, and Port Warden for Vancouver and Burrard Inlet.

Reports state that preparations are being made for the installation of a wireless telegraph apparatus on the C.P.R. steamship Princess May.

Sloan and Liddle, ship brokers and shipping agents, Vancouver, have dissolved partnership. The business is being continued in the same name by F. W. Liddle.

Vancouver city council is applying to the Legislature to pass an amendment to the Vancouver Incorporation Act, empowering the council to pass by-laws prohibiting and regulating the erection of wharves, etc.

The Northern Coal Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $100,000, with power among other things to build or otherwise acquire and operate steam and other vessels.

The Kootenay Motor Boat Co., Ltd., has been incorporated under the B.C. Companies Act for 50 years, with a capital of $10,000, with power among other things to own, operate, and dispose of steam and other vessels.

The Yellow Cedar Lumber Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $500,000, and power among other things to own and operate steam and other vessels, and to carry passengers and goods.

The Edinboro Timber Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $200,000, and power among other things to own and operate steam and other vessels, and to carry on the general business of a transportation company.

The Hunter-Macmicking Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $35,000, to carry on a general wholesale fruit and produce business, and in connection therewith to own and operate steam and other vessels necessary for its purposes.

It is reported that the rate war which for the past year has been raging between the C.P.R. and the Inland Navigation Co., on the Vancouver-Victoria-Seattle route, is at an end. Details are not given, but it is announced that the C.P.R. has resumed the normal rate between the ports named.

The Twin City Transportation Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $100,000, to purchase or otherwise acquire steam and other vessels, to carry on the businesses of ship owners, ship brokers, managers of shipping property, freight contractors, stevedores, and general carriers by land and sea.

The C.P.R., we are officially advised, has decided to add another vessel to its B.C. Coast Service, and plans and specifications are now in course of preparation. The company has also under consideration the question of the construction of a steel passenger steamer to replace the s.s. Charmer, but no decision has been reached on the matter.

Flewin and Sons, Ltd., has been incorporated under the B.C. Companies Act, with a capital of $50,000, to carry on a general logging business, and to conduct a general towing and carrier business within the province, and for that purpose to own and operate steamboats, tugs and vessels of every description, and to erect and maintain wharves, dry docks, etc.

The G.T.P. Ry. is reported to be calling for tenders for the construction of two steamboats for the Skeena River service in connection with construction work in the province. It is stated that the vessels

THE CANADIAN BRIDGE CO., LIMITED

WALKERVILLE, ONTARIO

MANUFACTURERS OF

LOCOMOTIVE TURNTABLES ROOFS STEEL BUILDINGS

Railway and Highway **BRIDGES**

STRUCTURAL IRON WORK OF ALL DESCRIPTIONS

LIMA LOCOMOTIVES

We are the manufacturers of the SHAY GEARED Locomotives, built in 16 sizes, 13-150 tons. Also all types and sizes of DIRECT CONNECTED Locomotives. Any gauge.

CATALOG "V"

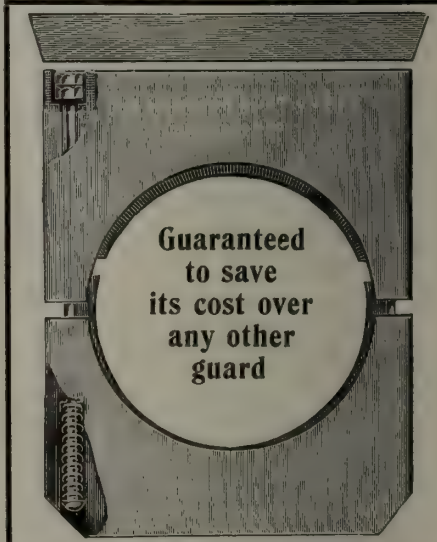
THE LIMA LOCOMOTIVE & MACHINE CO., 108 Third St., LIMA, OHIO

TANKS AND STEEL SUBSTRUCTURES

STEEL AND WOOD TANKS, HOSE TOWERS, FLAGSTAFFS, STEEL TOWERS, AND SIGNAL TOWERS, ETC.

Ontario Wind Engine & Pump Co. LIMITED

TORONTO, ONTARIO



CRUCIBLE SAW AND SHEET STEEL

MADE BY

JESSOP STEEL CO.

Washington, Pa., U.S.A.

TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools

JESSOP'S "ARK" HIGH SPEED AIR HARDENING STEEL

is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings

WILLIAM JESSOP & SONS, LTD., SHEFFIELD, ENG.

Chas. L. Bailey, Agent, 80 Bay Street, Toronto, Ontario

New and Relaying

RAILS

FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.

LOCOMOTIVES, CARS, AND OTHER EQUIPMENT.

John J. Gartshore

83 Front Street West - TORONTO

will be similar to the Distributor at present in service, which was built by A. Watson, Victoria, the machinery being supplied by the Polson Iron Works, Toronto. The estimated cost is mentioned at $35,000 each.

The Minister of Public Works, replying to questions in the House of Commons Jan. 25, said the department was arranging for the purchase of a dredge manufactured in Germany peculiarly adapted for the dredging of silt. The purchase is not to be made and no money is to be paid until the dredge is delivered in British Columbia, set up ready to work, and after it has been tested for such time as shall be satisfactory to the engineers of the department.

The steamboat Skeena was placed on the ways at Prince Rupert recently to undergo considerable alterations. She is owned by Foley, Welch and Stewart, G.T.P.R. contractors, and utilized as a supply vessel for their camps along the Skeena River. A change is being made in her machinery, so that she will have 260 n.h.p. instead of 200 as heretofore. The work is expected to be completed in time for the opening of navigation on the river in March.

The Boscowitz Steamship Co. has chartered the British s.s. St. Dennis for use on the northern B.C. coast run, to replace the s.s. Venture destroyed by fire. The St. Dennis is a steel, screw-driven vessel, built at Liverpool, Eng., in 1895. Her dimensions are: Length, 161 ft.; breadth, 25.6 ft.; depth, 12.7 ft. Her accommodation is for 24 first-class and 20 second-class passengers, and about 600 tons of cargo. She is owned, and until recently was operated by the Southern California Development Co.

The Boscowitz Steamship Co.'s s.s. Venture was destroyed by fire towards the end of Jan., about 12 miles from Prince Rupert. The vessel, which was tied up to the wharf on the Nass, was cut adrift to minimize the danger, and became a complete loss. She was valued at $75,000, of which about $50,000 was covered by insurance. She was built at Victoria in 1902; her dimensions were: Length, 153.4 ft.; breadth, 36.2 ft.; depth, 9.5 ft.; tonnage, 812 gross, 489 register; and she was a screw-driven vessel with engine of 65 n.h.p.

Lake Shipyard Methods of Steel Ship Construction.—A volume of much use to those interested in the construction of steel freight carriers on the Great Lakes has been issued by the Penton Publishing Co., Cleveland, Ohio. The writer is R. Curr, who apparently has had experience of construction work in the Clyde shipyards, and is able to contrast the methods adopted there with the mold system, introduced on the Great Lakes by W. I. Babcock. The book is written for practical shipbuilders, and is therefore purely a technical one, and full of illustrations showing in detail the different stages of construction. Copies of the book may be obtained from THE RAILWAY AND MARINE WORLD'S Book Department, the price being $2.

The Dominion Department of Marine and Fisheries announces that all Canadian sealing vessels desiring to take seals in the territorial waters of the Falkland Islands are required to procure a license for such purpose.

Replying to questions in the House of Commons Jan. 25, the Postmaster-General said the cost of the steamer Lady Evelyn (formerly Deerhound) was £12,500 at the place of purchase (Penzance, Eng.), and the cost of bringing her to Canada was £760. The cost of alterations, etc., to fit her for the post office service was $27,086.58. The cost of operating her since she was put in commission Sept. 1, 1907, to Dec. 31, 1908, was $26,584.12.

Dominion Marine Association.

The annual meeting in Ottawa, Feb. 11, was largely attended. The President, A. A. Wright, of the St. Lawrence and Chicago Steam Navigation Co., Toronto, occupied the chair, the others present being: F. Plummer, Canadian Lake and Ocean Navigation Co.; W. W. Hall, F. E. Hall & Co.; Jas. H., E. A. Hall and R. T. Holcombe, Ottawa Forwarding Co.; J. Donelly, Donelly Salvage and Wrecking Co.; L. L. Henderson, R. Fraser, Montreal Transportation Co.; J. Playfair, W. H. Featherstonhaugh, Midland Navigation Co., Empress Transportation Co.; J. W. Norcross, Mutual Steamship Co.; C. A. Jaques, Montreal and Lake Erie S.S. Co., Montreal and Great Lakes S.S. Co.; C. H. Plummer, Canadian Lake Transportation Co.; R. W. Sheppard, Ottawa River Navigation Co.; D. and G. P. Murphy, Ottawa Transportation Co.; H. H. Gildersleeve and C. H. Nicholson, Northern Navigation Co.; E. E. Horsey, Lake Ontario and Bay of Quinte Steamboat Co.; G. Johnston and J. V. O'Donahoe, Richelieu and Ontario Navigation Co.; H. Richardson, Kingston Shipping Co.; H. A. and S. C. Calvin, The Calvin Co. There were also present: W. H. Smith, Canada Atlantic Transit Co., and G. A. Tomlinson, Duluth, Minn., representing the Lake Carriers' Association, and Acton Burrows, Managing Director RAILWAY AND MARINE WORLD.

Following is a summary of the report presented by the Executive Committee:

The Association has been active in legislation affecting marine interests. The recommendations which were ineffectual at the time of the passing of amendments to the Canada Shipping Act during 1908, will be again presented to the Minister of Marine with a view to the remodelling of the clauses relating to the sick mariners' tax, pilotage, certificated engineers, reporting changes of certificated officers and the carrying of passengers, and, if necessary, a special bill will be provided to achieve the Association's object. The bill relating to the water carriage of goods introduced in the Senate, and on the whole acceptable to the Association, did not reach the lower House until the last day of the session, and was held over. Information recently received gives ground for the belief that the bill may not be pressed in the House by its original promoters, and it is thought advisable that steps be taken to procure the enactment of the measure. While this last measure was under consideration, the Association's draft bill of lading for grain cargoes, in which, among other exemptions, those set out in the Harter Act of the U.S. were included, was withheld, and reliance was placed on the proposed legislation for the protection originally sought. In the meantime an agreement was made that all members should stamp their bills of lading with a clause prepared by the Secretary, incorporating the Harter Act exemptions. During the past season the discrepancies in the out-turns of cargoes have become so pronounced and intolerable, that it has been resolved to take the action proposed by the Department of Trade and Commerce on the several occasions when application has been made to it for assistance, that is, to remove from the bill of lading the clause assuming responsibility for the shortage, and to insert, if necessary, what is known as the Flax Seed Clause, whereby the vessel limits its liability to ½-bush. per 1,000, and renounces any right to an overrun, collecting freight merely on the out-turn. This has been adopted by the Association, and also the Lake Carriers' Association, and such bill of lading, as adopted by the Association, will be used for grain from Port Arthur and Fort William from the opening of navigation this year.

The matter of the proposed grain clearing house, which has also been vigorously prosecuted, was not favorably received by a joint meeting of the Association and the representatives of shippers and terminal elevators, though the establishment of a clearing house for documents was approved, and a committee appointed to work out the details of the scheme.

The Executive Committee met the Minister and Deputy Minister of Railways and Canals, and discussed the proposed regulations governing the navigation of the Dominion canals, and though suspension of the rules was refused, the difficulties were explained and objections met, and favorable attention was promised to several suggestions made on behalf of the Association.

Legislation was passed during 1908 imposing a customs duty on repairs made to Canadian vessels in foreign ports, except when there is no dock in Canada of sufficient capacity to hold the vessel. It is recommended that an effort be made to have this legislation amended so that it may, at least, provide for an exemption in cases where no dock is available in Canada.

A majority of U.S. vessel owners on the Great Lakes have entered into an arrangement regarding marine insurance, which will probably be joined by the whole U.S. tonnage on the lakes, and Canadian vessel owners are invited to participate in the plan. It is proposed that the owner shall assume 5% of the insurable risk on his vessels, leaving 95% to be insured according to conventional methods, and in any company he may choose. For this 5% the owner is to pay a proportionate premium into a common treasury to a special attorney, who will be under the direction of an advisory board of vessel owners, and the fund thus formed will be administered in the same way as an ordinary insurance fund, being drawn upon for its proportionate part of all loss, while its surplus at the end of the year will be subject to distribution among owners. J. Playfair, Midland, Ont., has been appointed to represent vessels of the Association on the advisory board.

The Minister of Customs was asked to amend the statute relating to the coasting trade, so as to bring it into conformity with the corresponding U.S. statute, so as to prevent the carriage of merchandise from one Canadian port to another in U.S. bottoms, even for part of the voyage. The Committee is urging further action in the matter.

The steps taken by the Association regarding alleged breaches of the Customs regulations, relating to towing by foreign vessels in Canadian waters, have been recognized, and steps have been taken to secure the strict enforcement of the regulations.

At the request of the Marine Department, the Committee, in giving an opinion regarding the subsidizing of wrecking plants on inland waters, resolved that it was not advisable to raise a question which might lead to the abrogation of the reciprocal wrecking privileges existing between Canada and the U.S., and that it was inadvisable to recommend payment of subsidies until proof was given that the industry was in need of assistance.

The Committee has also recommended that official investigation into all wrecks be obligatory, and that it should be the duty of the master of each vessel to report any accident to the Marine Department, with a penalty for default.

On the proposal regarding the project for the development of power at the Long Sault Rapids, the Association has consistently opposed the matter in the interests of navigation. The proposals have been before the International Waterways Commission, and it was resolved that a definite outline of the scheme, with plans, must be prepared and presented. Copies of these have been promised to the Association, when the matter will be further considered.

At its last annual meeting the Association passed a resolution expressing disapproval of the proposal of the Minister of Justice to

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.

BRIDGES

TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

TURNBUCKLES

FORGINGS OF ALL KINDS

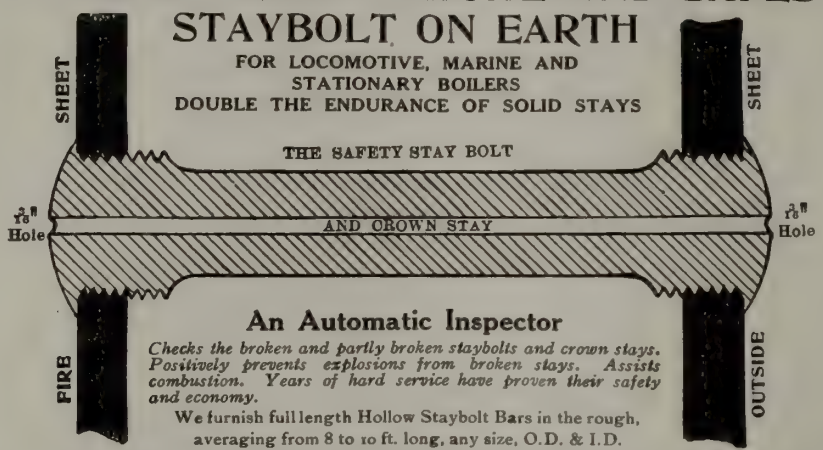
CLEVIS NUTS

CLEVELAND CITY FORGE & IRON CO.

Cleveland, Ohio, U.S.A.

THE MOST ECONOMICAL AND SAFEST STAYBOLT ON EARTH

FOR LOCOMOTIVE, MARINE AND STATIONARY BOILERS
DOUBLE THE ENDURANCE OF SOLID STAYS



An Automatic Inspector

Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO

E. L. DREWRY

REDWOOD BREWERY
WINNIPEG, MANITOBA.

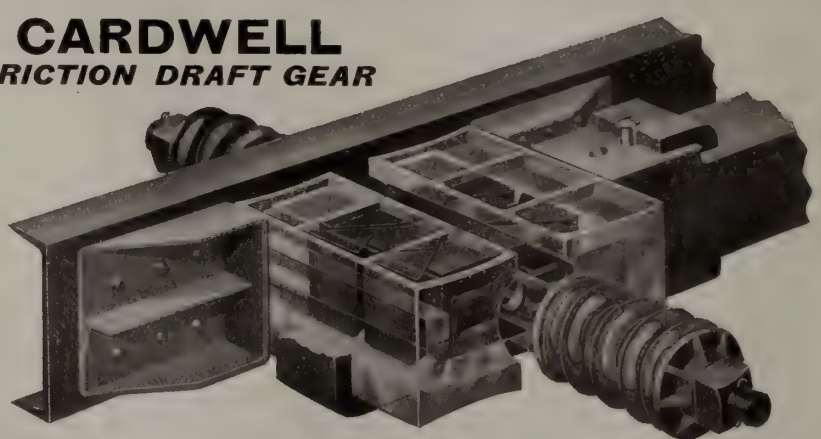
MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE, EXTRA STOUT AND REDWOOD LAGER.

ALSO THE.. GOLDEN KEY BRAND ÆRATED WATERS.

CARDWELL

FRICTION DRAFT GEAR



Furnishes greatest protection to cars and locomotives.

CARDWELL MFG. COMPANY, CHICAGO, ILL.

Manufacturers of CARDWELL ROCKER SIDE BEARINGS.

SHERIFFS

MANUFACTURING CO.

MILWAUKEE, WIS., U.S.A.

ESTABLISHED 1854

abolish the Federal Admiralty Court and to transfer its jurisdiction to the Superior Court of each province. The proposed legislation was opposed and the matter has for the present, at any rate, been dropped

Members were notified at the opening of last season, that the Great Lakes Register would expect to collect certain fees, based on tonnage, for the inspection of each vessel to be rated. It was resolved that inasmuch as the rating was largely for the benefit of the shippers and others, it would be unjust to levy the expense on the ships inspected, and that payment be refused. The Register was accordingly notified, with the result that inspection of the previous year was, in many cases, accepted, and inspection and rating ultimately carried out without charge.

The question of issuing certificates to second mates was submitted to the Association by the Marine Department, and it was decided to agree to the proposal providing that the holding of such certificates was not made compulsory. The Association also advised that no test of great severity be applied in the examinations, as an expert knowledge of the theories of navigation would be superfluous.

Further recommendations are considered advisable on the subject of a survey of the Welland Canal route, with a view to its betterment, before the Government is committed to any particular waterway.

The members of the Association engaged in the carriage of package freight resolved, Dec. 31, to ask the Government to place all vessels engaged in the carriage of package freight from one Canadian port to another, or of package freight ultimately destined for a Canadian port, under the jurisdiction of the Board of Railway Commissioners, the powers of the Board to be extended for the purpose. Due consideration of the matter was promised. The immediate occasion for this resolution was a discussion regarding the relations between these lines and their water route of canal, lake and river, on the one hand, and the railways on the other. This discussion was prompted by a reported proposal by a railway company to the trans-Atlantic Conference lines for the abolition of the through bill of lading from Great Britain to inland Canadian points by the all-water route, an action which would discriminate in favor of railways in the matter of rates. Correspondence with the various trans-Atlantic lines is now being conducted, with a view to the removal of any misunderstanding and to obviating the threatened difficulty.

The Grain Section of the Association has given special attention to matters connected with the grain carrying trade. Attention should be called to the fact that the agreement in force from time to time among the members regarding a minimum rate for the carriage of grain, was rescinded in June last. A number of press articles and public correspondence charged the Association with responsibility for the deviation of export grain to the Buffalo-New York route. The Association sent a letter to the Ministers of Marine, and Customs, setting out all the facts, absolving the Association as a body from any connection with the agreement named in the press, calling attention to the rescission of the Association's agreement, and indicating the circumstances which were, in fact, responsible for the export shipments by the route named.

The Committee on Aids to Navigation during the year met and considered various proposals regarding aid and improvements said to be required at the head of the lakes and Montreal, and compiled a list of improvements which it considered necessary and desirable in the interests of safe navigation:

MICHIPICOTEN ISLAND.—A light, and if possible a fog horn, were asked for on northeast end of Michipicoten Island, at such point as might render the light of most service to vessels bound up as well as bound down the lake north of the island. It was submitted that a light on the west end of the island would only serve as a beacon in approaching down the lake, could not assist in passing the eastern end of the island, and would be of no service to vessels up-bound in the north channel. Unfortunately the Canadian Association of Masters and Mates simultaneously recommended that the light and fog horn be placed on tbe west end of the island. The conflicting suggestions were sufficiently embarrassing to justify the Light House Board in deferring action, and the question is held over until the hydrographic re-survey of Lake Superior reaches and covers this point, as it is expected to do this year. The Lake Carriers' Association, by an independent recommendation to the Government, has happened on a solution for the question by recommending a light at each end of the island.

BAD NEIGHBOR SHOAL.—A whistling gas buoy was asked for, well outside of Bad Neighbor shoal. A location suggested was on the 13 fathom patch about 2 miles west of Cove Island, approximately on the intersection of a line drawn from Cove Island light to a point about 6 miles south of Duck Island light, with a line from Gat Point to East Sister Shoal. The Light House Board referred this to the Chief Engineer, who reported against the proposal on the ground that Cove Island fog horn and light are sufficient.

NORTH SHORE.—A range was asked for on Kokanongwi Island to clear Centre Island bank passing south of Badgely Island. This has been held over for consideration, and no action is yet taken by the Board. A spar buoy was also asked for on Robertson's Rock (a little north of Clapperton Island Light), but the Board reported that a spar was already located at this point.

LONELY ISLAND.—A request was made for the installation here of one of the gasolene motor fog horns then under test by the Department. No action is yet taken. The Board is, however, advised by its chief engineer against the installation of any fog horn on account of the size of the island, the claim being made that a horn is only effective protection on a point or on a small island which can be given a wide berth in any direction.

COLLINGWOOD.—A similar installation was asked for, but this is still under consideration.

STAG ISLAND.—The double channel has been established at this point and rules have been put in force for navigating the same.

FIGHTING ISLAND.—The cutting of the second channel here, for which petitions are being collected, and which with the new Livingstone channel would afford a double route from Detroit to Lake Erie, was endorsed by this Association in 1908. The Lake Carriers' Association, at its recent meeting, has also supported the request for the work. The next Committee might give the proposal further assistance.

LAKE ERIE.—The lightship Keewaunee, maintained at Southeast Shoal by the Lake Carriers' Association, has not yet been taken over by the Government, although negotiations to that end have been pending for some years, this shoal being well within Canadian waters. This Association has already endorsed the Lake Carriers' request for the maintenance of a Canadian light here, and the matter is commended to the attention of the next Committee.

PORT COLBORNE RANGE LIGHTS.—The occulting red light placed as a back range light has been complained of as being too dim to be serviceable, and this Association has been asked to suggest a remedy. The question should have the attention of the next Committee at its first meeting.

NIAGARA SHOAL.—The renewed request for a gas and bell buoy at this shoal in place of the present bell buoy has been refused by the Board on the ground that there is not enough night traffic in and out of Niagara River, and that there being open water north of the shoal, vessels up and down the lake from Port Dalhousie can and should give this point a wide berth.

HAMILTON ENTRANCE—BURLINGTON PIERS.—The repair work here was the subject of much special correspondence, and through the efforts of this Association received special consideration, temporary lights being placed and notices issued, and the main work being undertaken with all the promptitude possible.

BAY OF QUINTE.—The Telegraph Shoal is still an obstruction to navigation. A contract is reported to have been let for its removal. The light at Salt Point at Brighton entrance is not yet replaced; the fog horn here is in operation but the distant shore ranges do not assist in making an entrance in thick weather.

KINGSTON HARBOR.—Range lights were asked for on the north shore at the entrance of this harbor to take the place of the long distance range of Pigeon Island and Nine Mile lights, and to lead past the Middle Ground and Seven Acre Shoals; with a second range perhaps on Point Henry, to lead into the inner harbor and past the Penitentiary shoal, to intersect the present Barriefield range. The Board has not yet refused this request, but has apparently been advised that the improvement is not really a necessary one, one accident which occurred having taken place late in the year after the gas buoy on the Middle Ground had been removed. The removal of the Barriefield bridge across the Kingston inner harbor is suggested, or at least the renewal of the bridge with a large central span of modern construction. The next Committee is asked to give this question special consideration.

ST. LAWRENCE RIVER.—Various improvements have been the subject of correspondence throughout the year, notably the Farran's Point entrance, still under consideration by the Department of Railways and Canals; the removal of an obstruction consisting of faulty construction work at the head of the Morrisburg Canal; and the strengthening of the banks of the Cornwall, Soulanges and Lachine Canals.

OTTAWA RIVER — GREEN SHOALS.—The Public Works Department has not yet undertaken the removal of these shoals. The lack of drilling apparatus was stated to be the only reason the work was not undertaken last year. The Department now reports that during 1908, at the suggestion of this Association, it advertised for tenders for the work but received none. The matter is under consideration and should receive further attention at the hands of the next Committee.

RIDEAU CANAL.—Dredging has been continued; and successful lighting has been done in dangerous portions of the route by numerous removable oil lanterns placed on stakes and superintended in each section by a contractor who daily removes and replaces the lamps with the aid of a gasolene launch.

TOPS OF BUOYS.—The recommendation of this Association for distinguishing shapes in the tops of red and black spar buoys has not yet been acted upon. Officers of the Department are impressed with the idea that the top required would be of such a character as to be liable to be damaged by scraping or collision. The committee considers that sufficient distinction can be given without running any such risk, and the next committee should press for the improvement.

GAS BUOYS.—It is worth noting that the Lake Carriers' Association has just agreed by unanimous resolution, resulting from some investigation, to ask the U.S. authorities to adopt acetylene gas buoys in use in Canada in place of those now used, the Canadian system having proved vastly more efficient.

Throughout the year general correspondence regarding pending improvements has taken place, and from time to time the Secre-

tary has been called upon to disseminate information as to temporary or permanent changes in lights, buoys or channels in the waters in which the Association is interested.

The Secretary-Treasurer's report showed a balance of $1,710.25 on hand.

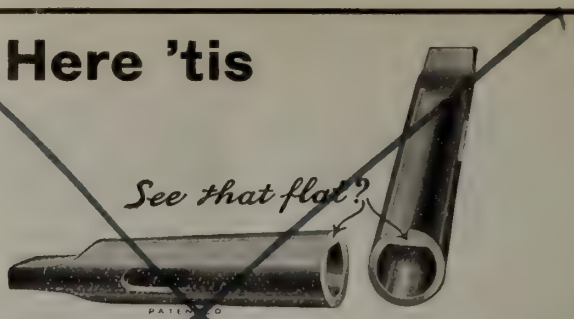
The reports having been adopted the following resolutions were also adopted:

That the Dominion Government be asked to hasten the work of removing the Telegraph shoal obstruction and to replace the light at Salt Point at Brighton entrance.

That the Dominion Government be asked to dredge Port Arthur harbor to a uniform depth of 22 ft.

That the Dominion Government be asked to allow captains from the Upper Lakes, plying to Montreal, to pass an examination as

Here 'tis



The "USE-EM-UP" Drill Socket

Grind a flat on those drills with twisted tangs and "USE-EM-UP"

AMERICAN SPECIALTY CO., CHICAGO

All makes of drills furnished to fit it

CAR FITTINGS

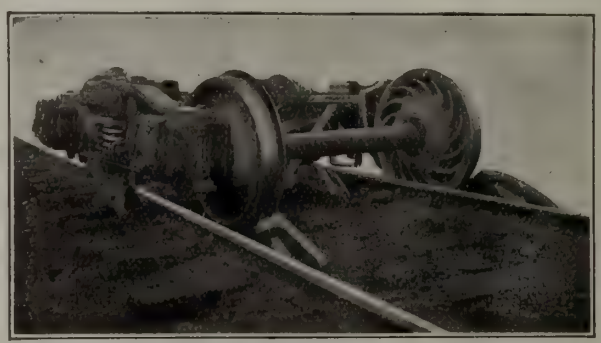
For Electric and Steam Railway Equipment

Door Fixtures, Steel Steps, Couplers, Anti-Rattlers, Steel Gongs, Sash Springs, Fenders, Car Trimmings, Etc.

Wallace Supply Company

CHICAGO—NEW YORK

The Alexander Car Replacer



60,000 PAIRS IN USE.

Manufactured at Montreal, Que., and Scranton, Pa., of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY

F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

JAMES T. GARDNER

RAILWAY EQUIPMENT

615 Railway Exchange

CHICAGO, ILL.

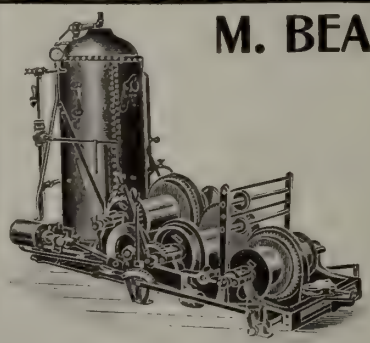
Has on Hand at all times

First-Class Freight and Passenger Locomotives

Also

Contractor's Locomotives Cars, Rails, Etc.

Specifications with Prices on Application



M. BEATTY & SONS, LIMITED WELLAND ONTARIO

DREDGES, DITCHERS STEAM SHOVELS DERRICKS

SUBMARINE ROCK DRILLING MACHINERY

Hoisting Engines, Centrifugal Pumps for Water and Sand, Stone Derricks, Clam-Shell Buckets, Steel Skips, Coal and Concrete Tubs and other Contractors' Machinery.

STEEL, PEECH & TOZER, LIMITED,

SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL.

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada.

SOLE AGENTS:

James Hutton & Co., Montreal.

REAMERS ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

pilots for Montreal harbor, so as to do away with the present pilotage charges there.

That the Dominion Government be asked to amend the Canada Shipping Act so that all boats of any description, carrying passengers for hire, shall be required to register and to comply with all requirements of the Canada Shipping Act.

That the committee on aids to navigation prepare uniform instructions to be issued by member companies to captains, respecting navigation in the canals and warning them to avoid accidents under pain of penalties.

That the Dominion Government be asked to remove the customs duty on repairs to vessels in U.S. ports, except when an accident occurs nearer to a Canadian dry dock, with proper repair facilities, than to a U.S. one, and that such Canadian dry dock is available at the time.

That the Association protest against the admission of any foreign vessel to the coasting trade on the inland waters.

The following were appointed a committee on power development on the St. Lawrence, to obtain expert evidence and to protest against any interference with navigation: D. Murphy, C. J. Smith, H. A. Calvin, C. A. Jaques, L. L. Henderson, F. Plummer, A. A. Wright, A. B. Mackay, F. E. Hall, J. P. Kavanagh, B. R. Hepburn.

That the Dominion Government be asked to open all the St. Lawrence Canals as early as possible, and that repair work should not be allowed to interfere with this.

It was decided to change the title of the Secretary-Treasurer F. King, to Counsel.

The by-laws having been amended so as to provide that the executive committee be elected so that four members shall hold office for one year, four for two years, and four for three years, and that each year four shall be elected to fill the vacancies occurring, the following were elected: For three years, A. B. Mackay, S. C. Calvin, R. W. Sheppard, J. W. Norcross; for two years, H. H. Gildersleeve, J. S. Playfair, F. Plummer, L. L. Henderson; for one year, C. J. Smith, A. A. Wright, C. A. Jaques, H. W. Richardson. A. A. Wright was re-elected chairman of the grain section.

The Counsel was instructed to express to the Dominion Government the Association's appreciation of the steps which had been taken respecting the proposed enlargement of the Welland Canal and to urge that the work be pushed as rapidly as possible.

G. A. Tomlinson, of Duluth, on behalf of the Lake Carriers' Association, conveyed an expression of good-will to the Dominion Marine Association, and said the Lake Carriers' Association was greatly interested in the efforts to produce a bill of lading which would be something more than a mere bankers' document. They had made a similar attempt in the U.S., but had accomplished little more than improving the English of the bill of lading. He paid a tribute to the Canadian banking system, and gave his experiences in regard to shortages on grain cargoes shipped from Duluth. He also explained the insurance scheme adopted by the Lake Carriers' Association, and in which Canadian vessel owners were asked to join.

The Executive Committee met and elected the following officers for the current year: President, C. J. Smith, General Manager Richelieu and Ontario Navigation Co., Montreal; 1st Vice-President, H. H. Gildersleeve, Manager Northern Navigation Co., Collingwood, Ont.; 2nd Vice-President, F. Plummer, General Manager, Canadian Lake and Ocean Navigation Co., Toronto.

During Dec., 1908, 3 deaths and 2 cases of injuries were reported in connection with Canadian navigation. One of the fatalities was due to machinery, and the other two, with the cases of injuries, were due to falls.

Amur-Vadso Collision.

The following judgment has been delivered as the result of a formal investigation into the causes which led to a collision between the steamships Amur and Vadso, Sept. 19, 1908, in McKay Reach, near Trivet Point, B.C., held at Victoria, B.C., by Commander O. G. V. Spain, Wreck Commissioner, and Capts. P. C. Musgrave and J. T. Walbran, Assessors. Both the Amur and Vadso were well found in all the requirements of the Board of Trade, in regard to boats, life saving apparatus, etc., and the officers of both vessels held the proper certificates. It appears from the evidence that the navigation of the inland channels of British Columbia is carried out by the local steamers in running certain courses from a fixed position off one well-known point to a fixed position off another well-known point, and these courses with their time are run voyage after voyage, so that should a fog come on, the position of the vessel would not be lost, and this is done apparently notwithstanding anything that may supervene to make an alteration necessary for a short time; carrying out this idea, the Court considers one of the causes of the above casualty. The C.P.R. steamer Amur, bound from Victoria to Port Simpson and Queen Charlotte Islands, met at about 2.30 a.m. on the above-mentioned date, and at the above-mentioned place, the steamer Vadso, bound from British Columbia northern ports to Vancouver city. The officer in charge of the Amur having run his course and distance from Kingcome Point to Trivet Point, (the Court considers that the collision occurred westward of Trivet Point), and right in the fairway of an approaching vessel, which he had seen and noted, most injudiciously altered his course for Cummings Point, in accordance, apparently, with the above named practice, and towards the Vadso, though that vessel had very properly directed her course to starboard to pass the Amur; the Amur's course was steadied when her port light was supposed, by her officer in charge, to be sufficiently open to the Vadso, that they would pass clear, red to red, but the two vessels being nearly parallel to each other and drawing close, the Court considers that the Amur in swinging a little more than necessary showed her green light to the Vadso for a moment, though no doubt shutting it out again almost immediately; unfortunately the officer in charge of the Vadso, instead of keeping his port helm, made the grave mistake on seeing this light of altering his course to port, thus throwing his vessel across the advancing Amur, which would be again swinging to starboard, the collision was the result, and the Court considers that when the collision was imminent, the officer in charge of the Amur did the only thing possible to avoid a fatal disaster by going full speed astern, and the officer in charge of the Vadso should have done the same; the Vadso's engines, however, were not stopped until the vessels collided, or were on the point of colliding, and the way and momentum of her hull on the Amur's motionless bow was the cause of the damage; had the Vadso gone full speed astern when the collision was imminent, the Court considers that the accident would not have occurred. For bringing the Amur up nearly in a line with the approaching Vadso, which vessel had altered her course to clear him, thereby tending to confuse the officers on the Vadso as to what the Amur was going to do, the Court considers the officer in charge of the Amur should be reprimanded, though his conduct is considered correct after this action. For not keeping his port helm, having once made way in the proper order for the approaching vessel, and also when the vessels were close, for not placing his engines at full speed astern, the Court considers the officer in charge of the Vadso should be severely reprimanded. The masters of the two vessels are exonerated from blame. It is regrettable that the sound signals were not distinctly heard by either ship. The Court wishes to draw attention to the custom in many passenger vessels on the B.C. coast, of the master standing watch and watch with the mate, and then being held responsible, as master of the vessel, for both watches; this appears to the Court to be unfair to the master, and also conducive to accidents, the above collision being a case in point; there should be two competent watch officers, the master, of course, having general supervision; the master having to keep watch and watch, it becomes impossible for him to have the necessary supervision at all times, and the Court considers it would be to the advantage of B.C. vessels if the practice could be stopped.

The Ocean Carrier.

In a volume bearing this title published by G. P. Putnam's Sons, and the Railroad Age Gazette, New York, J. Russell Smith, Assistant Professor of Industry of the University of Pennsylvania School of Finance and Commerce, has written an interesting and instructive book. It is a companion work to a previously issued volume on "The Organization of Ocean Commerce," and is a history and analysis of the ocean-carrying trade, and a discussion of the rates of ocean transportation. The book is the outgrowth of the study of three questions—the development of line traffic, the combinations among carriers to control rates, and the combination of steamship lines and railways.

While it is written entirely from the U.S. point of view, it is an economic study, and does not show more than a natural bias in favor of U.S. routes, and U.S. methods, which is to be expected from those who have been familiar with them from their youth. To one who has been brought into intimate contact with the British mercantile marine, and has given some study to the development of the ocean carrier and to ocean freight rates, from the British point of view, the volume appears to present the view that in the main the growth of the entire trade has been fostered by U.S. initiative and enterprise. While there is some foundation for taking this viewpoint, Professor Smith overlooks the fact that in the days when the U.S. mercantile marine was an appreciable factor in the world's ocean carrying trade the nations of continental Europe were recovering from the disorganization of their trade wrought by the Napoleonic wars, the continuation of which enabled the U.S. as an independent trading nation to build up a mercantile marine and a carrying trade altogether out of proportion to its position as a financial or a producing centre. When the period of the industrial expansion of the U.S. arrived, the importance of the U.S. ocean mercantile marine began to wane, and it is doubtful if it can ever be regained. The question which will have to be determined, as appears to be suggested by a consideration of freight rates as set forth in the volume, is whether the exporting or the importing nations shall determine the route and the rate. Taken as a whole the volume is an interesting one for the general reader, and to those specially interested in transportation problems, it presents clearly and concisely the ocean-carrying problem from the U.S. standpoint. The volume is well illustrated with maps, cuts of various types of ocean carriers, etc. Copies of the work may be obtained from THE RAILWAY AND MARINE WORLD'S book department.

JAMES THOMSON, Pres. and Mang. Director. J. G. ALLAN, Vice-President. JAMES A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED

MANUFACTURERS OF

CAST IRON PIPE

3 inches to 60 inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER

HAMILTON, ONT.

OUR RAILROAD FENCES

We can furnish Light or Heavy Fencing, Hinge or Straight Stay, to meet all conditions.

We are adding to and improving our plant each year, and our customers can depend on securing something better than we had previously furnished.

We are prepared to furnish all material and labor, and turn out to the Railroad a complete job, as we have a number of experienced fence builders always in our service.

Send us your Specifications and we shall be pleased to furnish prices either by mail or otherwise.

Steel and Wood Frame Gates for Railroads at special prices.

New Brunswick Wire Fence Company, Limited

Moncton, New Brunswick

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited

MONTREAL, CANADA.

BARE AND INSULATED ELECTRIC WIRE

Electric Light Line Wire, Incandescent and Flexible Cords,

RAILWAY FEEDER AND TROLLEY WIRE

Americanite, Magnet, Office and Annunciator Wires,
Cables for Aerial and Underground Use.

RAILWAY SPRINGS

ELLIPTIC
SEMI-ELLIPTIC
AND SPIRAL SPRINGS
OF EVERY DESCRIPTION

MANUFACTURED BY

B. J. Coghlin & Co., 432 St. Paul St., Montreal, Can.

Established 1849

BRADSTREET'S

Capital and Surplus $1,500,000

OFFICES THROUGHOUT THE CIVILIZED WORLD

EXECUTIVE OFFICES

NOS. 346 and 348 BROADWAY, N.Y. CITY, U.S.A.

THE BRADSTREET COMPANY gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

CORRESPONDENCE INVITED

OFFICES IN CANADA:

Halifax, N.S.	Hamilton, Ont.	London, Ont.
Montreal, Que.	Ottawa, Ont.	Quebec, Que.
St. John, N.B.	Toronto, Ont.	Vancouver, B.C.
Calgary, Alta.		Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

Ticket Agts. Please Note

ILLINOIS CENTRAL RAILROAD — CENTRAL MISSISSIPPI VALLEY ROUTE

Where **ILLINOIS CENTRAL RAILROAD COMPANY** has through car service both Coach and Sleeper and Free Chair Cars,

Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California,

New Orleans Route to the Pacific Coast
Mardi Gras, Feb. 22-23

Tourist rates to Arizona, Mexico, and California, liberal stopover privileges. Rates via New Orleans as low as via any other route.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Passenger Agent
305 ELLICOTT SQUARE, BUFFALO, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

1909

ONTARIO JOCKEY CLUB

TORONTO - - CANADA

SPRING MEETING

MAY 22ND TO JUNE 5TH

The King's Plate will be run on Saturday, May 22nd

J. E. Seagram, President
W. P. Fraser, Sec'y-Treas.

Cuba-Brighton Collision

A formal investigation into the causes which led to a collision between the s.s. Cuba and the Montreal Transportation Co.'s barges Brighton and Dorchester, in Lake St. Francis, Nov. 12, 1908, was held recently at Montreal, by Commander O. G. V. Spain, Wreck Commissioner, with Capts. Nash and Reid as nautical assessors. Judgment was delivered as follows: It appears from the evidence that on Nov. 12, the Montreal Transportation Co.'s tug Glide, with a tow of three light barges, Ungava, Brighton, and Dorchester, was proceeding up Lake St. Francis, when they encountered a heavy gale of wind from about west-northwest; owing to this strong wind, and the adverse current, and finding that they were not making any headway, it was decided to come to anchor, which was done, the first barge Ungava letting go both anchors with 75 fathoms of cable on the starboard anchor, and 60 fathoms on the port; the tug Glide then moored alongside the barge Ungava, and made fast to her on the starboard or north side, thereby showing they recognized that vessels proceeding down the lake would pass on the south or port side of the tow, the barges Brighton and Dorchester mooring astern of the Ungava, with very short scopes; in fact, the scopes were so short that they were sufficiently close together for a man to walk from one end of the tow to the other. On the approach of darkness the regulation anchor lights were placed in position, two lights on the barge Ungava, one on the tug Glide, and each of the barges Brighton and Dorchester also had one light; in the case of the two latter vessels there was an infringement of Art. 11, of the Rules of the Road. In the case of the Brighton she only carried one light, which was not in accordance with the regulations, as she was over 150 ft. long, and in the case of the barge Dorchester, her light was placed in contravention of sec. A of Art. 11; both barges' lights were hung on the port corners of the deckhouse aft, and visible on the port or south side of the vessels only, and although this had no effect on the collision, the lights should have been visible all round the horizon; the fact of their anchoring in this position, the tug Glide taking her position on the north side of the tow, and the lights of the barges Brighton and Dorchester being placed on their port side goes to prove, in the opinion of the Court, that they all agreed and accepted the fact that there was ample room for vessels to pass clear of the tow to the south, the channel is approximately ¾ mile wide at this point, and there was room to go either north or south of the tow; at no time was the tail of the tow less than 300 ft. from the gas buoy, as a more powerful tug named Emmerson passed twice on the day in question, once with barges in tow, and measuring 64 ft. wide; it appears to the Court, taking this into consideration, that a steamer like the Cuba, with only 26 ft. beam, if carefully navigated, should pass easily, the weather at the time being perfectly clear. The lights of the steamer Cuba were seen for some time approaching almost directly for the tow, without apparently slackening speed; this vessel was proceeding from Oswego to Quebec, coal laden; the master was below at his supper, the mate being in charge of the vessel at the time of the collision; there was no lookout man, the mate assumed that duty, the master stating that he had no other reliable man on board that could fill that position; a pilot (so-called), François Laduc, was at the wheel; the weather conditions are generally accepted, that is to say, that there was a strong wind, dark but clear night, and lights could be seen at full range. The so-called pilot, and also the mate of the Cuba saw the lights on the tow, which they, by their evidence, considered was a tow under way, though the lights did not conform to that opinion, as the lights carried by the Ungava indicated that they were the regulation lights required by law for a vessel at anchor. There appears to have been a very ineffective lookout, and lax discipline, kept on board the Cuba, and also faulty navigation on the part of the officers of that vessel. After seeing the lights of the tow, the Cuba still kept on at full speed, showing both her red and green lights, until within about 100 ft., when the captain of the Ungava called out to the Cuba to port his helm, which the Cuba did, but not in time to avoid striking the Brighton slightly on her port side, sufficiently, however, to send her stern to the northward, and with enough force to carry away three out of the four lines which fastened the Dorchester to the Brighton; the Cuba's port bow then striking the Dorchester on the port bow, doing damage to the Dorchester, and also very considerably hurting herself, the Cuba then drifted clear and proceeded on her way, without ascertaining if there was any danger to the vessels she had collided with. The Court considers that the master and mate of the Cuba should be and they are hereby severely censured, and is also of the opinion that measures should be taken to secure competent and responsible men as pilots of vessels in inland waters. The officer in charge of the tug Glide, who was presumably in charge of the whole tow, is censured for the infringement of the Rules of the Road, in not having the proper lights on the Brighton and Dorchester, and warned to be careful in future. This matter is brought to the attention of the Montreal Transportation Co., and in future officers of vessels not carrying the proper lights will be severely dealt with. In this particular case, as before remarked, the lights in question had nothing to do with the collision.

Richelieu and Ontario Navigation Company.

Following are extracts from the report for the year 1908: The gross earnings were $1,241,747.81, and the net profit, after providing for fixed charges, interest, etc., $250,741.84. The operating expenses, exclusive of fixed charges, were 69% of the gross earnings, a saving of 3% as against the previous year. Four dividends at the rate of 1¼% quarterly were paid during the year.

In the last annual report your directors recommended that a sister ship to the Rapids King be built at an early date for the Rapids division. The necessity of such a steamer having become more and more apparent, on the advice of naval architects the steamer Brockville, now in this service, is being lengthened, rebuilt and modernized, and will go into commission as the Rapids Queen this coming summer. Your directors also recommend the immediate building of a large twin-screw steamer, full canal size of the most modern type, for the Lake Ontario-Thousand Island trade. This steamer to be so built as to take the place of any of the main line steamers of the company, either on the Toronto, Quebec or Saguenay divisions. Plans and estimates are being prepared for this steamer, which should go into commission on the opening of the tourist season, 1910.

The Insurance Fund has been credited with $36,000 out of the year's earnings, and $108,662.00 now stands to the credit of this account, of which $101,154.50 has been invested in bonds. The bond issue and the sale of £200,000 thereof, as well as the entire redemption of the outstanding 1895 issue referred to in the last annual report have been successfully accomplished, and during the past year £3,400 of the new 1907 bonds were also redeemed. The company's steamers, hotels, shops and wharves have been thoroughly maintained and improved during the past year.

ASSETS.

Steamers, real estate and buildings, docks, wharves, etc.		$4,183,333.85
CURRENT ASSETS.		
Coal, stores, provisions, etc.	$ 101,526.77	
Accounts receivable	51,623.12	
Suspense account	88,533.53	
Cash	14,338.72	
Loans on collateral securities	100,000.00	
		356,022.14
Insurance fund investment		101,154.50
		$4,640,510.49

LIABILITIES.

Capital stock	$3,132,000.00	
Bonds 5% sterling	$973,333.33	
Less cancelled	16,546.67	
	956,786.66	
		$4,088,786.66
Accounts payable	$ 76,375.25	
Unclaimed dividends	159.00	
Accrued fixed charges	16,222.23	
		92,756.48
Insurance fund		108,662.00
Surplus		350,305.35
		$4,640,510.49

INCOME ACCOUNT.

Surplus Dec. 31, 1907	$ 341,396.77
Net profit for 1908	250,741.84
	$ 592,138.61
Dividends paid in 1908	$ 156,600.00
Carried to insurance fund	36,000.00
Written off steamers, etc.	49,233.26
Net surplus	350,305.35
	$ 592,138.61

The directors for the current year are as follows: President, R. Forget, M.P.; Vice-President, W. Wainwright; Directors, Sir Henry M. Pellatt, Hon. J. P. B. Casgrain, Hon. L. J. Forget, H. M. Molson, C. O. Paradis, G. Caverhill, W. Hanson and A. H. Sims.

Harbor and River Improvements.

The Dominion Department of Public Works expended during the year ended Mar. 31, 1908, $11,199,384.94, of which the following amounts were for works connected with the marine interests: Harbor and river works, $2,447,882.02; dredging and plant, $3,344,306.56; slides and booms, $144,716.54.

For several years the department has been systematically carrying on the improvement of the principal harbors on the Great Lakes, along the St. Lawrence waterway, and on the Atlantic and Pacific coasts. The points which the Royal Commission on Transportation recommended should be equipped after the most approved and modern methods for handling the export and import trade of the country were: Fort William and Port Arthur, Depot Harbor, Midland, Port Colborne, Kingston, Ont.; Montreal, Quebec, Que.; St. John, N.B.; Halifax, Sydney, N.S.; Vancouver, Victoria, and the termini on the Canadian Northern Ry. and the G.T. Pacific Ry. The improvement of these ports is under way. The amounts expended at this harbor, where work has been progressing, is as follows:

	1899 to 1903	1904 to 1908
Montreal	$503,536.12	$ 520,410.48
Quebec	19,467.65	793,099.56
Port Arthur	53,268.87	469,811.50
Fort William	98,449.65	747,495.65
Depot Harbor	31,797.81	213,729.05
Midland	49,420.29	355,439.62
Port Colborne	445,829.06	444,939.72
Kingston	20,258.38	13,474.09
Sydney, N.S.	6,971.42	14,822.81

	1899 to 1903	1904 to 1908
Halifax (Intercolonial Ry. terminal accommodation)	184,528.62	1,511,204.02
St. John (harbor only)	29,111.49	859,331.25
Vancouver	6,972.00	.....
Victoria	51,244.66	197,962.81

Commander O. G. V. Spain, R.N., Dominion Wreck Commissioner, has resigned, and it is rumored that Rear-Admiral Kingsmill, Commander of the Canadian Marine Service, will be appointed to hold the dual positions, which were so held by Commander Spain prior to Admiral Kingsmill's appointment to his present position.

Among the Express Companies.

The Canadian Northern Ex. Co. has opened an office at Sellwood, Ont.

A. R. G. Heward has been appointed Secretary, Dominion Ex. Co., vice H. E. Suckling.

A. J. Seaton has been appointed route agent, Canadian Ex. Co., with headquarters at Montreal.

C. L. Bowles has been appointed route agent, Canadian Northern Ex. Co., with headquarters at Regina, Sask.

A. G. Boswell has been appointed route agent, Dominion Ex. Co., with headquarters at Montreal, vice J. Bagley, transferred to Toronto.

G. W. Hinton has been appointed agent, Canadian Northern Ex. Co., at Emerson, Man., succeeding O. A. Thomas, transferred to Brandon, Man., vice W. G. Graham.

Jas. Crawford has been appointed route agent, Canadian Northern Ex. Co., with headquarters at Winnipeg, succeeding F. L. Thompson, transferred to Portage la Prairie, Man.

The Canadian Ex. Co. has opened offices at Enfield, Judique and Malagash, N.S.; McGivney's, N.B.; Ste. Agnes de Dundee, Que., and Hyde Park, Ont., and has closed its

The "DILLON" is a Hinge-Stay fence made of extra quality wire, either all No. 9, or lighter if required.

"MONARCH" fence is made of No. 9 Hard wire throughout, and is of the regular straight-stay style.

ENQUIRY SOLICITED

The Owen Sound Wire Fence Co. LIMITED

OWEN SOUND, ONTARIO

WILLIAM ABBOTT
334 St. James Street
MONTREAL

SOLE AGENT IN CANADA FOR

"NOVO" "INTRA"
CRUCIBLE
STEEL

DRILLS, TOOLS, ETC.

Coaches
All Classes
Parlor
Combination
Baggage
Mail
Express
Private
Show Cars
For Sale

HOTCHKISS, BLUE & CO.
RAILWAY EQUIPMENT
241 RAILWAY EXCHANGE
CHICAGO

RE-BUILT AND SPECIAL CARS TO MEET ANY REQUIREMENTS

Locomotives
Steam
Shovels
Freight
Box
Flat
Gondola
Dump
Refrigerator
Cars
For Sale

JOHN DATE
MANUFACTURER OF
DIVING APPARATUS
FOR SALE OR HIRE
BRASS FOUNDER & COPPERSMITH
152 Craig St. West, MONTREAL

2½ x 2½ MESH
NO. 10 STEEL WIRE

WIRE CLOTH

Locomotive Steel Smoke Stack Netting
Car Ventilating Wire Cloth

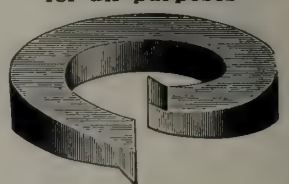
EVERY DESCRIPTION OF WIRE CLOTH FOR ALL PURPOSES

WRITE FOR CATALOGUE

The B. GREENING WIRE CO., Limited

HAMILTON, ONT. MONTREAL, QUE.

THE POSITIVE LOCK WASHER
Is the BEST Nut LOCK for all purposes



WE ALSO MAKE PLAIN COILS AND TAIL NUT LOCKS

The Positive Lock Washer Co.
Sole Mfrs., Newark, N.J.
F. H. HOPKINS & CO., Agents, MONTREAL

DUNER CAR CLOSET
ENAMELED IRON WET OR DRY CLOSET
DUNER CO. 116 SO. CLINTON ST., CHICAGO

offices at Covered Bridge and Upper Blackville, N.B., and Holland Landing, Ont.

The express companies have notified their agents that the order-in-council declaring the Canada Temperance Act, which applies within the limits or in the vicinity of any public works, applies also to all those portions of the provinces of Quebec, Ontario and Manitoba, except in the provisional district of Rainy River, Ont., lying within 20 miles of each side of the located line, and including the line itself, of the National Transcontinental Ry., from the Quebec bridge to the limits of St. Boniface, Man., excepting within the limits of incorporated cities and towns within the said area, prohibits express companies from carrying intoxicating liquors into the territory named.

The Board of Railway Commissioners has issued the following order: 6167. Feb. 4. In the matter of the application of the Commercial Acetylene Co. of New York, for an order directing express companies operating in Canada and subject to the jurisdiction of the Board, to classify for transportation acetylene gas when shipped under the so-called safety storage system. Upon hearing counsel for applicant, the G.T.R. and the C.P.R. Companies, the evidence adduced, and what was alleged—it is ordered that express companies operating in Canada, and under the jurisdiction of the Board, be directed to accept and carry acetylene gas under the rules and regulations prescribed in connection therewith in Official Express Classification 18, and at the rating therein provided; and that a supplement be issued to Express Classification 16, as now in effect, to provide for the said changes becoming effective not later than Mar. 1.

Express Money Order Business, Etc.

In the case of the American Bankers' Association vs. the American Express Co., et al, submitted to the Interstate Commerce Commission Nov. 11, 1908, it was alleged that defendant express companies, by dealing in domestic and foreign exchange, money orders, letters of credit, travellers' cheques and drafts, and foreign money, trespass upon the business of bankers, and by the unfair use and exercise of their business as common carriers violate the act to regulate commerce by unjust discrimination against complainants. Defendants averred that they are subject to the act only as forwarders of goods by express and not in respect to any other kind of business carried on by them, and that their financial business has no relation to their business as common carriers, and does not constitute interstate or foreign commerce.

The Commission held Jan. 5, 1909, upon defendants' motion to dismiss complaint and complainants' request for subpœna duces tecum, that as there may be some question of unjust discrimination involved in the matter, the motion to dismiss the complaint is denied; but as the information sought by complainants through the issuance of subpœna duces tecum does not at this time seem to be necessary to a showing of unjust discrimination in the transportation of money, it does not appear that it would be proper to impose the large expense that preparation of the information would involve. The request for such subpœna is also denied. There can be no doubt as to the jurisdiction of the Commission of any question of discrimination connected with the service of the express companies as carriers; but even if unjust and undue discrimination, free from criminal act, were shown to exist in their practices, it is clearly the duty of the Commission to go no further in destruction or disturbance of the business of the carrier, or in depriving the public of conveniences and facilities of value to it, than is necessary in order to remove the discrimination to the extent that it is unjust or undue. The extent, if any, to which defendants transport money for themselves for the purpose of settling balances in the carrying on of their financial operations has not been shown. The relationship of the cost of this service and of the charges made therefor has not been presented. There may or may not be some question of unjust discrimination involved therein, and complainants should be given an opportunity to present their proofs in support of this alleged discrimination, and the defendants should have an opportunity to answer same. The Commission shall therefore, unless advised by complainants of their desire to dismiss this proceeding, set it down in due time for hearing of further testimony along the lines herein indicated.

Telegraph and Cable Matters.

The T. & N.O. Ry. has opened telegraph offices at Cochrane and Charlton, Ont.

The C.P.R. has opened a telegraph office at Aylen, Ont., and closed its telegraph office at Naiscootyong, Ont.

O. E. Wood, who died at Ithaca, N.Y., Jan. 30, it is claimed took the first telegraph message by sound, and was the first superintendent of telegraphs in New York City.

The latest figures to hand showing the extent of the telegraph lines in operation in the Dominion are:

	Miles of line	Miles of conductors	Offices
G.N.W. Tel. Co....	11,775	48,652	1,360
C.P.R.....	10,294	51,009	1,150
Western Union....	2,638	9,849	219
Government Lines.	6,929	6,929	393

A board of investigation has been appointed to enquire into differences between the Great North Western Telegraph Co. and its operators as follows: Chairman, Judge McGibbon, Lambton; J. G. O'Donoghue, Toronto, on behalf of the men, and J. F. Mackay, Toronto, appointed by the Labor Department. The company declined to nominate a representative.

The Prime Minister informed the House of Commons Jan. 27 that the cost of construction of Marconi wireless stations in Canada to Mar. 31, 1907, had been $132,-641.65, and for maintenance, $200,198.48, while the expenditure for maintenance for the year ended Mar. 31, 1908, had been $56,232.56. There were 15 stations in operation, and during the year ended Mar. 31, 1908, there had been sent for and received by the Government 4,886 messages, containing a total of 57,583 words.

B. S. Jenkins, General Superintendent C.P.R. Telegraphs, Winnipeg, is reported to have stated that during the year additional wires will be strung through from Winnipeg to Calgary and over the Edmonton, Macleod and Crow's Nest lines; also on the main line west from Calgary, and that additional facilities will also be provided in the mountains for both telegraph and telephone communication between the mountain hotels. It is also stated to be the intention, as soon as the double-track east of Winnipeg is completed, to operate a superimposed telephone circuit between Winnipeg and Montreal, at the same time using it for telephone service between Winnipeg and Fort William for railway service only.

Referring to the recent order-in-council bringing into force the clause of the act amending the Railway Act passed last session of the Dominion Parliament, by which all telegraph companies are placed within the jurisdiction of the Board of Railway Commissioners, those associated with the principal companies concerned, state that there are at present no important telegraph questions for the Board's consideration. On the question of rates, etc., it is pointed out that there was never any complaint. They point out that rates here are as good, if not better, than in any other part of the world. Ten words for 25c., and a cent for each extra word, is a vast difference from 25c. and 2c. a word which is the charge in the U.S., and in this connection it is declared that there can be no change.

The Mackay Companies.

Following are extracts from the trustees' report: The Mackay Companies still owns the whole or part of the capital stock of 102 prosperous cable, telegraph and telephone companies in the U.S., Canada and Europe, including the entire capital stock of the Commercial Cable Co. and the various companies constituting the land line system known as the Postal Telegraph. The outstanding preferred shares of $50,000,000 have not been increased during the past two years, and the outstanding common shares of $41,380,400 have not been increased during the past four years. Dividends have been regularly paid on the preferred shares since April, 1904, at the rate of 4% per annum, payable quarterly, and on the common shares since Jan., 1905, such dividends having been increased to 4% per annum, payable quarterly, commencing July, 1906.

The physical properties of the subordinate companies are maintained in excellent condition. All reconstruction is charged to operating expense. All extensions, improvements and investments are being paid for from annual receipts and not by the issue of shares or bonds. The Mackay Companies has no debts. Owing to the agitation which has been going on, particularly in England and Canada, for government Atlantic cables and the reduction of rates, G. G. Ward, Vice-President and General Manager of the Commercial Cable Co., addressed an open letter to the Committee on Foreign and Insular Trade of the New York Board of Trade and Transportation, Jan. 14, in which he points out the attitude of the company on the subject.

During 1908 the earnings of the Commercial Cable Co. (which has paid regular quarterly dividends for over 19 years) show a decrease in gross receipts and net profits. This was due to the fact that in the spring, powerful steam fishing vessels operated their deep sea nets or trawls on the bottom of the ocean off the coast of Ireland, in such a manner as to disrupt the company's submarine cables, as well as those of other companies. A trawl is practically a crude mass of iron and wood, which is dragged along on the bottom of the ocean. The interruption so seriously affected public business that protests were made by commercial bodies, not only throughout the U.S., but in England. At the request of your trustees, the U.S. Government called the attention of the British Government to this reckless interruption of international communication and destruction of property. Thereupon the British Government appointed a commission of enquiry, which reported in the fall, recommending that stringent inspection be made of these trawling vessels. The interruptions still continue, and all the cable companies are still affected. Inspection is not enough. Your trustees believe that steam operated trawls should be prohibited in that particular part of the sea. The cable companies are still urging the British Government to adopt some real remedy.

Notwithstanding this decrease in the gross receipts and net profits of the Commercial Cable Co., and the depression of business which prevailed throughout the U.S. during the past year, growing out of the panic and financial crisis of the fall of 1907, the profits which the Mackay Companies might draw from the companies which it controls have increased. Economies, which have been rendered possible without impairing the service, have more than offset the decrease in gross receipts. More important still, the

NORTH AMERICAN LIFE

ANNUAL MEETING

REPORT FOR THE YEAR 1908

The Twenty-eighth Annual Meeting of the North American Life Assurance Company was held at its Home Office in Toronto, on Thursday, Jan. 28th, 1909, when the following report of the business of the Company for the year ended Dec. 31st, 1908, was presented:

CASH INCOME

The cash income for the year from premiums, interest, etc., was $1,897,078.28, showing the satisfactory increase of $81,980.59.

REDUCTION IN EXPENSE RATIO

The business has been conducted on a conservative basis, as is shown by a further reduction in the ratio of expenses to premium income, thereby placing the North American Life in the front rank of economically managed Canadian companies.

PAYMENTS TO POLICYHOLDERS

The amount paid on policyholders' account was $654,991.05, and of this sum $368,831.76 represents payments for Dividends, Matured Endowments and Investment Policies.

ASSETS

The Assets increased during the year by the sum of $854,762.01, and now amount to $9,590,688.09. The Assets continue to be, as heretofore, invested in the best class of securities available; a detailed list of these will be published with the Annual Report for distribution.

NET SURPLUS

After making ample provision for all liabilities and paying the sum of $124,771.26 for dividends to policyholders, the net surplus was increased to $876,214.15.

INSURANCE

The policies issued during the year, together with those revived, amounted to the sum of $4,465,224.00, making the total insurance in force $40,341,091.00.

AUDIT

A monthly examination of the books of the Company was made by the Auditors, and at the close of the year they made a thorough scrutiny of all the securities held by the Company. A committee of the Board, consisting of two Directors, made an independent audit of the securities each quarter.

L. GOLDMAN, Managing Director.

J. L. BLAIKIE, President.

The Annual Report, containing a detailed list of the securities, will be sent in due course to each policyholder.

Delaware & Hudson

RAIL AND STEAMER LINES

Shortest, Quickest and Best Rail Line between

MONTREAL AND NEW YORK

Trains leave Montreal 8.45, 10.55 a.m., and 7.40 p.m. Steamers through Lake Champlain the Magnificent and Lake George the Beautiful, which connect with trains to Albany via Saratoga Springs.

D. I. ROBERTS, Gen. Can. Pass. Agent.
W. H. HENRY, Can. Pass. Agent, 286 St. James Street, Montreal, P.Q.
A. A. HEARD, Gen. Pass. Agent, Albany, New York.

IMPERIAL BANK
OF CANADA

CAPITAL AUTHORIZED - -	$10,000,000.00.
CAPITAL PAID UP - -	5,000,000.00.
REST - - - -	5,000,000.00.

HEAD OFFICE - - TORONTO

AGENTS—London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.

Sterling exchange bought and sold. Letters of credit issued available in any part of the world.

SAVINGS DEPARTMENT—Interest allowed on deposits at current rate from date of deposit.

A general Banking business transacted.

Branches throughout the Dominion of Canada

Anti-Rail Creepers

Made under Laas & Sponenburg, Canadian patents Nos. 97586, 97268, 97269. Shipments made from Walkerville, Ontario.

Belle City Malleable Iron Co.
RACINE, WIS.

MAIL JOB PRESS TORONTO

TRANSPORTATION PRINTING

FOR TICKET CASES AND COMMERCIAL FURNITURE

Of all descriptions to stock or special design, Apply to

The Canadian Office and School Furniture Co. Limited
Preston, Ontario

service now rendered by the telegraph and cable systems, controlled by the Mackay Companies, is faster and more efficient than ever before. The financial results of the entire year serve to demonstrate the soundness of the plan on which the Mackay Companies is formed; namely, so wide a distribution of its interests as to minimize the effect of any decrease in profits from one particular source.

During the past year additional wires have been strung on one of the transcontinental land lines, and the service of the Postal Telegraph Company has been extended in the U.S.

The Mackay Companies' holdings of stock in the American Telephone and Telegraph Co., commonly known as the Bell Telephone Co., are nearly six times larger than those of any other stockholder.

During the past year, H. V. Meredith, Montreal, was elected a trustee of the Mackay Companies, thereby giving to the Canadian shareholders two representatives, the other being R. A. Smith, Toronto.

ASSETS.

Investments in other companies	$92,075,593.45
Cash	190,795.70
	$92,266,389.15

LIABILITIES.

Preferred shares issued	$50,000,000.00
Common shares issued	41,380,400.00
Surplus	885,989.15
	$92,266,389.15

PROFIT AND LOSS ACCOUNT.

RECEIPTS.

Income from investments in other companies	$3,685,761.91

DISBURSEMENTS.

Dividends paid on—		
Preferred shares, 4%	$2,000,000.00	
Common shares, 4%	1,655,216.00	
Operating expense, including transfer agents, registrars', auditors' and trustees' compensation, office rent, salaries, stationery, engraving of certificates, etc.	25,027.45	
Balance carried forward	5,518.46	
		$3,685,761 91

Dominion Government Telegraph System.

The total number of miles of telegraph lines under the control of the Dominion Department of Public Works, according to the report for the year ended Mar. 31, 1908, just presented to Parliament, was 7,225, comprising 393 offices, which transmitted during the year a total of 105,000 messages. All the lines were maintained in good order and worked fairly satisfactorily. No new lines of any considerable length were constructed during the year, but a number of extensions were made to existing lines in the Maritime Provinces, in the province of Quebec, particularly in the Chicoutimi district, and in Saskatchewan and Alberta. The cost of maintenance exceeded the revenue, but the advantages accruing to the portions of the country served by these lines more than compensate for the expense borne by the Dominion. The greater portion of the Government telegraph lines is constructed through very sparsely inhabited districts and along the Gulf of St. Lawrence, where private companies would not obtain sufficient revenue to justify the building and operation of a service. As the country is opened up and railways built many of the Government telegraph lines will necessarily be abandoned or perhaps transferred to the control of railway and other companies. In several instances it has been found that the public interest is best served by transforming lines originally constructed as telegraph into telephone lines, the operation of which are more simple and fulfil to a greater degree the needs of the community. In some cases the dual operation of the line for both telegraph and telephone was attempted, but the results can hardly be said to be satisfactory.

The total revenue from the lines was $122,432.53, and the expenditures $386,-567.34. Signal service messages, meteorological service messages, and reports, and fisheries bulletins are handled free of toll. The number of officers at the different stations is 393.

The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Supplies, &c.

Accident Insurance
Canadian Ry. Accident Ins. Co.....Ottawa, Ont.

Aerated Waters
E. L. Drewry.....Winnipeg.

Air Brakes and Fittings
Canada Foundry Co.....Toronto.
Canadian Westinghouse Co.....Hamilton, Ont.

Ales
E. L. Drewry.....Winnipeg.

Alloys
Goldschmidt Thermit Co.....Toronto.

Angle Bars
Hamilton Steel & Iron Co.....Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.

Anti Rail Creepers
Belle City Malleable Iron Co.....Racine, Wis.
N. J. Holden & Co.....Montreal.

Automobiles
Polson Iron Works, Ltd.....Toronto.

Axes
James Smart Mfg. Co.....Brockville, Ont.

Axe Steel
Montreal Steel Works.....Montreal.

Axles
James Hutton & Co.....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Beacons
International Marine Signal Co.....Ottawa.

Bearings, Side
Cardwell Mfg. Co.....Chicago, Ill.
Chicago Railway Equipment Co.....Chicago, Ill.
Dominion Car and Foundry Co.....Montreal.

Blankets and Bedding
The Hudson's Bay Co.....

Blasting Powder
Standard Explosives Limited.....Montreal.

Boilers
Babcock & Wilcox (Ltd.).....Montreal.
Polson Iron Works.....Toronto.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Portable
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Stationary and Marine
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd.....Amherst N.S.

Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.

Boilers, Steam
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Water Tube
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Tubes
Jas. W. Pyke & Co.....Montreal.

Bolsters
Dominion Car and Foundry Co.....Montreal.

Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.

Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Box Car Loaders
Mussens Limited.....Montreal.

Brake Beams
Chicago Railway Equipment Co.....Chicago, Ill.
Dominion Car and Foundry Co.....Montreal.

Brake Shoes
American Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.
N. J. Holden Co., Ltd.....Montreal.

Brass and Copper Cloth
The B. Greening Co.....Hamilton, Ont.

Bridge Numbers
Acton Burrows Limited.....Toronto.

Bridges
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Buckets, Coal, Ore and Concrete
Canadian Fairbanks Co., Ltd.....Montreal.

Bumping Posts
N. J. Holden Co.....Montreal.
McCord & Co.....Chicago, Ill.

Buoy Lighting
Safety Car Heating and Lighting Co..New York.

Buoys
International Marine Signal Co.....Ottawa.

Cables, Electric and Feeder
E. F. Phillips Electrical Works, Ltd.....Montreal.
The Wire and Cable Co.....Montreal.

Caps
W. H. Coddington.....Hamilton, Ont.

Car Castings
American Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.

Car Cleaner
Modoc Soap Co.....Philadelphia, Pa.

Car Closets
Duner Co.....Chicago, Ill.

Car Curtains and Fixtures
N. J. Holden Co., Ltd.....Montreal.

Car Fittings
Wallace Supply Co.....Chicago, Ill.

Car Heating
Canadian Gold Car Heating & Light'g Co.Montreal.
Safety Car Heating and Lighting Co...New York.

Car Lighting
Canadian Cold Car Heating & Light'g Co.Montreal.
Safety Car Heating and Lighting Co...New York.

Car Movers
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Car Replacers
Alexander Car Replacer Mfg. Co....Scranton, Pa.
N. J. Holden Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.

Cars
American Car and Equipment Co....Chicago, Ill.
Canada Car Co. (Ltd.).....Montreal.
Canadian Fairbanks Co. Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Dominion Car and Foundry Co.....Montreal.
J. T. Gardner.....Chicago, Ill.
Hart-Otis Car Co. (Ltd.).....Montreal.
Hotchkiss, Blue & Co.....Chicago, Ill.
Ottawa Car Co., Ltd.....Ottawa.
Preston Car and Coach Co., Ltd...Preston, Ont.
Rhodes, Curry & Co.....Amherst, N.S.
Silliker Car Co., Ltd.....Halifax, N.S.

Car Windows
O. M. Edwards.....Syracuse, N.Y.

Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
Standard Steel Works Co.....Philadelphia, Pa.

Castings, Brass
Canadian Bronze Co.....Montreal
Canada Iron Corporation, Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Castings, Iron
Canada Car Co., Ltd.....Montreal.
Canada Iron Corporation, Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Castings, Iron and Steel
American Brake Shoe & F'dry Co—Mahwah, N.J.

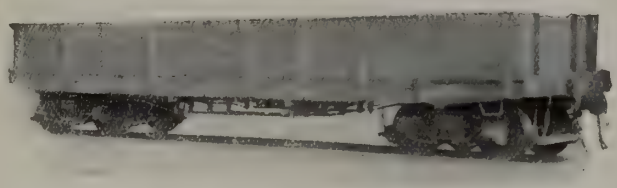
Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.

Sessions-Standard Friction Draft Gear
Simplest and Best

Both Made by
Standard Coupler Co.
2 RECTOR STREET NEW YORK

Standard Steel Platforms
Used by all Canadian Railways

NICKEL
THE CANADIAN COPPER COMPANY
NICKEL FOR NICKEL STEEL
THE ORFORD COPPER COMPANY
WRITE US FOR PARTICULARS AND PRICES
General Offices: 43 Exchange Place, NEW YORK



SECOND-HAND EQUIPMENT
ALL CLASSES REBUILT
FREIGHT AND PASSENGER
CAR REPAIRS
AMERICAN CAR & EQUIPMENT CO., 1538 Monadnock, Chicago, Ill.

HEADLIGHTS—WE MAKE THEM
For OIL, for Pyle ELECTRIC equipment or SPECIAL to Blue Print, and carry a large stock of standard headlight reflectors, burners, burner parts, felt wicks, and chimneys.
The HIRAM L. PIPER CO., Limited
17 to 23 Normand Street, Montreal
GET OUR No. 30 CATALOGUE (Between St. Peter and McGill Streets)

MALLEABLE IRON CASTINGS
of Superior Quality
CALT MALLEABLE IRON CO., LIMITED CALT, ONT.

THE CANADIAN BRONZE COMPANY, LTD.
BRASS WEARING PARTS FOR LOCOMOTIVES.
JOURNAL BEARINGS FOR FREIGHT AND PASSENGER SERVICE.
BABBITTS MISCELLANEOUS BRASS CASTINGS FOR RAILROADS.
Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

"PERFECTOL" The *Perfect* CAR CLEANER
Sold By
THE MODOC SOAP CO. OF OHIO
HENRY ROEVER, President and Manager.
Philadelphia Office—228 North Fourth Street, Philadelphia, Pa.

THE PARRY SOUND LUMBER CO.
Limited
13-15 TRADERS BANK BLDG., TORONTO
MANUFACTURERS OF
PINE, HEMLOCK, LUMBER, BRIDGE TIMBER
RAILWAY TIES, TELEGRAPH POLES,
LATH, SHINGLES, BOX SHOOKS

WOOD PATTERNS
—— ALL KINDS ——
High Grade. Right Prices. Prompt Delivery.
THE HAMILTON PATTERN WORKS
HAMILTON, ONT.

FOR STREET PAVING MATERIAL
SCORIA BLOCKS are the cleanest, most noiseless and, durability considered, the cheapest yet discovered. And the supply is unlimited.
FOR ALL INFORMATION ADDRESS
W. H. KNOWLTON
Aberdeen Building, Toronto,
or Merchants Bank Building, Montreal

LEHIGH VALLEY RAILROAD
BEST LINE FROM TORONTO AND ONTARIO POINTS
— TO —
NEW YORK, PHILADELPHIA AND SOUTH
For particulars, write to or call on
MR. ROBERT S. LEWIS
Canadian Passenger Agent
54 King St. East - - - Toronto

UNIFORM CAPS
For officials and employes of Railway, Steamship, Express, Telegraph and other companies, Yacht Clubs, Etc.
Helmets and Uniform Caps for Police, Firemen, Bands, Societies, Etc.
Embroidery in Gold and Silver Bullion.
W. H. CODDINGTON
HAMILTON - - ONTARIO

THE PRESTON CAR & COACH CO.
PRESTON, ONT. Limited
—— MANUFACTURERS OF ——
Steam and Electric Railway Cars

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS' MACHINERY, address
THE ROBERTSON MACHINERY CO.
WELLAND, ONT. Limited

For Neatness and Quality in
PRINTING
—— WE HEAD THE LIST ——
THE HUNTER ROSE CO., Limited
12-14 Sheppard St. - - - - - Toronto

Castings, Steel
Canada Iron Corporation, Ltd.....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry & Co.....Amherst N.S.

Cast-Steel Hammers
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cast Steel Track Tools
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cast Steel Wrenches
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cement Machinery
Jas. W. Pyke & Co.....Montreal.

Chains
B. J. Coghlin & Co.....Montreal.

Charcoal Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio

Clevis Nuts
Cleveland City Forge & Iron Co....Cleveland O.

Coal Haulage Ropes
The B. Greening Co.....Hamilton, Ont.

Compressors, Air
Canadian Rand Co.....Montreal.

Concrete Mixers and Rock Crushers
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Construction
Cleve-Mor Engin'ing & Cons'tion Co.Cleveland, O.

Contractors' Machinery and Plant
American Car and Equipment Co....Chicago, Ill.
American Hoist and Derrick Co...St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Canadian Fairbanks Co., Ltd.....Montreal.
J. T. Gardner.....Chicago, Ill
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Toronto Pressed Steel Co.....Toronto.

Contractors' Supplies
F. H. Hopkins & Co.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Conveyors, Coal and Ash
Babcock & Wilcox (Ltd.).....Montreal.

Copying Presses
James Smart Mfg. Co.....Brockville, Ont.

Corrugated Furnaces
Continental Iron Works.....Brooklyn, N.Y.

Couplers, Car and Locomotive
Acme Railway Equipment Co..Philadelphia, Pa.
Dominion Car and Foundry Co.....Montreal.
Latrobe Steel & Coupler Co....Philadelphia, Pa.
McConway & Torley Co.....Pittsburg, Pa.
National Malleable Castings Co..Cleveland, Ohio.
Taylor & Arnold.....Montreal.
Washburn Steel Castings & Coupler Co.,
.....Minneapolis, Minn.

Cranes
Canadian Fairbanks Co., Ltd.....Montreal.

Cranes, Electric
Babcock & Wilcox.....Montreal.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.

Cranes, Locomotive
American Hoist and Derrick Co....St. Paul, Minn.

Cross Arm Braces
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Crossing Gates
The N. L. Piper Railway Supply Co.....Toronto.

Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Culvert Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co..Hamilton.

Cuts
Acton Burrows Limited.....Toronto.

Derailing Devices
Hayes Track Appliance Co.....Geneva, N.Y.

Derrick Ropes
Dominion Wire Rope Co.....Montreal.
The B. Greening Co.....Hamilton, Ont.

Derricks
American Hoist and Derrick Co....St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Miller Bros. & Toms.....Montreal.
Mussens Limited.....Montreal.

Dies
Butterfield & Co.....Rock Island Que.

Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.

Doors (Ex-Platform Trap)
O. M. Edwards.....Syracuse, N.Y.

Door Signs
Acton Burrows Limited.....Toronto.

Draft Gear
Cardwell Mfg. Co.....Chicago, Ill.
Farlow Draft Gear Co.....Baltimore, Md.
N. J. Holden Co.....Montreal.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.
Waugh Draft Gear Co.....Chicago, Ill.

Dredges
M. Beatty & Sons.....Welland, Ont.

Drills
W. Abbott.....Montreal.

Drills, Air
Canadian Rand Co.....Montreal.

Drill Sockets
American Specialty Co.....Chicago, Ill.

Dry Goods
The Hudson's Bay Co.....

Dump Cars (Contractors')
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Dust Guards
Harrison Dust Guard Co.....Toledo, O.

Dynamo and Electric Castings
American Brake Shoe & F'dry Co..Mahwah, N.J.

Economizers
Babcock & Wilcox (Ltd.).....Montreal.

Electric Car Route Signs
Acton Burrows Limited.....Toronto.

Electric Ry. Brake Shoes
American Brake Shoe & F'dry Co..Mahwah, N.J.

Electrical Fuses
Standard Explosives Limited.....Montreal.

Enameled Iron Signs
Acton Burrows Limited.....Toronto.

Engineering
Cleve-Mor Engin'ing & Cons'tion Co.Cleveland, O.

Engines, Automatic
Robb Engineering Co., Limited....Amherst, N.S.

Engines, Corliss
Robb Engineering Co., Limited....Amherst, N.S.

Engines, Gasolene
Canadian Fairbanks Co.....Montreal.
Ontario Wind Engine and Pump Co.....Toronto.

Engines, Hoisting
American Hoist and Derrick Co...St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Canadian Fairbanks Co. Ltd.....Montreal.
Robertson Mfg. Co.....Welland, Ont.

Engines, Stationary and Marine
Polson Iron Works.....Toronto.
Robb Engineering Co., Limited....Amherst, N.S.

Explosives
Standard Explosives Limited.....Montreal.

Express Office Signs
Acton Burrows Limited.....Toronto.

Feedwater Heaters
Robb Engineering Co., Limited....Amherst, N.S

Fencing
McGregor Banwell Fence Co....Walkerville, Ont.
New Brunswick Wire Fence Co....Moncton, N.B.
Owen Sound Wire Fence Co..Owen Sound. Ont.
Page Wire Fence Co.....Walkerville, Ont.

Fire Brick
Mussens Limited.....Montreal.

Flags
The Hudson's Bay Co.....

Flour
The Hudson's Bay Co.....

Fog Signals
International Marine Signal Co.....Ottawa.

Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co....Cleveland, O.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton, Ont.
Standard Steel Works Co.....Philadelphia, Pa.

Foundry Appliances
Goldschmidt Thermit Co.....Toronto.

Frogs
Canadian Ramapo Iron Wks, Ltd..Niagara Fs, Ont.

Fuse Batteries
Standard Explosives Limited.....Montreal.

Fuse Detonators
Standard Explosives Limited.....Montreal.

Gaskets
N. J. Holden Co.....Montreal.
McCord & Co.....Chicago, Ill.

Gas Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co..Hamilton.

Gates
McGregor Banwell Fence Co....Walkerville, Ont.
New Brunswick Wire Fence Co....Moncton, N.B.
Page Wire Fence Co.....Walkerville, Ont.
Owen Sound Wire Fence Co...Owen Sound, Ont.

Grain Elevators
John S. Metcalfe Co.....Chicago, Ill.

Groceries
The Hudson's Bay Company.....

Hammers
James Smart Mfg. Co.....Brockville, Ont.

Handcars
Canadian Fairbanks Co., Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel C.....Toronto.

Hardware
The Hudson's Bay Co.....
Rice Lewis & Son.....Toronto.

Hats
W. H. Coddington.....Hamilton, Ont.

Headlights
The N. L. Piper Railway Supply Co....Toronto.
Pyle National Electric Headlight Co..Chicago, Ill.

Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.

Hoisting Machinery
American Hoist and Derrick Co...St. Paul, Minn.
Brown Hoisting Machinery Co...Cleveland, Ohio.
Canadian Fairbanks Co., Ltd.....Montreal.

Hoists, Electric
American Hoist and Derrick Co....St. Paul, Minn.

Hoists (Pneumatic)
Taylor & Arnold.....Montreal.

Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.

Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.

Hydrants
Canadian Fairbanks Co., Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Illustrations
Acton Burrows Limited.....Toronto.

Inspections
R W. Hunt & Co.....Montreal.

Interlocking Plant and Signals
Montreal Steel Works.....Montreal.
Saxby and Farmer Ltd.....Montreal.

Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton Ont.

Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton, Ont.

Iron Signs
Acton Burrows Limited.....Toronto.

Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.

Jacks
Canadian Fairbanks Co., Ltd.....Montreal.
H and E Lifting Jack Co.....Waterville, Que.
F. H. Hopkins & Co., Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.

Japans
McCaskill, Dougall & Co.....Montreal.

Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.

Journal Boxes
N. J. Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Lager Beer, &c.
E. L. Drewry.....Winnipeg.

Lamps, Incandescent
Canadian Westinghouse Co.....Hamilton, Ont.

Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Railway Supply Co....Toronto.

Launches
Polson Iron Works.....Toronto.

Lights, Contractors' and Wrecking
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Locomotive Cranes
American Hoist and Derrick Co...St. Paul, Minn.

Locomotive Driver Brake Shoe
American Brake & Shoe F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.

Locomotive Gauges
Taylor & Arnold.....Montreal.

Locomotive Lagging and Covering
Taylor & Arnold.....Montreal.

Locomotive Pop Valves
Taylor & Arnold.....Montreal.

Locomotives (Compressed Air)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.
Montreal Locomotive Works (Ltd.)....Montreal.
H. K. Porter Co.....Pittsburg, Pa.

Locomotives (Geared)
Lima Locomotive Co.....Lima, O.

Locomotives (Electric)
Burnham, Williams & Co.....Philadelphia, Pa.
Montreal Locomotive Works (Ltd.).....Montreal.

Locomotives (Logging)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.
H. K. Porter Co.....Pittsburg, Pa.

Locomotives (Rack)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.
Montreal Locomotive Works (Ltd.).....Montreal.

Locomotives (Steam)
American Car and Equipment Co.....Chicago, Ill.
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Fairbanks Co., Ltd.....Montreal.
Canadian Locomotive Co.....Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hotchkiss, Blue & Co.....Chicago, Ill.
Lima Locomotive Co.....Lima, O.
Montreal Locomotive Works (Ltd.).....Montreal.
H. K. Porter Co.....Pittsburg, Pa.
Vulcan Iron Works.....Wilkesbarre, Pa.

Locomotive Staybolts
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.
Flannery Bolt Co.....Pittsburg, Pa.

Lubricators
N. J. Holden Co.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.

Lumber
Parry Sound Lumber Co.....Toronto.

Machine Tools
W. Abbott.....Montreal.

Machinery, Marine
Sheriffs Mfg. Co.....Milwaukee, Wis.

Machinery Special
Miller Bros. & Toms.....Montreal.

Machinery, Transmission
Miller Bros. & Toms.....Montreal.

Machinery, Wood and Iron Working
Canadian Fairbanks Co., Ltd.....Montreal.

Manganese Steel Castings
Montreal Steel Works.....Montreal.

Manhole Frames and Covers
American Brake Shoe & F'dry Co...Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.

Marine Repairs
Goldschmidt Thermit Co.....Toronto.

Marine Supplies
Rice Lewis & Son.....Toronto.

Measuring Tapes
Lufkin Rule Co.....Saginaw, Mich.

Metals
Goldschmidt Thermit Co.....Toronto.

Milepost Numbers
Acton Burrows Limited.....Toronto.

Milling Cutters
W. Abbott.....Montreal.

Motors
Canadian Fairbanks Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Nickel
The Orford Copper Co.....New York.

Nickel for Nickel Steel
The Orford Copper Co.....New York.

Numbers
Acton Burrows Limited.....Toronto.

Nut Locks
Positive Lock Washer Co.....Newark, N.J.

Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Oakum
The Hudson's Bay Company.....

Office Fittings
Canadian Office & School Furniture Co. Preston, Ont.

Office Signs
Acton Burrows Limited.....Toronto.

Oil Tanks
S. F. Bowser & Co., Limited.....Toronto.

Oils
Galena Signal Oil Co..Franklin, Pa., and Toronto.

Packing
Canadian Fairbanks Co., Ltd.....Montreal.
The N. L. Piper Railway Supply Co.....Toronto.

Patterns
Hamilton Pattern Works.....Hamilton, Ont.

Pinch Bars
The N. L. Piper Railway Supply Co.....Toronto.

Pipe Stocks
Butterfield & Co.....Rock Island, Que.

Platforms, Steel
Standard Coupler Co.....New York City.

Ploughs, Contractors'
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Pneumatic Tools
N. J. Holden Co., Ltd.....Montreal.

Porter
E. L. Drewry.....Winnipeg.

Portable Boilers
Babcock & Wilcox (Ltd.).....Montreal.

Printing
The Hunter-Rose Co.....Toronto.
The Mail Job Printing Company.....Toronto.

Propeller Wheels
Sheriffs Mfg. Co.....Milwaukee, Wis.

Pumps
S. F. Bowser & Co., Limited.....Toronto.
Canadian Fairbanks Co.....Montreal.
Ontario Wind Engine and Pump Co....Toronto.
James Smart Mfg. Co.....Brockville, Ont.

Pumps (Centrifugal)
M. Beatty & Sons.....Welland, Ont.

Rail Benders, Roller
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

Rails (new)
Dominion Iron & Steel Co.....Sydney, N.S.
Drummond, McCall & Co.....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co.....Montreal.

Rails (for relaying)
F. H. Hopkins & Co.....Montreal.
J. J. Gartshore.....Toronto.
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.

Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada.....Montreal.

Railway Pile Drivers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Railway Supplies
Canadian Fairbanks Co.....Montreal.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Railway Supply Co....Toronto.
Rice Lewis & Son.....Toronto.

Ranges
Stearnes Steel Range Co.....Chicago, Ill.

Reamers
W. Abbott.....Montreal.
Butterfield & Co.....Rock Island, Que.

Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Rolled Wheels
Standard Steel Works Co.....Philadelphia, Pa.

Roof Trusses
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Co.....

Rotary Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.

Sash Balances
O. M. Edwards.....Syracuse, N.Y.

Sash Locks
O. M. Edwards.....Syracuse, N.Y.

Saw Steel
Montreal Steel Works.....Montreal.

Scales
Canadian Fairbanks Co., Ltd.....Montreal.

Scoria Blocks
W. H. Knowlton.....Toronto.

Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

BABCOCK & WILCOX
LIMITED

PATENT WATER-TUBE BOILERS
(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes, MONTREAL

BRANCH—TRADERS BANK BUILDING, TORONTO

The Purchasing Agents' Guide—Continued.

Screw Plates
Butterfield & Co. . . . . Rock Island, Que.

Screws, Coach and Lag
Montreal Rolling Mills Co. . . . . Montreal.
Toronto Bolt and Forging Co. . . . . Toronto.

Semaphore Arms
Acton Burrows Limited. . . . . Toronto.

Semaphores
The N. L. Piper Railway Supply Co. . . . . Toronto.
Saxby and Farmer Ltd. . . . . Montreal.

Sewer Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co. . Hamilton.

Shade Rollers
O. M. Edwards. . . . . Syracuse, N.Y.

Shafting, Hollow
Falls Hollow Staybolt Co. . Cuyahoga Falls, Ohio.

Shaking Grates
Babcock & Wilcox (Ltd.). . . . . Montreal.

Ship Lamps
The Hiram L. Piper Co. . . . . Montreal.
The N. L. Piper Railway Supply Co. . . . . Toronto.

Ships
Polson Iron Works. . . . . Toronto.

Shops
The Hudson's Bay Co. . . . . .

Signal House Numbers
Acton Burrows Limited. . . . . Toronto.

Signals
The Hiram L. Piper Co. . . . . Montreal.
N. L. Piper Railway Supply Co. . . . . Toronto.
Saxby and Farmer, Limited. . . . . Montreal.

Signs
Acton Burrows Limited. . . . . Toronto.

Skylights
A. Edgcumbe Rendle. . . . . Montreal.

Slack Adjusters
Chicago Railway Equipment Co. . . . . Chicago, Ill.

Sledges
James Smart Mfg. Co. . . . . Brockville, Ont.

Snow Ploughs
Crossen Car Mfg. Co. . . . . Cobourg, Ont.
Rhodes, Curry & Co. . . . . Amherst, N.S.

Speedicut High Speed Steel
Montreal Steel Works. . . . . Montreal.

Spikes, Railway, Ship or Pressed
Hamilton Steel and Iron Co., Ltd. . Hamilton, Ont.
F. H. Hopkins & Co. . . . . Montreal.
Montreal Rolling Mills Co. . . . . Montreal.
Toronto Bolt and Forging Co. . . . . Toronto.

Spreader Cars
F. H. Hopkins & Co. . . . . Montreal.

Spring Dampeners
McCord & Co. . . . . Chicago, Ill.

Springs
B. J. Coghlin. . . . . Montreal.
F. H. Hopkins & Co. . . . . Montreal.
Montreal Steel Works. . . . . Montreal.
Standard Steel Works Co. . . . . Philadelphia, Pa.

Station Name Signs
Acton Burrows Limited. . . . . Toronto.

Station Seals
James Smart Mfg. Co. . . . . Brockville, Ont.

Staybolts, Flexible
Flannery Bolt Co. . . . . Pittsburg, Pa.

Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co. . Cuyahoga Falls, Ohio

Staybolt Iron
Taylor & Arnold. . . . . Montreal.

Staybolt Taps
Butterfield & Co. . . . . Rock Island, Que.

Steam Couplers
Safety Car Heating and Lighting Co. . . New York.

Steam Shovels
M. Beatty & Sons. . . . . Welland, Ont.
Canadian Fairbanks Co., Ltd. . . . . Montreal.
F. H. Hopkins & Co. . . . . Montreal.
Hotchkiss, Blue & Co. . . . . Chicago, Ill.
Mussens Limited. . . . . Montreal.

Steamships
Polson Iron Works. . . . . Toronto.

Steamship Signs
Acton Burrows Limited. . . . . Toronto.

Steam Steering Engines for Tugs
Sheriffs Mfg. Co. . . . . Milwaukee, Wis.

Steel
W. Abbott. . . . . Montreal.
Wm. Jessop & Sons. . . . . Sheffield, Eng.

Steel Buildings
Canadian Bridge Co. . . . . Walkerville, Ont.
Dominion Bridge Co. . . . . Montreal.

Steel, Fire Box
Taylor & Arnold. . . . . Montreal.

Steel for Springs
James Hutton & Co. . . . . Montreal.

Steel, Nickel, for Nickel
The Orford Copper Co. . . . . New York.

Steel Plates
Jas. W. Pyke & Co. . . . . Montreal.

Steel Rolling Doors
Mussens Limited. . . . . Montreal.

Steel, Tool
W. Jessop & Sons. . . . . Sheffield, Eng.
Montreal Steel Works. . . . . Montreal.

Steel Tyres
James Hutton & Co. . . . . Montreal.
Jas. W. Pyke & Co. . . . . Montreal.

Stokers, Mechanical
Babcock & Wilcox (Ltd.). . . . . Montreal.

Stoves
James Smart Mfg. Co. . . . . Brockville Ont.

Structural Metal Work
Canadian Bridge Co. . . . . Walkerville, Ont.
Dominion Bridge Co. . . . . Montreal.
Montreal Locomotive Works (Ltd.). . . . Montreal.
Jas. W. Pyke & Co. . . . . Montreal.

Superheaters
Babcock & Wilcox (Ltd.). . . . . Montreal

Switches
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.
Hayes Track Appliance Co. . . . . Geneva, N.Y.
Montreal Steel Works. . . . . Montreal.

Switch Lamps
The N. L. Piper Railway Supply Co. . . . . Toronto.

Switch Ropes
The B. Greening Co. . . . . Hamilton, Ont.
F. H. Hopkins & Co. . . . . Montreal.

Switch Stands
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.
Hayes Track Appliance Co. . . . . Geneva, N. Y.

Switch Targets
Acton Burrows Limited. . . . . Toronto.

Tanks and Tank Fixtures
Canadian Fairbanks Co. . . . . Montreal.
Ontario Wind Engine and Pump Co. . . . . Toronto.

Taps
Butterfield & Co: . . . . . Rock Island, Que.
A. B. Jardine & Co. . . . . Hespeler, Ont.

Telegraph and Telephone Office Signs
Acton Burrows Limited. . . . . Toronto.

Thermit
Goldschmidt Thermit Co. . . . . Toronto.

Ticket Cases
Canadian Office and School Furniture Co. . Preston.

Tie Plates
B. J. Coghlin & Co. . . . . Montreal.
Montreal Rolling Mills Co. . . . . Montreal.

Ties
Parry Sound Lumber Co. . . . . Toronto.

Tires
Standard Steel Works Co. . . . . Philadelphia, Pa.

Tools and Supplies
Canadian Fairbanks Co., Ltd. . . . . Montreal.
James Smart Mfg. Co. . . . . Brockville, Ont.
A. B. Jardine & Co . . . . . Hespeler Ont.

Track Equipment
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.

Track Jacks
Canadian Fairbanks Co. . . . . Montreal.
H. and E. Lifting Jack Co. . . . . Waterville, Que.
F. H. Hopkins & Co. . . . . Montreal.
Montreal Steel Works. . . . . Montreal.
Mussens Limited. . . . . Montreal.
A. O. Norton. . . . . Coaticook, Que.

Tracklaying Lorries
Crossen Car Mfg. Co. . . . . Cobourg, Ont.
F. H. Hopkins & Co. . . . . Montreal.

Tracklaying Machinery
F. H. Hopkins & Co. . . . . Montreal.

Track Tools
B. J. Coghlin & Co. . . . . Montreal.
F. H. Hopkins & Co. . . . . Montreal.
Montreal Steel Works. . . . . Montreal.
Mussens Limited. . . . . Montreal.

Tramway Equipment
J. J. Gartshore. . . . . Toronto.

Trap Doors
O. M. Edwards. . . . . Syracuse, N.Y.

Trucks
James Smart Mfg. Co. . . . . Brockville Ont.

Trucks (Electric Car)
Burnham, Williams & Co. . . . . Philadelphia, Pa.
Montreal Steel Works. . . . . Montreal.

Trucks (Railroad and Warehouse)
Toronto Pressed Steel Co. . . . . Toronto.

Turnbuckles
Cleveland City Forge and Iron Co. . Cleveland, O.
Montreal Steel Works. . . . . Montreal.

Turntables
Canadian Bridge Co. . . . . Walkerville Ont.
Dominion Bridge Co. . . . . Montreal.

Turntable Motors
Taylor & Arnold. . . . . Montreal.

Uniform Caps
W. H. Coddington. . . . . Hamilton, Ont.

Valves, Brass Gate
Kerr Engine Co. . . . . Walkerville, Ont.

Valves, Brass Globe
Kerr Engine Co. . . . . Walkerville, Ont.

Valves, Iron and Brass
Canadian Fairbanks Co. . . . . Montreal.

Valves, Iron Gate
Kerr Engine Co. . . . . Walkerville, Ont.

Varnishes
McCaskill, Dougall & Co. . . . . Montreal.

Vessels
Polson Iron Works. . . . . Toronto.

Washers
Montreal Rolling Mills Co. . . . . Montreal.

Waste
B. J. Coghlin & Co. . . . . Montreal.
N. L. Piper Railway Supply Co. . . . . Toronto.

Water Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co. . Hamilton.

Water Softeners
Babcock & Wilcox (Ltd.) . . . . . Montreal.

Weather Strips
O. M. Edwards. . . . . Syracuse, N.Y.

Welding
Goldschmidt Thermit Co. . . . . Toronto.

Wheelbarrows
F. H. Hopkins & Co. . . . . Montreal.
Toronto Pressed Steel Co. . . . . Toronto.

Wheels, Car
Canada Car Co., Limited. . . . . Montreal.
Canada Iron Corporation, Ltd. . . . . Montreal.
Jas. W. Pyke & Co. . . . . Montreal.
Rhodes, Curry & Co. . . . . Amherst, N.S.
Standard Steel Works Co. . . . . Philadelphia, Pa

Wheels, Locomotive
Canada Iron Corporation, Ltd. . . . . Montreal.

Wheels, rolled, solid forged
Standard Steel Works Co. . . . . Philadelphia, Pa.

Wheels, steel tired
Standard Steel Works Co. . . . . Philadelphia, Pa.

Windmills
Ontario Wind Engine and Pump Co. . . . . Toronto.

Window Fixtures
O. M. Edwards. . . . . Syracuse, N.Y.

Windows, Fireproof
A. Edgcumbe Rendle. . . . . Montreal.

Wire and Wire Rope
Dominion Wire Rope Co. . . . . Montreal.
The B. Greening Co. . . . . Hamilton, Ont.
Mussens Limited. . . . . Montreal.
The Wire and Cable Co. . . . . Montreal.

Wire Cloth
The B. Greening Co. . . . . Hamilton, Ont.

Wire, Copper
E. F. Phillips Electrical Works Ltd. . . . Montreal.
The Wire and Cable Co. . . . . Montreal.

Wire, Electric
E. F. Phillips Electrical Works, Ltd. . . . Montreal.
The Wire and Cable Co. . . . . Montreal.

Wire, Insulated Copper
E. F. Phillips Electrical Works, Ltd. . . Montreal.
The Wire and Cable Co. . . . . Montreal

Wire Rope Clips
American Hoist and Derrick Co. . . . St. Paul, Minn.

Wire, Telegraph and Telephone
E. F. Phillips Electrical Works, Ltd. . . . Montreal.
The Wire and Cable Co. . . . . Montreal.

Wire, Transmission and Trolley
The Wire and Cable Co. . . . . Montreal.

Wrecking Cranes
Mussens Limited. . . . . Montreal

Yachts
Polson Iron Works. . . . . Toronto

DOMINION CAR & FOUNDRY CO.
LIMITED

FREIGHT CARS
(ALL-STEEL AND COMPOSITE)

CAR TRUCKS STEEL UNDERFRAMES
FORGINGS OF ALL KINDS

SIMPLEX
Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works — MONTREAL WEST

P.O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.

The Railway and Marine WORLD

With which are incorporated The Western World and
The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 216.
New Series, No. 134.

TORONTO, CANADA, APRIL, 1909

For Subscription Rates, See Page 275.

WIRES AND CABLES

For Telephone, Telegraph, Electric Railway and Power Purposes

THE WIRE AND CABLE COMPANY
MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA

A PURELY CANADIAN COMPANY

JOHN EMO, General Manager — H. W. PEARSON, Secretary-Treasurer — D. MURPHY, President

AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

RENDLE'S GLAZING IMPROVED SKYLIGHT CONSTRUCTION

"Paradigm," "Duxbac" Brands. "Diablo" Asbestos Windows.

A. EDGCUMBE RENDLE, 260 ST. JAMES STREET, MONTREAL. Works—LONDON, ONTARIO

THE WAUGH DRAFT GEAR

FRICTION SPRING CUSHION
200,000 lbs.—600,000 lbs. Capacity
MADE IN CANADA

Send for Catalog and Particulars

Waugh Draft Gear Co. - - Chicago, Ill.

LUFKIN MEASURING TAPES

MADE IN CANADA, AND THE BEST IN THE WORLD.

SEND FOR CATALOG.

THE LUFKIN RULE CO. OF CANADA, LTD. WINDSOR, ONT.

STEARNES STEEL RANGE COMPANY

FIFTH AVENUE AND LAKE STREET
Chicago, Ill.

THE OTTAWA CAR CO. Limited

BUILDERS OF

Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.

Office and Works: SLATER ST., OTTAWA.

Additional safety and economy in

TRACK MAINTENANCE

has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after ten years' service, having a record of over 50,000 miles in use—the extent of which is evidence of their excellence.

The Rail Joint Co. of Canada

See Page 282

MUSSENS LIMITED

RAILWAY, MINING AND CONTRACTORS' SUPPLIES

SEE ADVT. PAGE 240

WILLIAM ABBOTT

"Novo" High Speed Steel
"Intra" for Punches, Taps, etc.

334 ST. JAMES ST., MONTREAL

THE HOLLENDEN

CLEVELAND

EUROPEAN PLAN

600 ROOMS $1.50 to $5.00

HOTEL CADILLAC

Michigan Avenue and Washington Boulevard
DETROIT, MICHIGAN

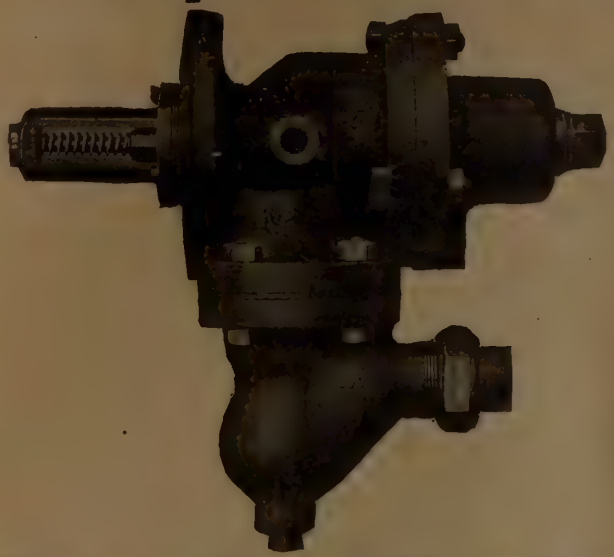
RATES - - { $3. to $8. AMERICAN PLAN
$2. to $6. EUROPEAN PLAN

SINGLE MEALS 50c.

SWART BROTHERS, Proprietors

Westinghouse

Type "K" Freight Tripie Valve



Engineers require no special instructions to handle trains partially, or wholly, equipped with Type "K" Triple Valves.

They have all the advantages of the old type (H), with which they have many parts in common, besides having three additional features, namely, **Quick Service, Uniform Release, Uniform Recharge.** The old type (H) can be converted to the new type "K" with the loss of only a few parts.

See Instruction Pamphlet 5030

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO

439 Pender Street
VANCOUVER

For particulars address nearest office
HAMILTON

922-923 Union Bank Bldg.
WINNIPEG

232 St. James Street
MONTREAL

158 Granville Street
HALIFAX

MONTREAL STEEL WORKS, LIMITED

POINT ST. CHARLES, - - MONTREAL

MANUFACTURERS OF

STEEL CASTINGS (Acid Open Hearth System)

SWITCHES and TRACK WORK for Steam and Electric Roads

SPRINGS of all kinds

MANGANESE STEEL CASTINGS for wearing Parts, insuring Great Hardness and Durability

INTERLOCKING PLANTS

TRUCKS FOR ELECTRIC CARS

Agents for Canada for

THOS. FIRTH & SONS, LIMITED, SHEFFIELD, ENGLAND

"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc. A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO., BARROW-IN-FURNESS, ENGLAND

Quotations for Tee Rails, Fish Plates, etc., promptly furnished. Catalogues sent on application.

See Purchasing Agents' Guide on page 309

See Alphabetical Index to Advertisements on page 275

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 216.
New Series, No. 134.

TORONTO, CANADA, APRIL, 1909.

For Subscription Rates, See page 275.

Entered as second-class matter, March 5, 1908, at the Post Office at Buffalo, N.Y., under the act of Congress of March 3, 1879.

A.R.E. & M. of W. Association.

At the American Railway Engineering and Maintenance of Way Association's meeting in Chicago, Mar. 16, the President, W. McNab, Principal Assistant Engineer G.T.R., read an address, the principal portion of which follows:

"Your Association has completed a decade of active work, and during that period has made an enviable record, and now occupies a prominent position in the front rank of railway organizations and engineering societies. The advantage gained by this status turns on the beneficial influence it exerts in connection with the objects of the Association—the advancement of knowledge pertaining to the scientific and economical location, construction, operation and maintenance of railways—an influence which has been imparted to the railway world in a degree of usefulness, universal in its scope and almost unparalleled in its import. This feature should be especially gratifying to the members on this particular anniversary. More especially should this appeal to us, as few (if any) kindred bodies have, within the same period or similar length of time, acquired the growth, stability, practical usefulness and, in general, the high standing attained by this Association.

"In modern days, the science of railway engineering occupies a wide range in the domain of civil engineering in the generic sense. This fact was appreciated even in the early days of railway construction, by the compilers of the lexicons of that period, the term 'civil engineer' being defined by them as 'one who plans railways, harbors, docks, etc.'—railways apparently being given first place in importance. From these early days down to the time when the present classification of expenditure was introduced, each railway was practically a law to itself in regard to physical standards, as well as to clerical and accounting methods considered necessary for its proper care. In the course of time, however, the field covered by what is comprehended under the term railway engineering, became so enlarged and so important, that direct supervision in detail from one source was found inadequate, even though the authority enjoyed the broad title of civil engineer. During that period there was, in a more or less degree, a lack of proper appreciation of the value of technical education and training as an adjunct to the practical working of the railway, and the results of experiments made from time to time by certain railways, individually, to establish a justification for proposed changes were, in regard to real value, not altogether satisfactory to the railway world in general. The experience gained from such investigations, desirable or undesirable as the case might be, was often acquired only after the expenditure of large sums of money, direct or indirect, and the ascertained facts were jealously guarded by the interests concerned. To the railway world, however, the results of such investigations, even if known to be of benefit, did not meet all the requirements essential to a comprehension of what was expedient from an economic standpoint, and the lesson which should have been taught, viz., that as much, if not more, valuable experience is to be acquired through failures rather than from successes, was not properly brought home.

A. SHIELDS,
Master Mechanic Canadian Northern Railway.

"The text-books upon particular subjects connected with railway engineering in use in earlier days, were produced under private or individual auspices. As a general rule they were ably edited, yet the perspective embraced was circumscribed by reason of existing circumstances, and the value of their use was necessarily limited on account of lack of systematic re-issue of such volumes with supplements to meet changing conditions. Special articles upon railway technical matters, which appeared from time to time, lacked the value of full discussion, and information thus imparted did not meet requirements; therefore, the interest created could only be looked upon as more or less temporary and superficial. Railway engineering, as a great department of knowledge, eventually came to be so subdivided in order to meet the conditions of the times, that each subdivision practically developed into a distinct science, yet each department retained possession of all the elements tending to form a harmonious whole. Evolution in this respect, however, progressed slowly, and the methods and standards in use were in many instances adhered to too long, partly because their chief recommendation lay in the fact that they were time-honored, or that there was a lack of knowledge of better substitutes. Nowadays, fewer text-books on details of railway construction and maintenance emanate from private sources, for the output of your Association, viz., the conclusions and principles of practice emanating from its various committees, which eventually find their way into the Manual of Recommended Practice, have become the source of appeal in their respective spheres. If reference be made to the discussions preceding the adoption of such conclusions and principles of practice to be found in our Proceedings, it will be noted that every detail has been thoroughly covered. The bibliography of the Association is, in consequence, liberally made use of to advantage, not only by the members, but by the executive officers of our railways, as being practically authoritative on railway technical details. In this general connection, we are amply justified in stating that there need be no hesitancy in accepting as good modern practice, based upon scientific methods, the general principles which are recommended therein. You are all aware that before any of the various recommendations are adopted and disseminated, they have been thoroughly discussed, and voted upon in open convention by the most competent and up-to-date body of railway engineers to be found anywhere, and in no other organization is there a greater degree of care exercised to guard against inconsistencies than is exhibited in our own.

But while there is every reason to be proud of our achievements during these past ten years, we should not rest content, but endeavor to keep our work up-to-date by eliminating from our Recommended Practice what in course of time has become obsolete, and perfecting that which is considered worthy of retention, in order that our recommendations may be safely relied upon as representing the best practice that can be devised for the time being.

In no quarter of the world do the diversities of nature, both physical and climatic, exist in a greater degree than on the North American Continent, and for this reason the problems confronting railway engineers afford ample opportunity for the exercise of that particular knowledge which your Association was formed to advance, namely, that per-

Galena-Signal Oil Company

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY

GALENA RAILWAY SAFETY OIL

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

Please write to home office for further particulars.

CHARLES MILLER,
PRESIDENT

taining to the scientific location, construction, operation and maintenance of railways. Great progress has been made in that respect since the formation of the Association ten years ago. It is realized more fully that the railway problems coming under our immediate purview are being brought under the influence of common conditions and tendencies. We meet the propositions which ever present themselves with the knowledge that conditions to-day are not to be governed entirely by the experience acquired in earlier days. It is our endeavor, also, to realize how, in carrying out the objects of the Association, true economics require proper discernment between what is expedient and what is essential, as well as a clear insight into what will tend to the permanent commercial success of the companies by which we are respectively employed. We are also striving, and not unsuccessfully, for a better understanding of the relationship of capital invested to maintenance and operating expenses. In this respect it is borne in mind, that as the ratio of progress of all kinds is ever increasing, and that as railways are commercial undertakings, the various factors which produce the greatest permanent profit per cent. of the expenditure, as well as those which have an adverse effect, must be carefully studied. We realize more and more the value of a free exchange of experiences and the practical uses that such exchange can be put to, as well as the results brought about by scientific analysis of theories that have not yet been put to experimental tests."

Railway Statistics for 1907-1908.

In submitting his annual report of the steam railway statistics for the year ended June 30, 1908, J. L. Payne, Comptroller of Railway Statistics, says the various tables are based upon schedules and classifications which were put into effect in 1907. With the introduction of these new forms it is claimed perfect uniformity was secured in the method of preparing railway statistics in both Canada and the United States. During the year it was found necessary to widen some of the classifications, notably with respect to operating expenses, and these will be applied to the statistics for the twelve months now current. It is hoped, he adds, further changes may not be called for in the near future.

The total railway mileage in Canada on June 30, 1908, was 22,966, an addition of 514 miles as compared with 1,099 for the year ended June 30, 1907. There were, however, 4,327 miles of line reported as being actually under construction, and it is now known that upwards of 750 miles were put in operation very shortly after June 30, 1908. The distribution by provinces is as follows:

	Miles	Increase
Ontario	7,932.90	294.99
Quebec	3,573.65	69.51
Manitoba	3,110.91	36.45
Saskatchewan	2,081.30	56.44
British Columbia	1,732.83	64.78
New Brunswick	1,509.36	18.78
Nova Scotia	1,344.05	2.58
Alberta	1,323.02	.....
Prince Edward Island	267.50	.....
Yukon Territory	90.91	0.31

The total increased mileage, however, is partly offset by the abandonment of some tracks, so that the net increase is 514 miles. During the year there was an increase in second track of 144 miles, bringing the total up to 1,211; and an increase of 454 miles of terminal, yard and siding tracks. The aggregate of all tracks in the Dominion was 28,600 miles, against 27,796.80 miles at June 30, 1907.

The capital invested is $1,239,295,013, of which $607,425,349 is represented by stocks, and $631,869,664 by bonds and other funded debt. These figures show an increase of $18,856,758 in stocks, and of $48,500,447 in bonds, etc. The figures, however, do not include the cost of the Intercolonial and the Prince Edward Island Railways, owned by the Dominion Government; the Temiskaming and Northern Ontario Ry., owned by the Ontario Government, and the New Brunswick Coal and Ry. Co.'s line, owned by the New Brunswick Ry., or the cost to June 30 of the National Transcontinental Ry. between Moncton and Winnipeg. The expenditures on these lines total $325,345,031, making a grand total of $1,564,640,044. The amounts include cash grants in aid of railways, but it has been found impossible to estimate the value of the lands granted to aid railway construction. In regard to stock and bond liability the report states that a revision of the statistics is necessary, and may be undertaken during the current year, as some of it is no longer a legal liability at all; and in other cases it has disappeared altogether, or appears in some other form. During the year $4,374,323 was added to the amount granted by way of subsidies to railways, $4,221,727.30 being by the Dominion Government, $68,284 by the Provincial Governments, and $84,311.70 by municipalities. The Dominion Parliament and Provincial Parliaments have guaranteed railway companies' bonds to the amount of $58,920,551. The acreage of land voted by the Dominion and the Provincial Parliaments totals 52,284,183 acres.

The number of passengers carried during the year was 34,044,992, an increase of 5.90%; the number of passengers carried one mile was 2,081,960,864, against 2,049,549,813; the number of passengers carried one mile per mile of road was 90,650, an actual decrease of 636 in the density of passenger traffic for the year; the number of passengers carried per mile of railway was 1,482, an increase of 51; the average receipts per passenger was $1.921, an increase of .009 cent; the average passenger journey was 61 miles, and the average number of passengers per train 54. The passenger train mileage was 31,950,349, against 30,220,461 in 1906-07; the mixed train mileage was 6,210,807, against 5,971,414 for 1906-07.

The number of tons of freight hauled was 63,071,167, a decrease of 1.24%; the average receipts were .723 cent, against .812 in 1906-07; the number of tons hauled one mile was 12,961,512,519, against 11,687,711,830; the density of freight traffic as shown by the number of tons hauled one mile per mile of line was 564,374, against 520,564; average distance hauled 206 miles, against 183; average number of tons per train 278, against 260; revenue freight train mileage 40,476,370, against 38,923,890; mileage of loaded freight cars 748,924,820, of which 400,494,410 miles were north or east, and 348,430,410 miles were south or west; mileage of empty freight cars, 284,944,529; total freight car mileage, 1,033,869,349. The commodities carried were classified as follows:

	1907-8	1906-07
Products of mines	22,636,227	18,460,172
Products of forests	12,912,226	10,229,635
Products of agriculture	9,396,967	9,521,661
Manufactures	6,655,719	7,974,641
Products of animals	2,472,359	2,469,266
Merchandise	2,008,267	2,309,084
Miscellaneous	6,938,135	5,533,426

The total of the figures for 1907-08 shows a shortage of 51,267 tons when compared with the table showing the total freight carried. Of the total tonnage relating to commodities 38,821,418 tons were reported as originating on the line, and 24,198,482 as having been received from connecting roads.

The gross earnings were $146,918,313.61, an increase of $180,098.93, the distribution being as follows: Passenger service, 31.89%; freight service, 63.81%; stock yards, elevators, etc., 0.28%; car mileage, switching, etc., 0.19%; telegraphs, rents and other sources, 3.83%. Receipts from freight service, stock yards, elevators, etc., decreased $1,583,557.16, while receipts from passenger service, car mileage, switching, telegraphs, rents, etc., increased $1,763,656.09, the net increase being $180,098.93. The gross earnings represented an average of $6,389.37 per mile of railway as compared with $6,535.64 in 1906-07.

The operating expenses aggregated $107,304,142.51, an increase of 3.42%; the distribution being as follows: Way and structures, 19.37%; maintenance of equipment, 18.89%; conducting transportation, 58.23%; general expenses, 3.51%. The cost of conducting transportation increased $5,160,727.33, while each of the other items showed decreases amounting to $1,604,257.09, leaving a net increase of $3,555,470.24. The principal increases in conducting transportation were on account of wages and the cost of fuel. The operating expenses averaged $4,672.30 per mile of line, an increase of $51.40 a mile; the operating expenses per train mile of all trains was $1.364, a decrease of .017 cent. The cost of running a train one mile has increased from $0.779 in 1898-99, to $1.364 in 1907-08, while the gross earnings per train mile have only increased from $1.192 in 1898-99, to $1.869 in 1907-08. The percentage of operating expenses to gross earnings was 73.04, an increase of 2.34%.

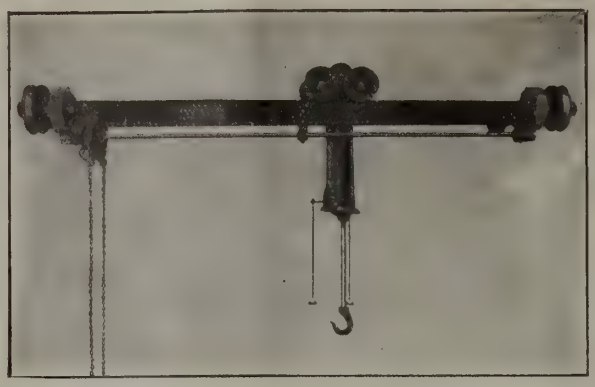
The net earnings were $39,614,171.10, against $42,989,537.41, a decrease of $3,375,366.31. The net earnings were equal to $1,724.90 per mile of line, as compared with $1,941.73, a decrease of $189.83. On a capitalization of $1,239,295,013, representing the stock and bond issue, the net earnings would yield a dividend of 3.19%. There were, however, 29 out of 87 reporting railways which showed a deficit on the year's operations.

Railways Outside Dominion Jurisdiction.

There appears to be considerable doubt as to what railway companies are not under the Board of Railway Commissioners' jurisdiction. At the 1908 parliamentary session a return was made to the Senate by the Department of Railways transmitting a list, prepared in the Commission's offices, of companies which it was stated were not under the Board's jurisdiction. This list was published in our Oct., 1908, issue, and we were shortly afterwards informed by the Board's Secretary that it was incorrect. Subsequently the Secretary furnished us with a revised list, which was published in our Mar. issue, pg. 209. He has since advised us that the Moncton and Buctouche Ry. is not subject to the Board's jurisdiction, and should be added to that list.

In the list referred to as published in our Mar. issue, there is only one electric railway, viz., the Hamilton, Grimsby and Beamsville. Being of the opinion that there are a number of other electric railways which are not under the Board's jurisdiction, we communicated further with the Secretary, who advises us that the Board's Law Clerk does not know of a complete list of railways subject to the Board's jurisdiction, and of those not subject to it, and that therefore the list published in our Mar. issue, with the addition of the Moncton and Buctouche Ry. as made above, will have to be taken as approximately correct.

The Interstate Commerce Commission has decided the Act to Regulate Commerce, that in complaints for recovery of damages caused by unreasonable or unduly discriminatory rates, the cause of action accrues when the payment is made; in any other complaints for recovery or damages for alleged violations of the act to regulate commerce of which the Commission has jurisdiction, the cause of action accrues when the carrier does the unlawful act or fails to do what the law requires.



Cranes of All Types, Air Hoists, Etc.

Complete Equipment for

MACHINE SHOPS

AUTOMATIC MACHINES — MILLING MACHINES Horizontal and Vertical

PLANERS — SHAPERS — SLOTTERS

BOLT AND NUT MACHINERY

CUTTING OFF MACHINES — TURRET LATHES

DRILLING MACHINES — ENGINE LATHES

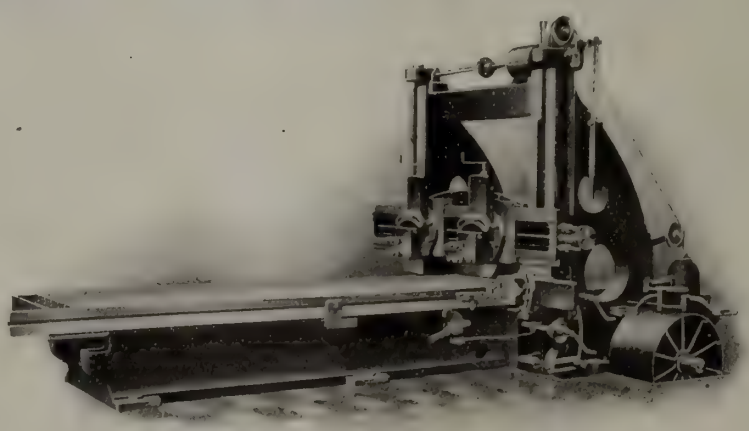
SPECIAL MACHINES — PNEUMATIC TOOLS

WOODWORKING MACHINERY

CATALOGUES ON APPLICATION

Reading Multiple Gear Chain Hoists —the most Efficient, Durable and Convenient

ALL SIZES IN STOCK



HIGH SPEED PLANING MACHINES

"Velos" High Speed Twist Drills and Tool Steel in Stock

MUSSENS LIMITED

TORONTO, 73 Victoria St.
COBALT, Hunter Block

Head Office: MONTREAL

WINNIPEG, 259-261 Stanley St.
VANCOUVER, 614 Hastings St. West

STEAM RAILWAY STATISTICS FOR YEAR ENDED JUNE 30, 1908.

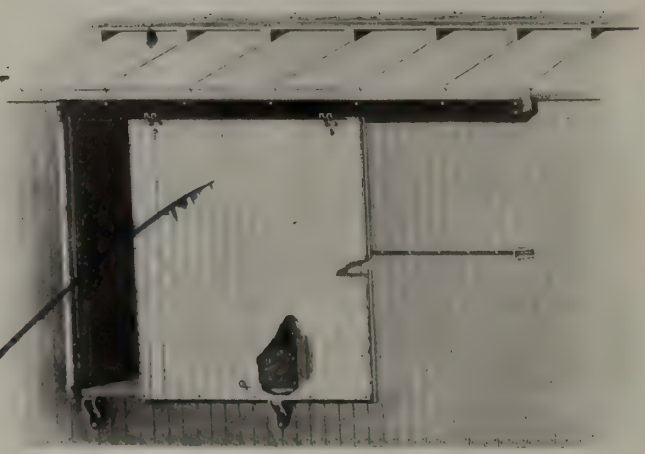
In the following table the column headed gross earnings includes passenger and freight earnings, as well as miscellaneous earnings; the next four columns give the operating expenses classified under their various headings, while the last gives the net earnings, which is arrived at by deducting the totals of the four columns referred to from the figures in the gross earnings column. The minus mark (—) before figures in the net earnings column shows that there was a deficit in the operations of the line to the extent of the figures given. The numbers in brackets—thus (1)—after the name of a railway refer to notes on page 243. The cents have been omitted in all cases, and the figures in the totals shows the aggregate earnings, etc., including the cents, omitted from the detailed items.

Name of Railway	Mileage	Passenger Earnings	Freight Earnings	Gross Earnings	Maintenance of Way and Structures	Maintenance of Equipment	Conducting Transportation	General Expenses	Net Earnings
Alberta Ry. & Irrigation Co. (1)	111.82	$ 59,424	$ 134,622	$ 204,094	$ 77,239	$ 19,642	$ 65,658	$ 15,525	$ 26,027
Albert Southern	19.00								
Algoma Cent. & Hudson Bay (2)	89.64	23,751	137,717	360,722	35,453	48,413	156,581	12,697	107,575
Atlantic & Lake Superior (3)	100.00	28,791	43,949	73,319	18,442	8,328	38,648	8,087	— 187
Atlantic, Quebec & Western (3)		3,698	5,144	8,813	4,373	1,381	12,606	3,821	—13,369
Bay of Quinte (4)	89.37	47,073	182,489	233,822	29,907	23,995	99,638	7,247	73,034
Bedlington & Nelson (12)	23.97	251	553	807	12,135	486	1,965	380	—14,161
Beersville Coal & Ry. Co	8.63	648	4,432	5,080	992	189	3,578	30	289
Bessemer & Barry's Bay (23)	5.00								
Brandon, Sask. & Hud. Bay (12)	69.45	19,176	19,533	38,976	32,249	10,047	57,141	3,477	—63,938
British Yukon	90.32	75,165	237,089	316,514	54,360	16,889	60,272	12,326	172,665
Brockville, Westport & N. W.	45.00	33,345	30,183	63,537	5,251	2,479	15,335	7,094	33,376
Bruce Mines & Algoma (23)	17.28								
Buctouche & Moncton	32.00	10,520	16,739	27,259	8,582	3,038	8,343	3,161	4,133
Canada Coals & Ry. Co	12.00	6,851	27,973	36,640	4,049	1,719	15,551	2,523	12,796
Canada Southern (19)	382.19	2,204,016	5,496,012	7,884,165	807,947	828,970	3,678,455	170,754	2,398,036
Canadian Government Rys.—									
Intercolonial (13)	1,451.22	3,027,710	5,820,857	8,935,934	1,732,390	2,059,883	5,314,955	241,843	—413,138
Prince Edward Island	267.50	161,897	142,411	312,983	116,098	75,487	202,528	14,345	—95,476
Canadian Northern (5)	2,851.20	2,026,272	6,824,782	9,709,462	1,458,588	1,130,198	3,684,106	254,875	3,181,693
Canadian Northern Ontario (5)	146.80	122,821	116,117	245,601	52,022	36,842	137,514	18,819	403
Canadian Northern Quebec (5)	266.80	208,739	448,860	680,201	132,358	114,079	423,100	39,873	—29,210
Canadian Pacific (6)	9,155.80	23,245,345	43,733,429	70,389,165	9,630,803	9,459,860	27,448,405	1,441,199	22,408,896
Cape Breton	31.00	5,350	2,510	7,997	4,386	2,691	6,736	3,311	—9,128
Caraquet (7)	84.78	15,389	36,030	51,419	14,911	10,940	21,127	5,693	—1,253
Carillon & Grenville	13.00	1,547	119	2,561	2,540	1,085	1,735	62	—2,862
Central Ontario (8)	140.13	84,431	170,760	269,422	50,999	14,149	79,669	9,109	115,494
Crow's Nest Southern (12)	74.18	27,433	157,898	186,731	49,029	17,235	67,503	4,181	48,781
Cumberland Ry. & Coal Co	32.00	18,251	77,480	95,752	24,006	10,822	11,045		49,857
Dominion Atlantic (10)	278.38	391,672	409,033	801,288	118,591	59,479	290,469	41,586	291,161
Edmonton, Yukon & Pacific (5)	4.50								
Elgin & Havelock	28.00	3,964	8,445	12,410	4,074	832	5,267	695	1,540
Esquimalt & Nanaimo (6)	28.00								
Grand Trunk Pacific (11)									
Grand Trunk (11)	3,108.44	10,540,996	19,011,649	30,280,701	3,653,320	4,134,932	12,423,565	788,750	9,280,132
G.T.R. (Canada Atlantic) (11)	456.26	481,675	1,445,066	2,035,417	359,962	431,800	1,122,269	54,619	66,764
Halifax & Southwestern (5)	369.81	211,148	173,565	387,185	118,154	41,864	200,999	23,963	2,203
Hampton & St. Martins	30.00	4,485	7,265	11,751	1,934		3,948	1,063	4,804
Hereford (16)	52.85	17,931	56,156	74,182	29,711	17,320	51,265	2,559	—26,674
Hillcrest Ry., Coal & Coke Co. (23)	1.50								
International Ry. of N.B. (23)	43.00								
Inverness Ry. & Coal Co. (5)	65.50	21,755	187,410	210,112	36,282	23,379	47,313	7,590	95,546
Irondale, Bancroft & Ottawa	48.00	7,177	18,800	25,177	8,929	1,551	13,530	4,495	—3,329
Kaslo & Slocan	31.73	7,553	9,915	17,689	32,372	2,951	14,327	544	—32,506
Kent Northern (14)	27.00	8,217	10,698	18,916	4,020	825	4,300	1,580	8,191
Kettle River Valley	3.86	275	2,714	2,990	981	695	1,488	387	—562
Kingston & Pembroke (6)	109.80	60,935	139,142	217,423	52,916	24,798	89,773	6,872	43,061
Klondyke Mines	31.81	11,258	35,281	46,990	29,802	15,138	30,445	16,945	—45,341
Lake Erie & Detroit River (15)	198.81	173,407	1,806,664	2,008,952	167,091	287,878	1,209,704	48,275	296,002
Liverpool & Milton	5.53	840	8,539	9,397	6	1,621	3,717	483	3,550
Lotbiniere & Megantic	30.00	4,974	26,391	31,567	8,693	3,381	12,075	2,241	5,176
London & Port Stanley (15)	23.66	49,695	66,102	124,054	21,219	21,725	94,775	5,936	—19,603
Magnetawan River (11)	1.91								
Manitoulin & North Shore (2)	13.69	1,183	43,297	46,653	10,420	4,635	14,050	5,546	12,000
Massiwippi Valley (17)	35.46	75,390	122,757	198,687	40,648	17,073	114,484	5,477	21,002
Midland Ry. of Manitoba	92.26	8,248	25,289	33,748	42,045	6,567	39,997	2,847	—57,708
Montreal & Atlantic (6)	163.40	198,351	537,648	757,412	193,215	112,319	391,343	23,329	37,203
Montreal & Province Line (11)	58.60	47,389	39,768	90,075	24,830	2,661	41,976	1,850	18,756
Montreal & Vermont Junc. (11)	23.60	53,568	107,664	167,494	13,637	25,329	46,721	4,459	77,346
Morrissey, Fernie & Michel (18)	10.85	8,342	91,959	106,522	11,982	13,327	48,209	7,357	25,645
Marmora Ry. & Mining Co. (8)	9.60								
Napierville Junction (9)	27.11	4,568	15,100	19,681	8,501	916	21,642	1,787	—13,166
Nelson & Fort Sheppard (12)	60.12	36,072	58,645	98,824	48,429	12,060	61,218	3,057	—28,942
New Brunswick Coal & Ry. Co.	58.00	12,527	33,645	54,030	15,907	9,724	23,768	6,695	—2,066
New Brunswick & P.E.I.	36.00	10,380	18,880	29,572	8,342	3,693	10,182	1,354	5,687
New Brunswick Southern	82.35	19,562	25,684	45,264	14,263	2,765	25,120	5,601	—2,485
New Westminster Southern (12)	24.10	91,100	32,633	124,073	17,843	9,276	61,228	3,463	32,262
Nosbonsing & Nipissing	5.50		24,564	24,564	7,860	3,684		13,019	
Nova Scotia Steel & Coal Co.	12.50	2,177	2,856	5,033	4,669	1,360	5,812		—6,808
Orford Mountain	55.10	8,254	19,353	27,608	14,413	2,080	18,755	3,219	—10,860
Ottawa & New York (19)	56.90	67,946	48,481	118,062	38,365	13,726	66,903	5,684	—6,616
Phillipsburg Ry. & Quarry Co.	6.00		1,639	1,639	1,417		1,721	3,100	—4,599
Pontiac & Renfrew (23)	4.25								

(Continued on page 243)

THE "DETROIT"

CAR DOOR



This is positively the only door that answers all requirements

The track forms a weather-proof door hood.

Hanger cannot be knocked off by being side scraped.

Tread of track and hangers protected from the weather.

Requires no tin or galvanized iron or other fixtures between top of door and bottom of track to make door weather-proof.

Runway of track inclined slightly downward, producing friction, making door always hang close to car and always in position.

It is stronger than the combined strength of all other doors—therefore, the cheapest at any price.

Let us send you full particulars

F·H·Hopkins & Co SUCCESSORS LATE JAMES COOPER **Montreal**

Steam Railway Statistics for the Year Ended June 30, 1908—(*Continued from page 241*)

Name of Railway	Mileage	Passenger Earnings	Freight Earnings	Gross Earnings	Maintenance of Way and Structures	Maintenance of Equipment	Conducting Transportation	General Expenses	Net Earnings
Princeton Branch (16)	5.10	$ 8,946	$ 16,139	$ 25,086	$ 3,380	$ 1,336	$ 6,388	$ 658	$ 13,321
Quebec Bridge & Ry. Co. (23)									
Quebec Central	222.00	348,767	755,537	1,110,724	186,064	133,248	397,671	70,309	323,431
Quebec & Lake St. John (5)	246.50	226,360	406,100	656,514	91,930	75,151	282,427	39,799	167,206
Quebec Ry., Lt. & Power Co. (20)	26.00	152,929	44,046	202,345	23,709	18,416	83,580	23,771	52,867
Quebec, Montreal & Southern (9)	143.75	111,984	176,128	317,519	85,500	42,293	151,923	14,180	23,620
Red Mountain	9.59	5,320	26,270	34,329	8,649	5,269	21,838	cr. 1,832	404
Rutland & Noyan (19)	3.39	7,450	11,693	19,144	1,688	1,774	6,113	782	8,785
Salisbury & Harvey	50.00	11,807	20,800	32,787	27,366	4,572	14,091	1,758	—15,001
Schomberg & Aurora	14.40	4,309	4,628	8,937	4,308	929	8,155	328	—4,784
Stanstead, Shef'd & Chambly (11)	43.00	31,628	43,311	75,696	21,410	10,847	41,785	1,900	—247
St. Clair Tunnel (11)	2.25	65,430	239,377	304,824	15,733	18,612	106,075	71	164,331
St. Lawrence & Adirondack (19)	46.12	177,465	235,421	413,357	49,312	27,494	189,411	2,242	144,896
Sydney & Louisburg	54.30	20,127	398,493	418,692	67,705	120,681	172,483	45,016	12,803
St. Louis & Richibucto (14)	7.00								
Temiscouata	113.00	65,607	141,475	210,779	43,806	26,518	64,977	17,620	57,856
Temiskaming & Northern Ont.	209.40	371,779	415,582	805,320	125,150	108,008	448,558	28,418	95,121
Thousand Islands (4)	6.33	11,474	20,175	34,073	5,698	3,142	16,446	3,654	5,132
Toronto, Hamilton & Buffalo (21)	83.67	265,699	549,190	855,090	182,074	69,145	377,010	40,113	186,744
Vancouver Copper Co. (23)	12.00								
Vancouver, Victoria & East. (12)	126.22	87,995	287,196	376,784	79,675	55,422	186,234	12,345	43,106
Victoria & Sidney (12)	16.26	18,849	20,856	40,635	10,449	5,626	16,028	3,546	4,985
Victoria Ter. Ry. & Ferry Co. (12)	1.14	1,862	1,756	14,617	786	423	20,933	266	—7,793
Wabash (22)		752,989	1,705,069	2,458,058	197,803	302,851	1,604,387	73,687	—279,328
Wellington Colliery Co.	10.75	3,180	•34,662	37,842	11,349	13,898	12,054		540
" Ladysmith Extension	9.94		57,709	57,709	9,775	17,582	30,352		
York & Carleton	10.50	1,292	3,350	4,642	1,300	137	2,756	45	404
Totals	22,966.43	46,854,158	94,154,522	146,918,313	20,778,609	20,273,625	62,486,270	3,765,636	36,614,171

Notes to Steam Railway Statistics.

(1) The Alberta Railway and Irrigation Co. has trackage rights over 1.60 miles of the C.P.R.

(2) The Algoma Central and Hudson Bay Ry., and the Manitoulin and North Shore Ry., are owned by the Lake Superior Corporation. The latter railwayhas 1.38 miles of second track.

(3) The Atlantic, Quebec and Western Ry. has parliamentary power to take over the Atlantic and Lake Superior Ry., but the amalgamation has not been completed.

(4) The Bay of Quinte Ry. operates 19 miles under trackage rights. The Thousand Islands Ry. is owned by the same interests.

(5) Mackenzie, Mann & Co. (Ltd.) interests own or control and operate the following railways: Canadian Northern Ry.; Canadian Northern Ontario Ry.; Canadian Northern Quebec Ry.; Edmonton, Yukon and Pacific Ry.; Halifax and Southwestern Ry.; Inverness Ry. and Coal Co.; Quebec and Lake St. John Ry.; Schomberg and Aurora Ry. The Canadian Northern Ry. operates 349.44 miles under lease and 255.50 miles under contract. The Canadian Northern Ontario Ry. has trackage rights over 4.00 miles, into the Union Station, Toronto. The Edmonton, Yukon and Pacific Ry. earnings, etc., are included in those of the C.N. Ry. The Halifax and Southwestern Ry. has trackage rights over 2.30 miles of other company's lines.

(6) The C.P.R. mileage includes 3,018 miles of lines of proprietary companies; 1,294.50 miles of lines operated under lease; 168.40 miles operated under contract, and it has trackage rights over 93.90 miles of lines of other companies. It has 209.90 miles of second track. The C.P.R. returns include the earnings and expenses of the Esquimalt and Nanaimo Ry. The lines operated by the C.P.R. include the Kingston and Pembroke Ry. and the Montreal and Atlantic Ry., which report separately. The C.P.R. owns, with the New York Central and Hudson River Rd., the Toronto, Hamilton and Buffalo Ry. The Montreal and Atlantic Ry. mileage includes 60.50 miles of leased lines. It has 6.40 miles of second track.

(7) The Caraquet Ry. mileage includes 16.78 miles of lines operated under lease.

(8) The Central Ontario Ry. figures contain the returns of the operation of the Marmora Ry. and Mining Co., the line of which company it operates under lease.

(9) The Delaware and Hudson Co. owns and operates the Napierville Junction Ry., and the Quebec, Montreal and Southern Ry.

(10) The Dominion Atlantic Ry. mileage includes 32 miles of line operated under lease; it has also trackage rights over 14.51 miles of lines of other companies.

(11) The G.T.R. mileage includes 161.30 miles operated under lease. It also has trackage rights over 9.87 miles of other companies' lines. It has 697.16 miles of second track. The earnings and expenses of the Magnetawan River Ry. are included in those of the G.T.R. The G.T.R. owns and controls the Canada Atlantic Ry., St. Clair Tunnel, and the G.T. Pacific Ry., the latter of which had not commenced operations during the last financial year. It also controls the Central Vermont Ry., which operates the Montreal and Province Line; the Montreal and Vermont Junction Ry., and the Stanstead, Shefford and Chambly Ry. The Canada Atlantic Ry. mileage includes 59.85 miles of leased lines. It has 0.88 mile of second track.

(12) The Great Northern Ry. (U.S.) owns and operates the following lines in Canada: Brandon, Saskatchewan and Hudson Bay Ry.; Midland Ry. of Manitoba; Crow's Nest Southern Ry.; Kaslo and Slocan Ry.; Red Mountain Ry.; Nelson and Fort Sheppard Ry.; Vancouver, Victoria and Eastern Ry. and Navigation Co.; New Westminster Southern Ry.; Victoria Terminal Ry. and Ferry Co., and Victoria and Sidney Ry. The Bedlington and Nelson Ry. mileage includes 8.67 miles operated under lease. The Nelson and Fort Sheppard Ry. mileage includes 4.70 miles of leased lines. The New Westminster Southern Ry. has trackage rights over 1.48 miles.

(13) The Intercolonial Ry. has trackage rights over 40.30 miles of other companies' lines. It has 16 miles of second track.

(14) The Kent Northern Ry. has as an extension, the St. Louis and Richibucto Ry., which line has not been operated regularly for some years. Whatever traffic there may have been over it is included in the K.N. Ry. earnings and expenses.

(15) The Lake Erie and Detroit River Ry. is controlled by the Pere Marquette Rd., and it operates under lease the London and Port Stanley Ry., which is practically owned by the city of London, Ont. The P.M. Rd. has trackage rights over 142.13 miles of other companies' lines, and the London and Port Stanley Ry. over 0.42 mile.

(16) The Maine Central Rd. owns and operates the Hereford Ry. (including the Dominion Lime Co.'s line), and the Princeton Branch of the Washington County Ry.

(17) The Massawippi Valley Ry. is operated by the Boston and Maine Rd.

(18) The Morrissey, Fernie and Michel Ry. mileage includes 5.03 miles of leased lines.

(19) The New York Central and Hudson River Rd. owns the Ottawa and New York Ry.; the St. Lawrence and Adirondack Ry., and controls the Toronto, Hamilton and Buffalo Ry., which it owns jointly with the C.P.R. It controls the Rutland Rd., which owns the Rutland and Noyan Rd., and also controls the Michigan Central Rd., which controls the Canada Southern Ry. This latter line has 242.98 miles of second track. The Ottawa and New York Ry. has trackage rights over 1.90 miles. The St. Lawrence and Adirondack Ry. mileage includes 13.30 miles of leased lines. It has also trackage rights over 8.92 miles of the lines of other companies.

(20) The Quebec Ry., Light and Power Co. mileage includes 2.00 miles operated under contract. It has six miles of second track.

(21) The Toronto, Hamilton and Buffalo Ry. has trackage rights over 4.36 miles of other companies' lines. It has 2.04 miles of second track. It is owned by the New York Central and Hudson River Rd., and the C.P.R.

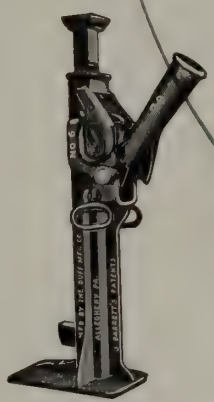
(22) The Wabash Rd. does not own any track in Canada, but operates over G.T.R. tracks under lease.

(23) The following lines were either not operated during the financial year, or did not make returns: Albert Southern Ry.; Bessemer and Barry's Bay Ry.; Bruce Mines and Algoma Ry.; Hillcrest Ry., Coal and Coke Co.; International Ry. of New Brunswick; Pontiac and Renfrew Ry.; Quebec Bridge and Ry. Co.; and Vancouver Copper Co. (Lenora-Mount Sicker Ry.).

BARRETT JACKS

FOR RAILWAY AND CONTRACTORS

FOR HEAVY WORK. THE LEAST EXPENSIVE AND QUICKEST JACKS



TRIP JACK, 15 TON

¶ TRIP JACKS for ordinary use. Capacities ranging from 10 to 15 tons. They are double-acting, that is, they lift the load on both the up and down movement of the lever. A light weight jack, positive in lifting, in holding and tripping.

10-TON AUTO LOWERING JACK

¶ AUTOMATIC LOWERING JACKS differ from the trip jacks by lowering the load instead of dropping it. Double-acting. Capacity, 10 - 20 tons.

LIGHT, STRONG, QUICK

15-TON AUTO LOWERING JACK

For PUMPS—SCALES—VELOCIPEDES—TRACK TOOLS — HAND CARS — AND RAILWAY APPLIANCES OF ALL KINDS, APPLY TO

CANADA'S LARGEST RAILWAY AND MILL SUPPLY HOUSE

The **Canadian Fairbanks Company** *Ltd.*

MONTREAL

TORONTO ST. JOHN, N.B. WINNIPEG CALGARY VANCOUVER

Judgment re Average Demurrage.

6264. Feb. 8.—In the matter of the complaint of the Wallaceburg Sugar Company, Ltd., of Wallaceburg, Ont., complaining that the effect of the operation of certain of the Canadian Car Service Rules is unfair and burdensome to large shippers; and applying for an order directing the adoption of what is known as the "Average Plan of Car Service." Upon the hearing of the complaint and counsel for the Grand Trunk, Canadian Pacific, and Michigan Central Railway Companies, the evidence adduced, and what was alleged—it is ordered that the application be, and it is hereby, dismissed.

D'Arcy Scott, Assistant Chief Commissioner, gave the following judgment:

The average demurrage plan, which the applicant seeks to have established, may be described as the giving of credit of free time by a railway company for use of a freight car to a consignee, when the amount of time he takes to unload the car is less than the amount of time allowed to do so by the Car Service Rules; which credit, or spare time, is set off against excess time for the use of other cars for which the railway company now charges the consignee demurrage. At the hearing of this case, it was urged by the applicant, that as the average system existed in Michigan where some of its competitors were, that it should be adopted in Canada, at least in so far as the sugar refiners were concerned. It was also stated that the Michigan refiners were able to purchase their raw material in Canada, but the Canadian refiners were denied the privilege of purchasing in Michigan; that the United States manufacturer was protected by a duty of $1.77 per 100 lbs., while the protection granted the Canadian manufacturer was but 83c., and that, therefore, some special consideration should be granted the applicant. I cannot see how the fairness or the justice of the system upon which charges for car service in Canada are made is affected by these conditions which surround the sugar refiners of this country, or why, because such conditions exist, a radical change in the system should be made.

Mr. Gordon, General Manager of the Wallaceburg Company, told us that while they can regulate the number of cars of beets ordered per day from the farmers, they cannot control the number of cars per day which the railway companies may deliver, and that as a result they are sometimes "swamped." He said that, on an average, they unloaded 22 cars a day during the past year, but have unloaded as many as 90 cars in a day. About 60% of the beets consumed at the refinery are hauled by rail; the haulage of the other 40% being about equally divided between water transports and teams. That the company is capable of handling a fair number of cars within the time allotted by the Canadian Car Service Rules is quite apparent from the statement submitted with its application, dated Nov. 11, 1908. It shows that during a certain period 1,051 cars were unloaded, and that the average time per car was 31½ hours. Of this number of cars, 855 were not held longer than the 48 hours' free time allowed for unloading under the Car Service Rules. This proves that, under ordinary circumstances, 48 hours is sufficient time to be allowed for unloading a car of beets.

If special circumstances occur, for which the consignee is not responsible, which prevent him from unloading the cars delivered within the allowed free time, the Car Service Rules provide that demurrage shall not be charged for necessary additional time. For instance, allowance of extra time is made when cars are tendered to the consignee under conditions for which the railway company is responsible in numbers beyond his ascertained reasonable ability to unload, or where the weather is inclement and unsuitable for unloading. These rules are interpreted, not by the railway company interested, but by the Canadian Car Service Bureau, whose Manager, Mr. Duval, stated, under oath, that the rules are interpreted most liberally to the consignee, and that the object of the Bureau is to secure the quick release of cars, rather than the collection of demurrage for the railways. This can be well understood even from the railway point of view, because while the car is held the company can only get $1 per day for it, whereas the earning capacity of a freight car in service is about three times that amount.

The average system suggested, in my opinion, is not justifiable under the contractual relations, which exist between the consignor or consignee (as the case may be) and the railway company. The contract of carriage is, that the railway company will carry the goods to the point where they are to be delivered to the consignee, who in turn is to unload and release the car with all reasonable dispatch. For more certainty and uniformity of practice, rules have been adopted, which say in effect that "reasonable dispatch" for unloading shall not, in the case under consideration, exceed 48 hours. If a man exceeds this reasonable time in unloading, he is penalized by a charge of $1 per day for the extra time he may hold the car. Such a provision is in the public interest, because it makes a consignee prompt in releasing cars consigned to him, and thus increases the supply of available cars for the shipping public. In my opinion, the average system might have the effect of making a consignee dilatory about unloading so long as he had free time to his credit, and if he had not free time to his credit the circumstances would be the same as they are under the present rules.

The Canadian Car Service Rules have only been in force since March 1, 1906, and it has taken some time to get the public to understand them. They may be defective in some details and require to be amended, but I think they are founded on sound principles, which should not be departed from. The uncontradicted evidence of Mr. Duval, of the Car Service Bureau, to the effect that cars are being released more quickly by consignees under these rules than was done formerly, proves that the desired result is being accomplished. The intention is that, under the Car Service Rules, each car shall be dealt with by itself and without reference to the movements of other cars. This insures equal treatment of the smaller shipper or consignee with the larger one. But, if the average plan were in force, I can well see that an injustice would be done the small dealer by giving an advantage or preference to the dealer who had a large number of cars to unload. Suppose a dealer with a large capacity for storage received 50 cars of merchandise, which under the rules he had two days to unload, and unloaded them all the first day, he would then have 50 days to his credit. The next day, he and a small competitor each received one car. The small competitor would have to unload in two days or be penalized, while the other could hold his car for 50 days' free time, which might prove to be of very material advantage. It may be said that this is an extreme case. It doubtless is, but it shows how the average demurrage plan might work out unless there were limitations upon it. Mr. Gordon suggested that the plan might be adopted for those in his line of business only. I do not think it would be advisable at this early date to start making exceptions to the general principles laid down in the car service order, which has not yet been in effect for three years. These principles are, in my opinion, sound, and should not be interfered with. If the applicant cannot get redress under the rules from the Car Service Bureau, he may apply to this Board, and his complaint will be heard. I am, therefore, of opinion that this application should be dismissed.

April Birthdays.

Many happy returns of the day to—

J. A. Armstrong, Chief Train Dispatcher C.P.R., Ottawa, born at South Durham, Que., April 6, 1863.

F. J. Balch, Assistant General Freight Agent Ottawa and New York Ry., Ottawa, born at Massena, N.Y., April 15, 1870.

Adam Brown, formerly President Wellington, Grey and Bruce Ry. (now G.T.R.), Vice-President G.N.W. Telegraph Co., and Postmaster of Hamilton, born at Edinburgh, Scotland, April 3, 1826.

A. E. Edmonds, District Passenger Agent C.P.R., Detroit, Mich., born at Woodstock, Ont., April 8, 1866.

J. H. Flock, K.C., Honorary Counsel Canadian Ticket Agents' Association, London, Ont., born at Toronto, April 6, 1834.

B. W. Folger, Manager Niagara Navigation Co., Toronto, born at Kingston, Ont., April 8, 1872.

W. E. Fowler, Master Car Builder C.P.R., born at Weymouth, Dorsetshire, Eng., April 27, 1856.

F. A. Gascoigne, Superintendent Car Service, C.P.R. Eastern Lines, Montreal, born at Gosport, Hants, England, April, 1866.

J. P. Gay, Manager G.T. Despatch Fast Freight Line, Detroit, Mich., born at Hamilton, Ont., April 26, 1857.

B. C. Gesner, formerly Air Brake Inspector I.C.R., now travelling representative Galena Signal Oil Co., born at Cornwallis, N.S., April 23, 1859.

J. Murray Gibbon, Advertising Agent C.P.R., London, Eng., born at Udewella, Ceylon, April 12, 1875.

J. M. Horn, city freight agent Canadian Northern Ry., Winnipeg, born at Schoots, Lanarkshire, Scotland, April 12, 1880.

B. S. Jenkins, General Superintendent C.P.R. Telegraphs, Winnipeg, born April 8, 1859.

J. Kyle, Assistant Master Mechanic Canadian Northern Ry., Edmonton, Alta., born at Toronto, April 11, 1877.

J. B. Lambkin, Assistant General Passenger Agent Intercolonial Ry., Halifax, N.S., born at Quebec City, April 5, 1858.

J. S. Lawrence, ex-Superintendent C.P.R., Medicine Hat, Alta., born at Toronto, April 9, 1863.

D. McNicoll, Vice-President C.P.R., Montreal, born at Arbroath, Scotland, April 7, 1852.

P. Mooney, General Freight and Passenger Agent Halifax and Southwestern Ry., Halifax, N.S., born at St. Catherines, Que., April 19, 1871.

R. S. Richardson, Assistant Superintendent C.N.Q.R., Montreal, born at Napanee, Ont., April 9, 1865.

W. A. Ritchie, District Superintendent The Pullman Co., Montreal, born at Edinburgh, Scotland, April 13, 1854.

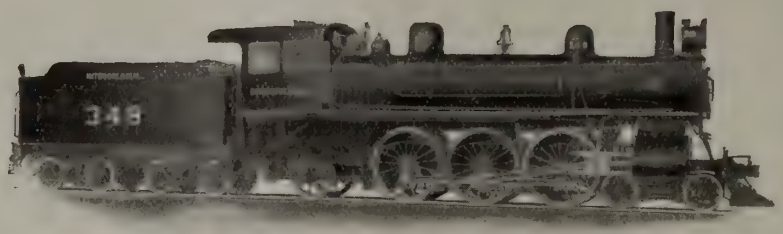
E. W. Smith, Superintendent Dining and Parlor Car Service, G.T.R., Toronto, born at North Bridge, Mass., April 21, 1869.

W. S. Tilston, Chief of Montreal Board of Trade Transportation Bureau, born at Manchester, Eng., April 14, 1877.

W. Wainwright, Fourth Vice-President G.T.R., Montreal, born at Manchester, Eng., April 30, 1840.

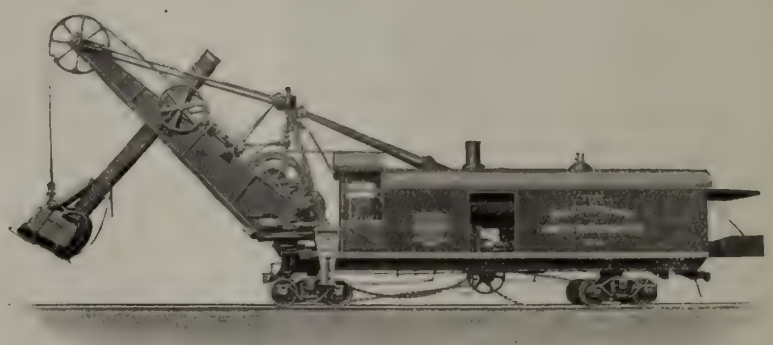
W. Woollatt, ex-General Superintendent Buffalo Division Pere Marquette Rd., Walkerville, Ont., born at Weedon, Hertfordshire, Eng., April 2, 1855.

LOCOMOTIVES



Pacific Type Passenger Locomotive built for the Intercolonial Railway. Total weight of engine, 194,500 pounds. Weight on driving wheels, 132,000 pounds; diameter of driving wheels, 72 inches. Boiler pressure, 200 pounds. Maximum tractive power, 29,200 pounds.

STEAM SHOVELS



A high-class and powerful machine, absolutely reliable under all conditions of service.

MONTREAL LOCOMOTIVE WORKS, LTD.

BANK OF OTTAWA BUILDING, MONTREAL, CANADA.

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta and Great Waterways Ry.—An act has been passed by the Alberta Legislature incorporating a company with this title to construct a number of lines in the province. By a resolution passed by the Legislature, Feb. 25, the Government is authorized to guarantee the company's bonds to the amount of $20,000 a mile for the construction of the main line from Edmonton to Lac la Biche and Fort McMurray, 350 miles; and an additional amount of $400,000 to provide terminals at Edmonton. W. R. Clarke, of Kansas City, Mo., is one of the principal promoters of this railway; and he is reported to have given assurances to the Legislature that work preparatory to actual construction will be gone on with at once, and that contracts will be let at an early date. The country through which the line will run is reported to be rich in minerals and the railway would give connection between Edmonton and the great waterways of the Mackenzie River basin, on to the Arctic ocean.

J. A. L. Waddell, C.E., Kansas City, Mo., in an interview in Vancouver, B.C., Mar. 3, said: "We have just secured a contract for undertaking all the engineering work of the A. and G. W. Ry. It is our intention to place survey parties in the field within 60 days, and this season will see construction well advanced from the Edmonton end. The entire line will be completed and in operation within three years. The charter had been secured by W. R. and D. O. Clarke, of Kansas City, Mo., and the capital will be supplied mainly from Europe. The route from Edmonton will run north by east for 125 miles, to a point west of Lac la Biche, and thence straight to Fort McMurray.

Calgary and Knee Hill Ry.—An act has been passed by the Alberta Legislature extending the time within which this projected railway may be constructed. Starting from Calgary, it is proposed that the line shall proceed northeasterly for about 60 miles through the Carbon, Rosedale and Knee Hill districts. While the bill was going through committee, it was stated that no one interested in the line—surveyors, engineers or any one else—had been over the route since 1907, and that nothing whatever was being done towards construction.

Canada Central Ry.—The Ontario Legislature is being asked to pass an act extending the time for the commencement and completion of the company's authorized railways. Ryckman, Kerr and MacInnes, Toronto, are solicitors for the company.

Canadian, Liverpool and Western Ry.—The application to the Dominion Parliament for the incorporation of a company with this title met with considerable opposition before the Railway Committee of the House of Commons. There was general opposition to the granting of extensive rights over water powers, it being argued that the main object of the promoters was to secure control over these, and that the power to construct railways, and to operate lines of steamships was being sought in order to the more easily secure Dominion legislation. There was also a particular opposition on the ground that the powers asked for could be granted by the Quebec Legislature. After a lengthened discussion, some protective clauses were inserted by agreement, and the clause declaring the works to be for the general advantage of Canada was carried by 50 to 20. The bill was finally reported as amended. (Mar., pg. 171.)

Central Ry. of Canada.—Application is being made to the Dominion Parliament for an act extending the time within which this projected railway may be constructed; increasing its bonding powers; confirming agreements with the Ottawa Valley Ry., the Ottawa River Ry., and the Montreal Bridge and Terminal Co.; authorizing the company to connect its line with railways on the south side of the River St. Lawrence by means of a tunnel and to provide terminal facilities in or near Montreal for the use of the company and other railway companies. H. W. Raphael, Montreal, is acting Secretary.

Crow's Nest and Northern Ry.—A press report states that the company will complete the first 12 miles of its line from Crow's Nest to Crown, B.C., during the current year. C. L. Butterfield, Spokane, Wash., is Chief Engineer.

Flathead Valley Ry.—The British Columbia Legislature has passed an act incorporating a company with this title for the purpose of constructing a railway from Corbin on the Eastern British Columbia Ry., following the east fork of the south fork of the Michel Creek, southerly to the summit between that creek and a tributary of the Flathead River; thence to the Flathead River, and along the valley of that river, on to the International boundary, a distance of about 40 miles. The company is given all the usual powers; its head office is declared to be at Cranbrook; its capital is fixed at $2,000,000, and it is given authority to issue bonds for $35,000 per mile constructed. The provisional directors are: D. C. Corbin, A. J. Devlin and J. A. Harvey.

Goat River Water Power and Light Co.—Application is being made to the British Columbia Legislature to incorporate a company with this title for the purpose, among other things, of constructing standard or narrow gauge railways, to be operated by steam or electricity, within a radius of 10 miles of Goat River canyon, Kootenay district, and to connect with the C.P.R. line from Creston to Kootenay Landing. The company is asking for all the usual powers. The provisional directors are: E. V. Bodwell, J. H. Lawson, jr., and H. G. Lawson, Victoria.

Graham Island Ry.—The Railway Committee of the B.C. Legislature has reported in favor of a bill to incorporate a company with this title for the purpose of constructing a railway from near Lena Island, Skidegate Inlet, Queen Charlotte Islands, following the valley of the Houna River, northerly to Camp Robertson, thence to Camp Wilson, and on to or near Shields Island on Rennel Sound; and from any point on such railway to Massett Inlet. The company may make arrangements for various purposes with other companies; its capital stock is fixed at $1,000,000, and it may issue bonds for $30,000 a mile. The company is also given power to promote the incorporation of any company for any purpose which may seem directly or indirectly calculated to benefit it. The provisional directors are: P. D. Hillis, E. W. Tracksell, L. L. Butler and Z. M. Hamilton, of Victoria.

Halifax and Eastern Ry.—Replying to questions in the Nova Scotia Legislature, Mar. 11, the Premier said the Government had not had any negotiations with the Canadian Northern Ry. nor with other parties with reference to the construction of a railway between Halifax or Dartmouth, and any point on the Intercolonial Ry. within Halifax County, northeasterly in the direction of Country Harbour, Guysboro or Canso. The Government had not received from the Acadia Coal Co., nor from any persons who were jointly interested with the Government in the surveys over the route, any part of the $34,478.65 which the special survey made in 1906 cost. The Government was demanding from the Acadia Coal Co. its amount due under the agreement.

Hardy Bay and Quatsino Ry.—Application is being made to the British Columbia Legislature for an act incorporating a company with this title for the purpose of constructing a railway from near Hardy Bay, westerly to Coal Harbor, Quatsino Sound, or nearby, with power to construct branch lines of not more than 20 miles in a direct line from such railway. The capital stock of the company is fixed at $250,000, and it asks power to issue bonds for $35,000 a mile. It is applying for all the powers usually conferred upon railway companies. The provisional directors are: Col. H. Appleton, F. Appleton, Victoria, B.C.; and F. J. Marshall, London, Eng.

Intercolonial Ry.—The supplementary estimates submitted to the House of Commons provide for the appropriation of $2,500 for a 100-ton track scale at Aston Junction, and $4,000 for a siding for passenger cars at Gibson Junction, N.S.

International Ry. of New Brunswick.—T. Malcolm, the general contractor for the construction of this line, stated at St. John, N.B., Mar. 10, that about 25 miles of grading had to be completed, and that it was proposed to put 1,500 men on the work as soon as spring opened.

Interprovincial Ry. Bridge Co. of N.B.—In connection with the project to construct a bridge over the Restigouche River near Campbellton, N.B., on the New Brunswick-Quebec boundary, T. Malcolm, the general contractor, said in St. John, N.B., Mar. 10, the bridge will connect up the International Ry. of New Brunswick with the Atlantic, Quebec and Western Ry. (the Atlantic and Lake Superior Ry. section). The connection thus established would enable the whole of the Chaleur Bay district to have a direct route for its fish and other products with the New England markets.

Kettle Valley Lines.—The Kettle River Valley Ry. is applying to the Dominion Parliament for an act extending the time within which it may construct the lines of railway already authorized to be constructed. E. C. Myres, Toronto, is Secretary of the company.

Kootenay and Alberta Ry.—In connection with the application to the British Columbia Legislature for the passing of an act incorporating a company with this title, the Railway Committee reported: "The public interest does not require that at this present session the preamble should be held to be proved." The Legislature adopted this recommendation and the bill has been withdrawn. The application for the charter was made by J. B. Ferguson, J. H. Senkler, K.C., and E. Bloomfield, Vancouver, B.C. (Mar., pg. 173.)

Lacombe and Blind Man's Valley Ry.—The Alberta Legislature has passed an act incorporating a company with this title, with authority to construct a railway from Lacombe, through Blind Man's Valley.

Lake Superior and Long Lake Ry. and Transportation Co.—Application is being made to the Ontario Legislature for an act incorporating a company with this title for the purpose of constructing a railway from near Black's Siding on the C.P.R., near the Black River, Thunder Bay district, northerly to the southwest angle of Owl Lake; from the northeast angle of Owl Lake to the southeast angle of Long Lake, and from the northeast angle of Long Lake to the National Transcontinental Ry., with power to operate car ferries on Owl Lake and Long Lake in connection with the sections of the railway. It is also desired to have all the necessary powers to construct wharves, docks and terminals, and other powers necessary to the operation of the railway. R. A. Pringle, Cornwall, Ont., is solicitor for applicants.

Manitoulin and North Shore Ry.—It is said that at a conference between officers of the Lake Superior Corporation and the Ontario Government, Mar. 9, the question of the extension of this railway was discussed, and that as a result a definite plan will be submitted to the Government by the company.

McGillivray Coal and Coke Co.—By an act passed by the Alberta Legislature, this company is given authority to construct a tramway to connect its coal mines with the C.P.R.

THE

BROWN HOISTING MACHINERY CO.

CLEVELAND, OHIO, U.S.A.

ENGINEERS, DESIGNERS AND MANUFACTURERS

Coal and Ore Handling Machinery,
Shipbuilding Cranes, Locomotive Cranes,
Pillar Cranes, Gantry Cranes,
Electric Travelling Cranes, Ladle Cranes,
Eye Beam Trolleys,
Pulley Block Travellers,
Grab or Clam Shell Buckets,
as well as all types of special Buckets,
also The Brown Ferro inclave type of
Concrete Roofing

Advise us your problems and let us prepare an estimate

Meadow Creek Ry.—The British Columbia Legislature has passed an act incorporating a company with this title, authorizing the construction of the following railways: (1) Commencing between mileposts 40 and 41 on British Columbia Southern Ry. near Yahk, southeasterly to Meadow Creek, and following the creek easterly and southerly to the International boundary, about 10 miles; (2) From the British Columbia Southern Ry., about 2.5 miles west of Cranbrook, southwesterly through lots 5249, 2310, 5801, 2311 and 6313, to the southwesterly end of Smith's Lake, thence northwesterly to Perry Creek, about eight miles; and (3) branch lines from either of the above not exceeding in any one case five miles in length. The company is given all the powers usually conferred on railways. The head offices are to be at Cranbrook, its capital is fixed at $200,000, and it may issue bonds for $10,000 a mile. The provisional directors are: M. B. King, J. H. King and B. A. Carter.

Montreal Bridge and Terminal Co.—Application is being made to the Dominion Parliament for an act extending the time for carrying out the company's undertaking, confirming agreements with other companies, increasing its bonding powers and share capital, changing the name of the company and authorizing it to connect its terminal stations in Montreal with railways on the south side of the River St. Lawrence by means of bridges or tunnels. C. A. Sara, 11 St. Sacrament St., Montreal, is Secretary of the company.

New Brunswick Docks and Terminal Co.—Application is being made to the New Brunswick Legislature for an act incorporating a company with this title for the purpose of constructing docks, dockyards, wharves, piers and terminals at Bathurst, Newcastle and such other port or ports on the Bay Chaleur and Miramichi River as may be selected for the purpose. The provisional directors are: G. E. and T. J. Drummond, E. McDougall, Montreal; W. F. C. Parsons, Londonderry, N.S.; J. J. Drummond, Midland, Ont.; W. M. MacLeod, R. W. Cooper, London, Eng. The company is being organized in the interests of the Canada Iron Corporation, which has ore mines in the vicinity of Bathurst. (Jan., pg. 17.)

The Niagara Peninsular Ry. Co., which was originally incorporated to construct a railway from Port Colborne and in the townships of Humberston and Wainfleet, is applying to the Ontario Legislature for an act authorizing it to extend its line northerly to St. Catharines. The capital stock is fixed at $200,000, and the corresponding section of the act of 1907 is repealed. The provisions of the Ontario Railway Act are made to apply to the company, and the special provisions contained in secs. 9, 10 and 11 of the act of 1907 are repealed. (Mar., pg. 173.)

Northern New Brunswick and Seaboard Ry.—Application is being made to the New Brunswick Legislature by the Twin Tree Mines Ry., for an act changing the name of the company to the Northern New Brunswick and Seaboard Ry., and amending the company's previous acts, 4 Edward VII, chap. 88, and 8 Edward VII, chap. 85, by defining Alston Point on the north side of Carron Point, on the south side of the entrance to Bathurst harbor, as the terminus of the proposed railway; by increasing the capital to $1,000,000; by increasing the amount of debentures which may be issued from $250,000 to $500,000, repayable in 30 instead of 20 years, and by repealing sec. 14 of the last-mentioned act. The foregoing changes are due to the fact that this charter will be used by the Canada Iron Corporation, Ltd., to connect its iron mine up the Nipisiguit River with Bathurst.

Owen Sound and Meaford Ry.—A deputation of residents along the route of this projected railway waited on the Ontario Government Mar. 4, and asked Government assistance in the construction of the line. The estimated cost of the railway, including the bridge across the Sydenham River, is $850,000, and the deputation stated that it was estimated the sale of $750,000 of bonds would net $675,000. In order to make the bonds the more readily saleable, the municipalities asked the Government to guarantee the interest. Owen Sound had agreed to become liable for $100,000 of the bond issue. The Premier stated that the matter would receive every consideration, and some aid might possibly be given.

Pacific Coast Coal Mines (Ltd.).—The British Columbia Legislature has passed an act authorizing the company to construct a railway in the Cranberry and Cedar districts, from its coal mine to the coast, or to connect with some other line of railway communication; and also in any other parts of the districts named, from any coal mine which may be owned or operated by the company from time to time, to some convenient points of shipment, with power to construct branch lines from any point along the railway. The company is authorized to construct telegraph and telephone lines, and it is declared that upon the company filing with the Chief Commissioner of Lands a plan and profile of its proposed railway, now under construction from its mine in Cranberry District to Boat Harbor, the same shall be deemed to be a railway constructed under the authority of this act. It is further declared that nothing in the first three clauses shall render it obligatory on the company in the operation of any railway or railways constructed by it to engage in or carry on the business of common carriers. The Lieut.-Governor, however, may from time to time pass orders requiring the company to carry passengers and freight on any of its lines, in which case the company shall, as to such railway, carry passengers and freight as required by the provisions of the Railway Act.

Prince Edward Island Ry.—The Minister of Railways, replying to a question in the House of Commons recently, said eight tenders were received for the construction of the branch railway from Harmony to Elmira, in King's Co., P.E.I. The question of accepting either of them was under consideration. There had been expended out of the appropriation of $31,000 voted last season for the construction of the line, $3,077.91. It was the intention to proceed with the work.

The supplementary estimates submitted to the House of Commons provide for the following amounts: Further amount required for extension of wharf at Souris, $23,000; land claims in connection with Montague branch, $6,851.51; land claims in connection with Murray harbor branch, $4,383.77; land claims in connection with the Vernon River branch, $2,216.69.

Prince Edward Island Tunnel.—Speaking at the Empire Club, Toronto, recently, Rev. Father Burke stated that no system of navigation could be found strong enough to establish and maintain winter communication between Prince Edward Island and the mainland, and that the only thing which would ever meet the needs of the island was the tunnel which had been promised at the time the island province joined in Confederation. (Mar., pg. 175.)

Prince Rupert and Port Simpson Ry.—The Railway Committee of the British Columbia Legislature has reported in favor of the passing of an act incorporating a company with this title, having for its object the construction of a railway from Prince Rupert to Port Simpson, with branch lines not to exceed 10 miles in any one case. The company is given all the powers usually conferred upon railway companies; its head office is to be at Victoria; its capital stock is fixed at $1,000,000, and it may issue bonds for $35,000 a mile. The provisional directors are: M. King and H. B. Robertson, of Victoria.

Quebec, Montreal and Southern Ry.—An announcement has been made by the Delaware and Hudson Co., which owns this railway, that it is expected to open the extension between Pierreville and St. Philomene by May 1. The ballasting on this mileage is being done by the company, and the bridge work is being pushed forward. The Beaucourt and Gentilly bridges have been completed, and everything is ready for erecting the superstructure of the Nicolet bridge.

Salisbury and Albert Ry.—In connection with the passing of the bill asking for the incorporation of a company with the title of the Salisbury and Harvey Rd. Co., for the purpose of taking over the old Salisbury and Harvey Ry., the House of Commons objected to the use of the word "railroad" as part of the title on the ground that there might be some confusion as to its interpretation, as "railway" is the word used in all Canadian acts. As a result of the discussion it was finally decided to drop the name Salisbury and Harvey Rd., and to call the line the Salisbury and Albert Ry. The act gives the company all the rights, properties, privileges and franchises of the old company.

Sault Ste. Marie and St. Joseph Island Ry.—The Ontario Legislature is being asked to pass an act incorporating a company with this title to construct a railway from the C.P.R. near Sault Ste. Marie, to and through Campment D'Ours and St. Joseph Island, with authority to operate car ferries between the mainland and the islands. P. T. Rowland, Sault Ste. Marie, Ont., is solicitor for applicants.

The provisional directors named in the bill are: T. J. Foster, G. H. L. Armstrong, H. E. Bishop and P. T. Rowland. The head offices are to be at Sault Ste. Marie; the capital is fixed at $500,000, and securities to the amount of $40,000 a mile may be issued.

South East Kootenay Ry.—The British Columbia Legislature has granted an extension of three years within which this company may commence the construction of its projected railway, and expend 10% of the amount of its capital upon construction.

St. John River Valley.—Application is being made to the New Brunswick Legislature for an act to incorporate a company for the purpose of constructing a railway from St. John along the valley of the St. John River to Centreville, Grand Falls or Edmundston. At a meeting of the Woodstock, N.B., Board of Trade, Mar. 1, a resolution was passed appointing a committee to confer with committees from the Boards of Trade of St. John and Fredericton in the interests of the bill.

St. Maurice and Eastern Ry.—Application is being made to the Dominion Parliament for an act incorporating a company with this title with power to construct a railway from the National Transcontinental Ry. at St. Prosper, Champlain county, westerly to Shawinigan Falls, Que. Bisaillon and Brossard, Montreal, are solicitors for applicants.

Temiskaming and Northern Ontario Ry.—The question of the extension of the branch of this line from Charlton, through Elk Lake to Gowganda, Ont., is still under the Government's consideration. Several petitions have been received from persons interested in the development of the district urging the immediate construction of the extension.

The Commissioners have given instructions for the clearing of portions of the surveyed route for the extension of the branch from Charlton to Gowganda. The object of this work is to keep winter communication with Gowganda open as long as possible.

Contracts have been awarded to the Forest City Paving and Construction Co., London, Ont., for the construction of a round-house, locomotive foreman's office, coal chute and trestle and for reinforced concrete arch cul-

CANADA CAR COMPANY

MONTREAL, QUE. LIMITED

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS — CASTINGS — FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

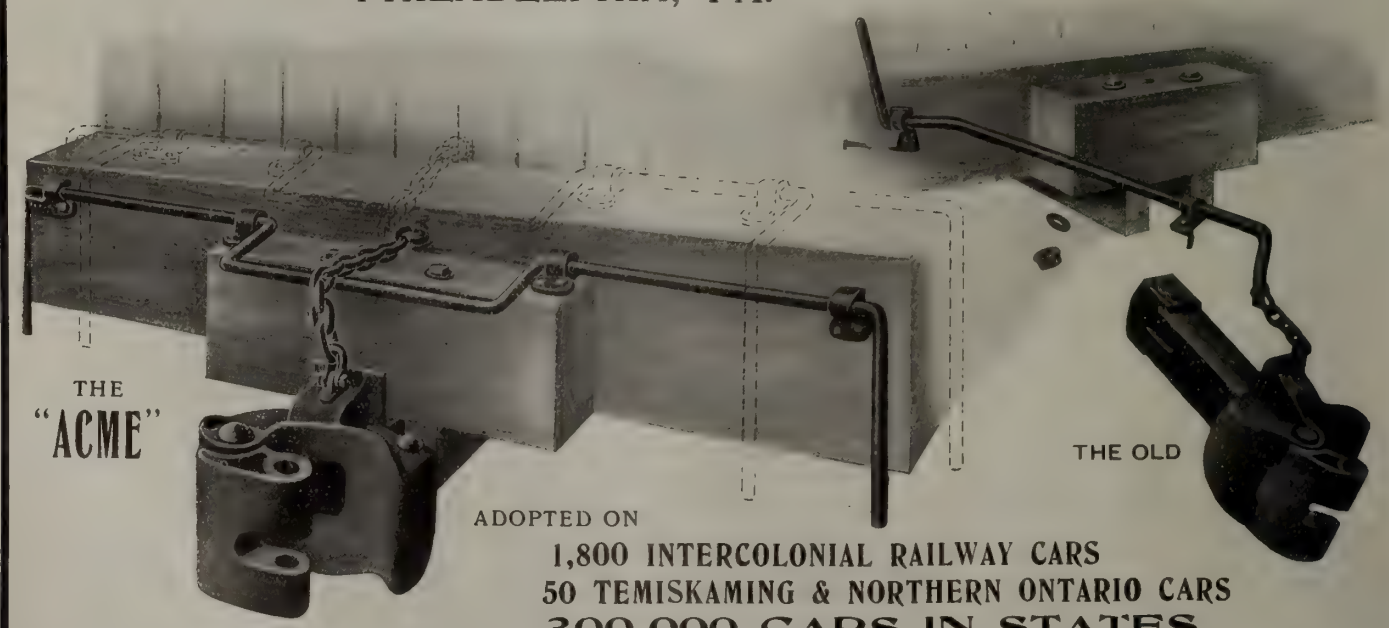
Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS
BOX 2286, MONTREAL.

Works: TURCOT

ACME RAILWAY EQUIPMENT CO.

PHILADELPHIA, PA.



THE "ACME"

THE OLD

ADOPTED ON

1,800 INTERCOLONIAL RAILWAY CARS
50 TEMISKAMING & NORTHERN ONTARIO CARS
300,000 CARS IN STATES

DOUBLE HANDLE CALLED FOR "Where a coupler couples by impact, but cannot be uncoupled unless the brakeman or switchman goes between, or over, or under the cars, or around the end of the train, IN ORDER TO REACH THE APPLIANCE ON THE CONNECTING CAR, such a coupling is **DEFECTIVE AND PROHIBITED BY LAW.**"—*Judge McPherson, Des Moines, Iowa.*

verts at mileposts 218½, 221 and 222½. A contract has also been let for the construction of a machine shop and the installation of a heating system in the round-house, all at Cochrane, Ont. The work will be commenced immediately.

Tobique and Campbellton Ry.—Application is being made to the New Brunswick Legislature for an act amending 4th Edward VII, chap. 86, incorporating the company. J. W. Niles, Tobique, N.B., is Secretary of the company.

Twin Tree Mines Ry.—See Northern New Brunswick and Seaboard Ry.

Victoria and Barclay Sound Ry.—W. K. Houston, H. H. Jones, W. E. Laird and C. L. Betterton, Victoria, B.C., are named as provisional directors in the act passed by the B.C. Legislature, incorporating a company with this title. The company is authorized to construct a railway extending from Victoria by way of Otter Point and San Juan to Barclay Sound, near Sarita River, with branch lines not exceeding 12 miles in any one case. The company is given all the powers usually conferred upon railways. The head offices are to be at Victoria; its capital is fixed at $1,500,000, and it may issue bonds to the amount of $50,000 a mile of line constructed.

Winnipeg and Northern Ry.—The Manitoba Legislature is being asked to pass an act amending 5 and 6 Edward VII, chap. 122, incorporating this company. H. J. Macdonald, Winnipeg, is solicitor for the company.

A Railway to Hudson Bay.

Jno. Armstrong, Chief Engineer of the survey which has been going on since Oct. last, of a route for a railway to Hudson Bay, has presented a tentative report to the Minister of Railways. Two of the four parties sent out had completed their work by Feb. 28. Party 1, working from the Pas, Sask., completed its section of 127 miles Feb. 20; Party 3 completed its work Jan. 20, but had since been engaged in some additional work upon an optional route; Parties 2 and 4, it was expected, would complete their work by Mar. 15, but it was thought likely that these two parties might have to undertake some additional work during the summer. The result of the surveys, Mr. Armstrong says, has been more than satisfactory. The route mapped out does not present the difficulties that were anticipated, and for the greater part of the distance it will be possible to carry on construction cheaply and rapidly. Optional routes have been suggested. The total cost of the line, either to Fort Churchill or Port Nelson, together with the necessary terminals and harbor improvements at each place, Mr. Armstrong estimates at between $17,000,000 and $18,000,000. The Fort Churchill route, he says, would cost $11,608,000 for the railway and about $6,000,000 for harbor and terminal works; the length of the line to be constructed would be 465 miles. The distance to Port Nelson is put at 397 miles, and the cost of the railway is estimated at $8,677,000, but the terminal and harbor works necessary would be much more costly than at Fort Churchill. On the whole, Mr. Armstrong favors further examination of Port Nelson before a definite selection of a port on Hudson Bay is made. The estimates for the construction of the line are based on the requirements of a route to handle the traffic for from seven to ten years, a period long enough to test the usefulness of the route. Sixty-pound rails and wooden trestles and culverts would be used.

With regard to the Nelson River, Mr. Armstrong states that from information obtainable it would seem that by canalizing some portions it would be possible for ocean-going vessels to enter Lake Winnipeg from Hudson Bay. From Lake Winnipeg a channel of 33 ft. already exists to the south end of the lake, and thence the canal might be extended via the Red River to Winnipeg. The Minister of Railways, referring to the matter in the House of Commons Mar. 6, said the idea that Winnipeg might yet be an ocean port, was rather staggering, but it was too large a question to discuss at present.

The suggestion that Port Nelson, which is a land-locked harbor, should be the terminus of the projected railway, does not meet with favor in Winnipeg, where Fort Churchill has been always regarded as the natural terminus of any railway. It is stated that western capitalists had made considerable investments and improvements at Fort Churchill, in the expectation that a railway would ultimately reach there. In this connection, J. W. Tyrrell read a paper on "Hudson Bay as a National Asset," at the recent meeting of the Ontario Land Surveyors' Association. He has made several exploratory trips into Hudson Bay for the Dominion Government. In the course of his paper he said, after making complete surveys of the mouths of both the Churchill and the Nelson Rivers, he could not think that the mouth of the latter could, with any reasonable expense, ever become a desirable harbor. "We were obliged," he said, "in a small vessel, drawing a comparatively small amount of water, to lie about 30 miles off the shore, and even in trying to get into the mouth of the river in a small sailboat, we were stranded high and dry at least 10 miles from the mouth of the river." Fort Churchill was, he declared, beyond all question, the most advantageous port on the west coast of the bay. The harbor was an excellent one, possessing good anchorage in from four to nine fathoms of water at low tide; the area of this depth might be greatly extended at small cost. From records extending back a great number of years the average dates of the opening and closing of Fort Churchill harbor were June 18 and Nov. 18, making the open season exactly five months. There would be no difficulty in keeping the mouth of the harbor open during the early part of Nov., and with the help of icebreakers it could, if necessary, be kept open throughout the winter, as the strong tidal and river currents would very materially assist in clearing out the ice. So far as the construction of a railway was concerned, there were no unusual difficulties in the way. He had been over the route from Prince Albert to Fort Churchill, and had reported favorably on it. Dr. Otto Klotz, who was also present at the gathering, said, from personal observation, he was of opinion that York Factory, which was at the mouth of Nelson River, lacked the acquirements of an available harbor.

The Minister of Railways, in reply to questions asked in the House of Commons recently, stated that the total amount appropriated on account of surveys for this projected railway was $100,000, of which there had been expended, to Jan. 25, $61,567.72. The number of men employed on surveys, since they were fully organized about Oct. 1, 1908, had averaged about 110, and the total number of days of employment of all men to Jan. 31, was 15,352, including Sundays. The first actual line was run by Party 1, at Frog River, about 35 miles from the Pas, on Sept. 14, 1908. No decision as to construction would be reached pending receipt of estimates and reports upon the completion of the survey.

The Algoma Steel Co. has sold 5,400 tons of steel rails to the New York Central and Hudson River Rd. for Aug. delivery.

D. Corrigan and F. McCallum, two G.T.R. conductors of long service, were found guilty at Toronto, Mar. 8, of conspiring with a number of other persons to defraud the company, by issuing false tickets for the Montreal-Toronto trains.

Railway Commissioners' Traffic Orders.

6299. Feb. 10.—In the matter of the complaint of Macdonnell and O'Brien, of Hervey Jct., Que., against rates charged by Canadian Northern Quebec Ry. and Quebec & Lake St. John Ry. on empty box cars from Hervey Jct., on the C.N.Q.R., to Latuque, on the Q. & L.S.J.R.; and applying for an order directing the said companies to file joint tariffs on through traffic originating in points on the C.N.Q.R. and destined to points on the Q. & L.S.J.R. Upon the reading of what was alleged on behalf of the railway companies, and the hearing of counsel for them, and upon the report of the Chief Traffic Officer of the Board—it is ordered that the maximum charge made by any railway company under the Board's jurisdiction in a through shipment of new empty cars over two or more lines of railway, be not more than $5 a car. That the C.N.Q.R. at once prepare and submit to the Board a joint tariff for the shipment of new empty cars over the lines and portions of the lines of the C.N.Q. and the Q. & L.S.J. railway companies. That the Advisory Committee of the Canadian Freight Association submit without delay an amendment to the Canadian Classification providing for the lower minimum charge to apply on new empty cars moved over a joint route composed of two or more lines of railway.

COAL RATE FROM TABER, ALTA.

6319. Feb. 13.—In the matter of the complaint of W. B. Bashford, of Rosthern, Sask., alleging excessive freight rates of the C.N.R. on coal from Taber, Alta. Upon hearing this application and what was alleged on behalf of the railway company, it is ordered that the C.N.R. and the C.P.R. companies do forthwith cause to be filed with the Board a joint tariff on coal shipped from Taber, Alta., destined to Dalmeny, Sask., making provision for same freight rate that exists from Taber to Rosthern, Sask.

COAL RATE, HUNTINGDON, QUE., TO OTTAWA.

6387. Feb. 27.—In the matter of complaint of A. Baile, of Montreal, against an overcharge by the G.T.R. of 20c. per ton on a shipment of coal in car N.Y.C. 34181, from Huntingdon, Que., to Ottawa, Ont.; and applying for an order directing the railway company to refund to complainant the amount of the overcharge. Upon the reading of what was alleged in support of the application and on behalf of the railway company; and upon the report and recommendation of the Traffic Officer of the Board—it is ordered that the railway company be authorized to refund to the complainant the amount of the overcharge, viz., 20 cents a ton on the said carload of coal.

MOVABLE PARTITIONS FOR INDIVIDUAL SHIPMENTS.

6411. Feb. 19.—In the matter of the application of East Clover Bar branch of Alberta Farmers' Association, requiring railways to provide movable partitions in cars to enable individual farmers to make individual shipments. Upon hearing this application in the presence of a representative of applicants, and hearing what was alleged by him, it is ordered that the application be refused.

TRANSCONTINENTAL RATE CASE.

6543. Feb. 25.—In the matter of the application of the Vancouver Board of Trade for a refund under order dated Aug. 11, 1906, in what is known as the Transcontinental Rate Case, July 31, 1907: Upon hearing this application and hearing what was alleged by counsel for the Board of Trade, and it appearing that all complaints had been adjusted, including the claim of the Woodward Department Stores, referred to in letter, Feb. 23, 1909, it is ordered that the application be dismissed.

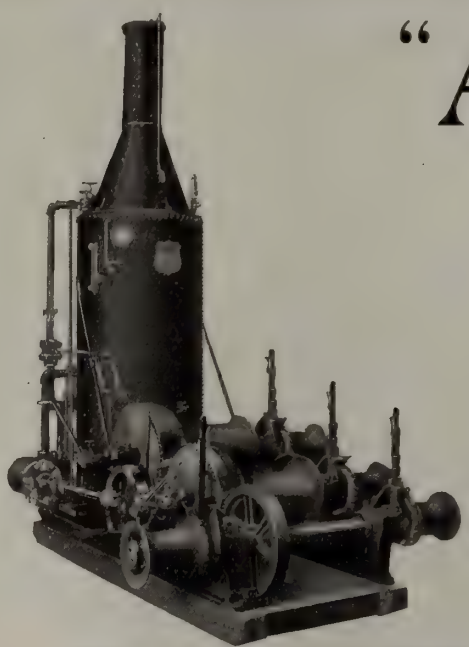
THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.

MONADNOCK, CHICAGO



"AMERICAN" BRIDGE ERECTORS' ENGINE

"AMERICAN"

Steam and Electric Hoists Locomotive Cranes and DERRICKS

Designed for Every Purpose
Built for the Discriminating Buyer

WRITE FOR CATALOGUE "R M"

AMERICAN HOIST & DERRICK CO.

ST. PAUL, U.S.A.

CHICAGO NEW YORK PITTSBURG NEW ORLEANS SAN FRANCISCO

Railway Finance, Meetings, etc.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales, for Jan., $30,348, against $28,475 for Jan., 1908. Total net profits for 7 months ended Jan. 31, $250,126. Approximate railway receipts for Feb., $19,420, against $12,914 for Feb., 1908.

The amount of tax paid to the Alberta Government by the company, under the Railway Corporation Tax Act for 1908, was $23,281.53.

In the course of the examination of T. C. Bovill, Deputy Minister of Finance, before the Public Accounts Committee of the House of Commons, Mar. 19, he stated that among the assets of the Dominion there was carried at par, a loan of $14,075 to this company. No interest had been paid since 1887, and no special effort had been made to collect it.

The Buffalo and Lake Huron Ry. Co.'s half-yearly meeting was held at Liverpool, Eng., recently. The report for 6 months ended Dec. 31, 1908, showed that after providing for the interest on the first and second mortgage bonds, the balance, including the amount brought forward from the previous half-year, was £14,711 13s. 11d., enabling a dividend of 5s. 3d. a share to be paid, and a balance of £927 0s. 8d. to be carried forward. The directors were re-elected for the current year as follows: Chairman, M. H. Maxwell, Liverpool; J. M. Synge, Westerham, Kent, and E. Ashton, Liverpool, Eng. The line is leased to the G.T.R. Co.

Canadian Northern Ry.—The Manitoba Legislature has before it a measure authorizing the Government to guarantee bonds for about 210 miles of the C.N.R., at the rate of $13,000 a mile, and terminal bonds to the extent of $3,000,000. In asking that the measure be read a second time, Mar. 6, the Premier stated that the reasons for increasing the guarantee from $10,000 to $13,000 a mile were so manifest that he need not cite them. With regard to the proposal to guarantee the $3,000,000 of terminal bonds, he stated that the annual interest payable by the Dominion Government, through the Transcontinental Railway Commission, and the Grand Trunk Pacific Ry., for their interest in the Winnipeg terminal property, exactly equalled the amount of interest on the bonds to be guaranteed by the Provincial Government. In the course of the discussion reference was made to the fact that the Legislature had already authorized the guarantee of $1,000,000 of bonds for terminal purposes, and it was understood that, in the event of the present bill passing, this amount would be consolidated in the $3,000,000.

Canadian Northern Quebec Ry.—An action is being heard in the Superior Court at Montreal, in which a farmer named Lapointe, residing at Longue Pointe, is seeking to recover $2,000 as damages from the Chateauguay and Northern Ry., one of the companies amalgamated as the C.N.Q. Ry. Co. The ground of the action is that while his property was expropriated for the purposes of an electric railway, the company afterwards used the line for trains run by steam, thus changing the character of the road, and causing more damage to the adjoining properties.

Canadian Pacific Ry.—Under the provisions of the Railway Corporation Tax Act, the Alberta Government received, during 1908, $182,190 from the C.P.R.

Judgment has been reserved in the appeal of the C.P.R. against the assessment of the lands granted to the British Columbia Southern Ry. by the Provincial Government. The lands involved are 3,000,000 acres in extent and the taxes are about $150,000 a year. The C.P.R. maintains that only a small part of the lands sold or offered for sale are assessable in any case.

Central Ontario Ry.—We were advised, Mar. 16, that there was no truth in the press reports that the C.O.R. had been sold to the G.T.R., and also that there had been no negotiations between the respective companies.

Crow's Nest Coal Co.—At the annual meeting in Toronto, Mar. 12, G. G. S. Lindsey, President and General Manager; Hon. R. Jaffray, Vice-President; E. R. Wood, and Sir H. Pellatt, declined re-election, and directors for the current year were elected as follows: E. Rogers, Toronto; Col. Clough, New York; J. P. Graves, Spokane, Wash.; W. F. Robertson, Granby, Que.; E. C. Whitney, H. B. McGiverin, Ottawa; R. N. Young.

Cuba Ry.—The gross earnings of the seven months ended Jan. 31, were $1,065,868, against $1,053,125 for the corresponding period 1907-08, while the net receipts were $198,647, against $107,147.

Detroit River Tunnel.—The authorized capital stock of this company is $30,000, all of which is in Michigan Central Rd. treasury. It is also authorized to issue $15,000,000 of first mortgage bonds, which are to be guaranteed by the M.C.R. Of these bonds, an amount of $10,000,000 is ready to be placed on the market.

Dominion Atlantic Ry.—Gross earnings for Jan., $69,950, against $70,426 for Jan., 1908.

Grand Trunk Pacific Ry.—Subscriptions were recently invited on the London, Eng., market for an issue of £1,000,000 of G.T.P. Ry. debentures. The issue price was 90 and the debentures are redeemable in 1936 at 105. The object of the issue is to provide additional rolling stock to be delivered during the current year for use on the Lake Superior branch, and on the Prairie Division.

A resolution has been submitted to the House of Commons by the Government, authorizing it to raise $10,000,000 by means of a loan, and to advance it either in one sum or by instalments to the G.T. Pacific Ry., to aid it in completing the Prairie Division. The money is to be advanced by the Government upon the pledge of an issue of bonds bearing 4% interest, secured upon the company's railway, but subject to any prior lien or charge by a mortgage or deed of trust. The bonds are also to be guaranteed by the G.T.R. In default of payment of interest the Government is to have the right to be "deemed to be the holder of such bonds and entitled to the rights and remedies available to bondholders, arising according to the terms of such mortgage when default is made in payment of interest or principal of such bonds." The resolution provides for the repayment of the loan to the Government, with 4% interest, payable half-yearly within ten years.

Intercolonial Ry.—A resolution was passed Mar. 11, at a meeting of the New Brunswick Union of Municipalities, opposing the leasing of the Intercolonial Ry. by the Dominion Government, and favoring the discussion by municipal governing bodies of the question of urging the Government to establish a Public Utilities Board.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—The directors have authorized an issue of $6,048,000 of new stock, equal to 24% of that outstanding, to be issued to existing stockholders at par, one-third of the new stock to be preferred, and two-thirds common.

In connection with the taking over of the Wisconsin Central Ry., the holders of the W.C.R. preferred stock, the amount of which outstanding is $11,207,104, are depositing their scrip with a trust company, receiving in return therefor permanent receipts. It is stated that the C.P.R., as controlling the M., St. P. and S.S.M. Ry., has consented to allow that company to issue its own obligations calling for the payment of 4% annually to the holders of W.C.R. preferred stock, for the 99 years of the lease, instead of merely guaranteeing the dividends on that issue as proposed in the original plan.

The Wisconsin Central Ry. directors have passed a resolution authorizing the leasing of the line for 99 years to the M., St.P. and S.S.M. Ry. Co., and the directors of the latter company have ratified it. The shareholders of the W.C.R. will meet in Milwaukee, Wis., April 11, for the purpose of confirming the leasing of the line.

E. Pennington, heretofore Vice-President and General Manager, has been elected President, succeeding the late T. Lowry; he retains for the present his position as General Manager. The position of Vice-President has not been filled. H. Lowry has been elected a director to fill the vacancy on the board caused by his father's death.

With the new issue of stock the company will have $31,248,000 of stock outstanding. Of this $10,416,000 is 7% preferred stock, and $20,822,000 common stock, on which the current rate of interest is 6%. The C.P.R. controls the company through the ownership of 51% of the stock, and will exercise its right to subscribe to the full extent of its holdings, and in accordance with its usual custom, will take up any of the stock to be issued which is not taken up by the shareholders.

Ontario Sault Ste. Marie Ry.—The annual meeting was held March 17, the business being of a purely formal character. The officers and directors for the current year are: President, C. M. Hays; Vice-President, E. J. Chamberlin; Secretary-Treasurer, F. Scott; other directors, W. Wainwright, M. M. Reynolds, R. S. Logan, W. H. Biggar, Jos. Hobson; General Auditor, W. H. Ardley.

Pere Marquette Rd.—A press report from Detroit, Mich., says it was semi-officially announced Mar. 5, that the P.M.R., had finally passed under the control of J. P. Morgan, and that in all probability the company's lines, franchises, etc., would be disposed of to the Baltimore and Ohio Rd. "The deal," one of the company's officials is quoted as saying, "simply awaits the outcome of the negotiations for a settlement of the financial difficulties of the Cincinnati, Hamilton and Dayton Rd."

A Detroit, Mich., dispatch, Mar. 17, says W. Cotter, President, states that there is no truth in the report of a pending sale of the P.M.R. to the Baltimore and Ohio Rd.

Quebec and Lake St. John Ry.—Gross earnings for Feb., $37,071.19, against $31,941.04 for Feb., 1908. Aggregate gross earnings for 2 months ended Feb. 28, $83,320.24, against $68,216.53 for same period 1908.

Quebec Central Ry.—Gross earnings for Jan., $53,671.62; expenses, $50,322.78; net earnings, $3,348.84; against $68,640.25, gross earnings; $57,695.20 expenses; $10,945.05, net earnings for Jan., 1908. Aggregate gross earnings for 7 months ended Jan. 31, $607,348.13; expenses, $428,247.47; net earnings, $179,100.66, against $638,006.77 gross earnings; $443,587.23 expenses; $194,419.54 net earnings for same period 1907-08.

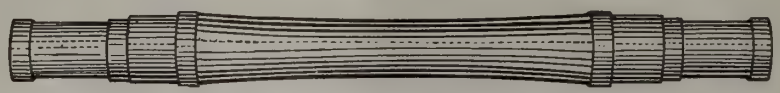
St. Mary's and Western Ontario Ry.—Following are the officers and directors for the current year: President, T. O. Robson; Vice-President, F. E. Butcher; Treasurer, H. L. Rice; other directors: D. Boins, A. Baird; Secretary, J. W. Graham; Chief Engineer, G. E. Hyde; Chairman of Advisory Board and executive, J. Chalmers; other members: J. W. Graham, H. L. Rice. The railway is leased to the C.P.R.

Tillsonburg, Lake Erie and Pacific Ry.—During the passage of this company's bill through the Railway Committee of the House of Commons recently, it was stated that the line had been acquired by the C.P.R. The line was originally operated as an independent company, but in 1904 the C.P.R. took it over under lease for 99 years.

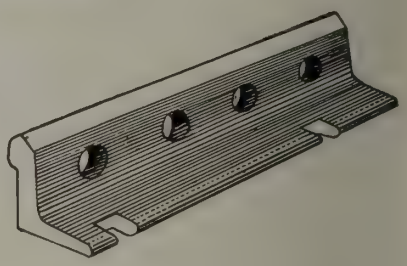
White Pass and Yukon Ry.—Gross earnings for seven months ended Jan. 31, $885,066.

THE HAMILTON STEEL & IRON CO.

HAMILTON, CANADA. **LIMITED**



RAILWAY AXLES
ANGLE BARS AND
TRACK SPIKES
TIE PLATES



FORGINGS—MARINE AND RAILROAD

IN ROUGH, ROUGH-TURNED OR SMOOTH FINISHED. SPECIALTY OF HEAVY FORGINGS

PIG IRON, IRON AND STEEL BARS.

POLSON IRON WORKS

LIMITED

TORONTO, CANADA

Steel Shipbuilders, Engineers and Boilermakers

Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers

OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO

C. P. R. Betterments, Construction, Etc.

Wharf at St. Andrews, N.B.—The C.P.R., as exercising the rights and franchises of the New Brunswick and Canada Ry., has deposited with the Department of Public Works, Ottawa, plans and description of the site of a proposed wharf to be constructed at St. Andrews, N.B. Approval of plans is asked for.

Plans have been submitted to the St. Andrews, N.B., council for the construction of a wharf there at a cost of $20,000. It will be 290 ft. long, and it is proposed to start construction at once.

The New Brunswick Southern Ry. is now owned by the C.P.R.

McAdam-Aroostook Junction, N.B.—The programme for the season's work includes the carrying out of further works of improvement between McAdam and Aroostook Junction, N.B. During the past three years considerable work has been done in the way of reducing gradients, strengthening bridges and laying heavier tracks on this section of line. The work is to be continued during the current season, and it is expected that it will be so far completed that by the fall the company will be able to run much heavier trains over it than at present.

Windsor St. Station, Montreal.—Plans are reported to have been completed for the extension of this station. The new buildings will, it is said, cover the entire block of land bounded by Windsor, Osborne, Mountain and St. Antoine Streets. The total area of the new terminals will be about 400,000 sq. ft. The new head office buildings will have a total frontage of 275 ft. on St. Antoine St. Eight new tracks will run into the terminals, which will have nearly four times the accommodation of the present buildings.

Place Viger Extensions.—The C.P.R. has withdrawn its application to the Board of Railway Commissioners for power to expropriate certain lands between Notre Dame and Craig streets, in connection with its Place Viger terminal extension plans. The opposition to the carrying out of the company's proposal was on behalf of the Montreal Brewing Co., the ground taken being that its premises would be entirely surrounded by the railway yards and property, and there would be no means of getting in or out from it. D. McNicoll, Vice-President C.P.R., in reply to a question as to the withdrawal of the plans, is reported to have said that the company had secured all the land it required.

Montreal-Toronto Second Track.—A Montreal dispatch states that it has been officially announced that the construction of the second track as far as Smith's Falls, Ont., will be completed during the current season, and that a start will be made preparatory to the construction of a second track between Smith's Falls and Peterborough, a distance of 133 miles. The work on this section, which, it is said, will be done this season, will consist of reducing gradients and curvature, and strengthening bridges. The principal object of this work is said to be to have the main line in order to suit the gradients of the proposed Georgian Bay and Seaboard Ry., which will extend from Victoria Harbor to Peterborough, Ont. The section of this line between Victoria Harbor and Coldwater has been completed, and is being operated as a branch of the company's Toronto-Sudbury line.

Campbellford, Lake Ontario and Western Ry.—A meeting of representatives of the towns through which this projected railway would pass, was held at Cobourg, Ont., Mar. 24, for the purpose of urging upon the C.P.R. the desirability of the early construction of the line.

Connection with G.T.R. Near Toronto.—The C.P.R. has given notice of its intention to apply to the Board of Railway Commissioners for authority to construct a branch line from its railway at milepost 10.15 in lot 8, con. 4, Etobicoke tp., York county, to the G.T.R. in lot 9, con. 1, Etobicoke tp., and Y connections.

Toronto Junction, Ont.—The C.P.R. has been having some negotiations with the West Toronto council with a view to the removal of the wooden bridge over the tracks at Weston road, which is in a bad state of repair.

St. Mary's and Western Ontario Ry.—Application is being made to the townships of Blanshard, Usborne and Exeter, to pass by-laws granting loans of $10,000 each to the company in connection with its proposal to construct a line from St. Mary's to Exeter, Ont. Speaking at Exeter recently, J. W. Graham, Secretary of the company, said the proposed extension was estimated to cost $25,000 a mile, and municipal aid to the extent of $80,000 a mile had been obtained towards the construction of the 15 miles easterly from St. Mary's. The line would be commenced, he said, within six months after the municipalities had passed the by-laws, and it was expected that it would be in operation by 1911. Three surveys have been made for the proposed extension, but no decision has been announced as to which route will be adopted.

Fort William, Ont.—A delegation from Fort William, Ont., appeared before a committee of the Ontario Legislature, Mar. 13, to ask for approval of the agreement with the C.P.R. granting a further exemption from taxation, and the carrying out of certain works of improvement. The agreement fixes the tax at $30,000 a year for 15 years.

Fort William to Winnipeg Second Track.—With the exception of a distance of about 18 miles, the second track between Fort William, Ont., and Winnipeg, Man., had been completed at the end of 1908. It is proposed to complete this 18 miles during the coming season.

Central Division Improvements.—During the season of construction of 1909, it is proposed to carry out the following works of betterment upon this division: To lay 60 miles of 85-lb. steel between Fort William and Winnipeg, and on the Estevan section; to do 100 miles of ballasting on the Souris and Estevan sections; to construct an overhead bridge at First St., Brandon; to do 30 miles of ballasting on the Yorkton section; to construct an extension to passing tracks and new tracks on the Last Mountain and Estevan sections.

Teulon Northerly.—During the current year it is proposed to extend the present line from its existing terminus two miles north of Komarno towards the Icelandic River, Man. The distance between these points is 26.5 miles, and it is hoped to complete 17 miles this season.

Brandon Round-House.—Tenders were received to Mar. 10 for the construction of a six-stall addition to the round-house at Brandon, Man.

Mowbray Southeasterly.—Track will be laid this season on the extension of the Mowbray branch, for 6.5 miles from Mowbray, Man.

Virden Northerly.—Among the new work to be done during the current year is the laying of 10 miles of track on the new branch from Virden, Man., on the Broadview section of the main line, northwesterly.

Lanigan to Prince Albert, Sask.—Plans have been filed at Prince Albert, Sask., by the C.P.R. for a line from Lanigan to Prince Albert, passing through Humboldt, the Hoodoo country, crossing the South Saskatchewan River at St. Louis, and entering Prince Albert from the east. General Manager Bury is quoted as saying that as soon as the gap between Wynward and Lanigan is closed, the line from Lanigan to Prince Albert will be commenced.

Pheasant Hills Branch.—Tracklaying will be completed during the present year from Wilkie, Sask., the present terminus, 99.5 miles west of Saskatoon, to Hardisty, Alta., the present terminus of the Wetaskiwin branch, a distance of 131.7 miles.

Western Division Improvements.—The betterments to be undertaken on this division this year include the following: The provision of a gravity water supply at Regina, Sask., the water to be taken from Pilot Butte; the construction of a new hump yard at Moose Jaw, Sask.; construction of additional passing tracks on the Swift Current section; ballasting for 50 miles on the Portal section; ballasting 17.2 miles on the Lethbridge section and 100 miles on the Edmonton section; ballasting 30 miles on the Macleod branch; laying 100 miles of 85-lb. steel on the Edmonton section; 53 miles on the Macleod section, and three miles on the Cranbrook section; constructing extensions to and additional passing sidings, and a number of betterments on bridge works.

Regina, Sask., Spur Tracks.—A map has been submitted to the Regina city council, showing the route of a branch line with spur tracks which the company proposes to erect for warehouse accommodation in the city. The branch is to start near the Bulyea branch, run across the Eastern Annex and up Eighth Ave. to Broad St., with spurs into blocks 184, 185, 186 and 187. The branch and spurs are expected to be constructed as soon as weather permits.

Lacombe Branch.—During the current year it is proposed to extend this branch, which now terminates at Stettler, Alta., 35 miles easterly.

Weyburn Westerly.—A branch line will be constructed during the current year from Weyburn, Sask., on the Portal section, 20 miles west.

Cheadle-Alix.—It is proposed to start construction during the current year upon a branch line from Cheadle, on the Calgary section of the transcontinental line, 40 miles northerly.

Lethbridge, Alta., Shops.—We are advised that the press reports that the company proposed to erect shops for the Western Division at Lethbridge, Alta., and to employ 600 men there, is premature, and that nothing definite has been done with this end in view.

Lethbridge-Macleod Cutoff.—During the current season the construction on the steel bridges across the Belly and Old Man Rivers, on the Lethbridge-Macleod cutoff, on the Crow's Nest branch, will be continued.

Kipp Northerly.—Construction will be proceeded with during the current season on a branch line, starting from Kipp, on the Macleod section of the Crow's Nest Branch, to 28.5 miles north on the Little Bow River.

Crow's Nest Pass Branch.—The Privy Council has passed an order granting the C.P.R. 25.55/1000 acres of land in the s.w. quarter of sec. 29, tp. 9, range 22, west of the 4th principal meridian, for use as a right-of-way and station ground, at $25 an acre, and recommends the selling by public auction of the balance of the quarter section at an upset price of $25 an acre.

Kootenay Central Ry.—A press report states that the C.P.R. is not likely to award any contract at present for construction upon any part of this line. The despatch states that tenders were asked for during Feb. for the grading of 30 miles of line "from the connecting point on the Crow's Nest Pass branch between Cranbrook and Fernie, to north of Fort Steele, B.C.," and

N. CURRY, President
N. A. RHODES, Vice-President

CAPITAL, $1,000,000

J. M. CURRY, Sec.-Treas.

RHODES, CURRY & CO.

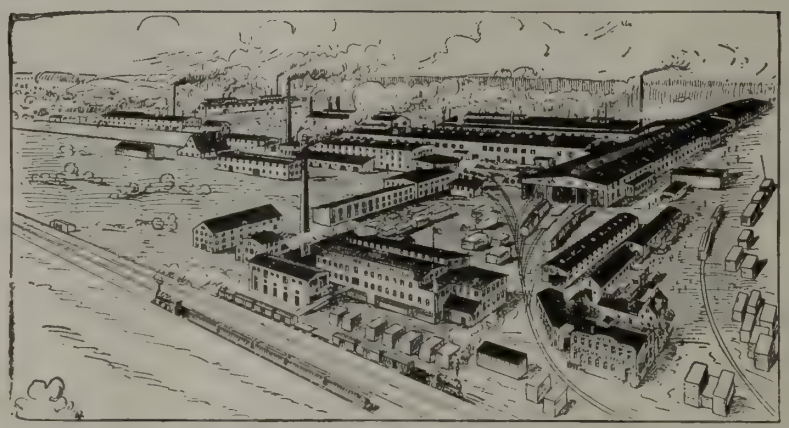
AMHERST, NOVA SCOTIA LIMITED

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels



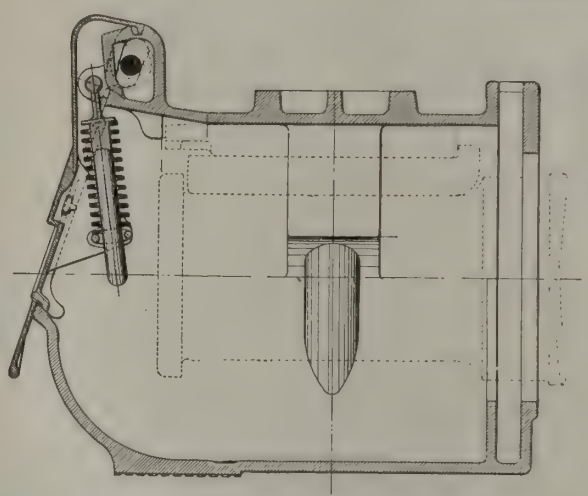
Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



THE STRONGEST, LIGHTEST, TIGHTEST BOX MADE

The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCord Force Feed Lubricator

McCORD & COMPANY
Old Colony Building, Chicago

N. J. HOLDEN CO., Ltd.,
302 St. James Street, Montreal

it was expected by railway men that this work would be proceeded with early in the spring."

Pacific Division Improvements.—The betterments proposed to be carried out on this division during the current year include: Replacing of steel cantilever bridge at Cisco, with a heavier bridge of the same type; extensive replacement of wooden bridges with permanent structures, changes of line, additions to passing tracks; yard improvements at Kamloops, Mission Junction, Spence's Bridge, North Bend and Vancouver, B.C.; ballasting 16 miles on the Cascade section; erecting a 280-ft. steel arch on the Esquimalt and Nanaimo Ry.

Railway Rolling Stock Notes.

The Duluth, South Shore and Atlantic Ry. is reported to have ordered 400 freight cars.

The Crossen Car Mfg. Co., Cobourg, Ont., has delivered 43 flat cars to the J. D. McArthur Co., Winnipeg.

The T. & N.O. Ry. has ordered two 6-wheeled switching locomotives from the Canadian Locomotive Co., Kingston, Ont., for delivery during the summer.

The G.T. Pacific Ry. has ordered 10 colonist cars, 5 parlor cafe cars, 16 first-class coaches, 8 second-class coaches, 3 dining cars, and 8 sleeping cars, from the Canada Car Co., Montreal.

The Canada Car Co., Montreal, is building 46 Hart convertible ballast cars and one plow distributing car for the Hart-Otis Car Co., Montreal; and 4 Lidgerwood unloading cars and 25 flat cars for F. H. Hopkins & Co., Montreal.

The C.N.R., between Feb. 15 and Mar. 15, received the following additions to rolling stock: 3 consolidation locomotives, from the Canadian Locomotive Co., Kingston, Ont., and 12 cabooses from the Crossen Car Mfg. Co., Cobourg, Ont.

The C.P.R., between Feb. 12 and Mar. 14, received the following additions to rolling stock: 42 box cars, 8 first-class cars, 2 Pacific type locomotives, and 3 switching locomotives, from its Angus, Montreal, ships; 3 vans from its Farnham, Que., shops, and 291 steel frame box cars from the Dominion Car and Foundry Co., Montreal.

The C.P.R., between Feb. 12 and Mar. 14, placed orders for the following rolling stock: 86 box cars, 102 refrigerator cars, 500 stock cars, and 10 mixed traffic locomotives, type D10, at its Angus, Montreal, shops; 4 vans at its Farnham, Que., shops; 500 steel coal cars at the Dominion Car and Foundry Co., Montreal; and 2 Pacific type locomotives at the American Locomotive Co., Schenectady, N.Y.

The Hart-Otis Car Co., Montreal, has received orders for cars as follows: 20 Hart convertible all-wood ballast cars, 34 ft. long, 40 tons capacity, and one double plow distributing car, from E. F. and G. E. Fauquier, Ottawa, for N.T.R. contract work; 10 similar cars from the Quebec Contracting Co., Quebec, for N.T.R. contract work; 16 similar cars from the Willard Kitchen Co., Fredericton, N.B., for N.T.R. contract work; 18 all-steel Otis dumping gondola cars, 24 ft. long between couplings, 50 tons capacity, for handling broken stone and sand from the Bird's Hill Sand Co., Winnipeg; and 20 all-wood Otis dumping gondola cars, 1909 type, 36 ft. long, 40 tons capacity, from the Pacific Coast Coal Mines Ltd., Victoria, B.C.

The Minister of Railways stated in the House of Commons, Mar. 1, that the cost of construction of I.C.R. motor cars 225, 226 and 227 had been $55,800. During 1907, one of the cars ran between St. John and Hampton, N.B., and a second between Halifax and Windsor Junction, N.S., while the third was used as a spare car while the others were being worked into shape. More or less minor defects incidental to all new enterprises were encountered, but were being gradually remedied. During 1908, one of the cars was run on the River Ouelle branch, and gave good satisfaction. The revenue had not been worked out, but the expense of maintaining the three cars had been to that date $4,669.11. One car was then running between Halifax and Windsor Junction, N.S., and the other two were in the shops for general repairs in order to be ready for the coming summer's business.

Following are chief particulars of the 25 mogul locomotives under construction for the G.T.P.R., by the Canadian Locomotive Co., Kingston, Ont., mentioned in our Feb. issue:

Weight on drivers	138,176 lbs.
" total	161,976 lbs.
Cylinders	20" by 26"
Drivers, diam.	63"
Boiler, type	Extended wagon top.
" working pressure	200 lbs.
Heating surface, tubes	1,688 sq. ft.
" " firebox	188 sq. ft.
" " total	1,876 sq. ft.
Tubes, no. and diam.	271–2"
" length	11' 11"
Grate area	33.43 sq. ft.
Capacity, coal	10 tons.
" water	7,000 U.S. gals.
Tractive effort	28,063 lbs.
Brakes	Westinghouse.
Journal bearings	Canadian bronze.
Springs	Montreal Steel Works.
Steam heat equipment	Gold Safety Car Heating and Lighting Co.
Jacks	one 15-ton Norton, to each locomotive.

Great Northern Railway Lines in Canada.

Manitoba Great Northern Ry.—An act has been passed by the Manitoba Legislature, incorporating a company with this title, the provisional directors being: L. W. Hill, R. I. Farrington, Jas. Fisher, C. P. Wilson, and J. F. Fisher. The company is authorized to construct a single or double track railway from Winnipeg to Brandon, thence to Elkhorn, and on to the western boundary of the province; also a line from Morden northwesterly to Rathwell, and thence, still northwesterly, to the Winnipeg-Elkhorn line; together with such branch lines as may be necessary or convenient. The line may be constructed in sections, and the company may acquire plans and surveys now existing for these lines or for any portions of the same. It may also enter into agreements with other railway companies for any purpose, and it is authorized to acquire the existing constructed lines of the Midland Ry. Co. of Manitoba, viz.: A line from the International boundary at Gretna to Portage la Prairie; and a line from the International boundary in range 4, west of the principal meridian, to Morden. The company's capital stock is fixed at $2,500,000, and bonds to the amount of $20,000 a mile of line constructed may be issued. The company is also authorized to carry on an express business, to construct telegraph and telephone lines, and to maintain bridges.

Midland Ry. Co. of Manitoba.—The Manitoba Legislature has passed an act authorizing this company to construct, in connection with its authorized line between Winnipeg and the International boundary, a branch running from such line on the east side of the Red River, in tp. 1, range 2 or 3 east, to the west side of the Red River in tp. 1, range 2, east of the principal meridian. The company is also authorized to sell the lines already constructed under its charter to the Manitoba Great Northern Ry.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—The Board of Railway Commissioners has authorized the company to open for traffic the portions of its line from Huntingdon to Cloverdale; from Olivers to the International boundary near Blaine, Wash.; and from Olivers to the Fraser River bridge, at New Westminster, B.C. These pieces of line connect up the company's lines south of the Fraser River, with the bridge over the river, and so with the line from New Westminster to Vancouver, constructed by the Vancouver, Westminster and Yukon Ry., which the V. V. and E. Ry. and N. Co. acquired.

Press reports state that the company will ask for tenders at an early date for the laying out of its terminals on Burrard Inlet, Vancouver. The work, it is expected, will extend over about three years. A Stewart, Assistant Chief Engineer, and J. S. Napp, Right-of-Way Agent, have been in Vancouver for some time in connection with the work. (Mar., pg. 195.)

The Dominion Government is asking Parliament for authority in its Government Harbors and Piers Act, to lease breakwaters, wharves and piers under the control of the Department of Marine and Fisheries to municipal corporations, railways or shipping companies. The Department of Public Works has power to lease wharves, etc., coming under its jurisdiction, and the present bill extends that power to the Department of Marine.

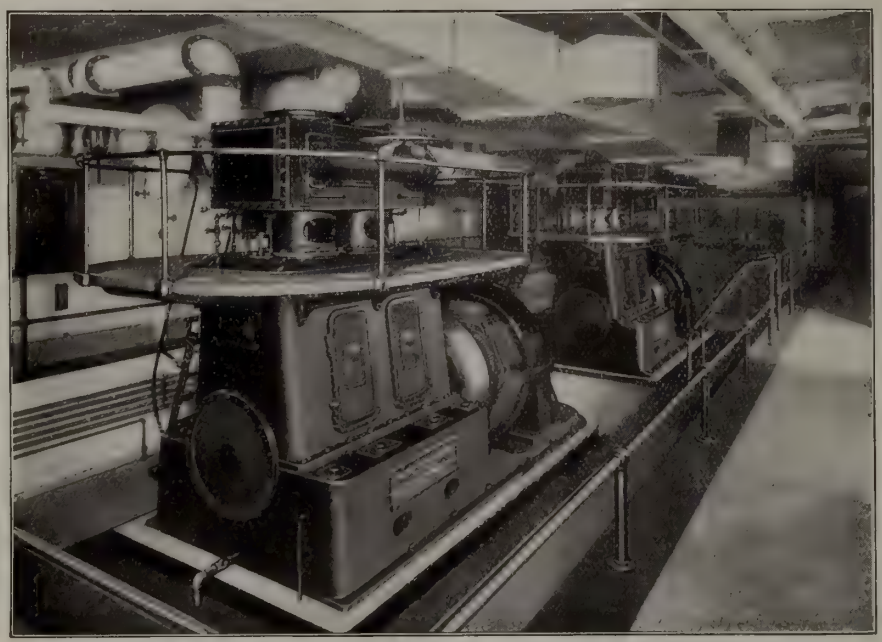
The public accounts for Ontario for the year 1908 show that the present value of the certificates issued by the Treasurer for aid to railways is $2,511,670.53. The interest paid on the certificates is 1¾% every six months, and the total amount will be paid off by 1948. The total amount which the province will have to pay to clear the principal and interest is $4,086,288.74. Against the present indebtedness of the province, which amounts to $12,733,340, the Temiskaming and Northern Ontario Ry. is placed as an asset. The amount expended on the railway to Dec. 31, 1908, was $13,982,764.55.

Locomotive Fuel Consumption.

The cost of fuel consumed by locomotives on the various Canadian railways during the year ended June 30, 1908, was $17,718,486.24. In volume the aggregate consumption was 5,970,791 tons, against 5,608,954 in 1906-07. Following are details, two cords of wood being calculated as one ton of fuel:

Locomotive.	Coal.		Wood.		Total Tons Fuel.	Miles run.	Fuel consumed per 100 miles.
	Anthracite.	Bituminous.	Hard.	Soft			
	Tons.	Tons.	Cords.	Cords.			Tons.
Freight		3,306,499	176	23,391	3,318,283	42,291,082	7.84
Passenger	1,404	1,440,057	216	10,699	1,446,919	30,504,171	4.74
Mixed	2,684	346,463	282	3,267	350,921	7,410,971	4.73
Switching	334	595,318	2	4,879	598,092	14,941,179	4.00
Construction	415	255,185	1	1,831	256,576	5,474,838	4.69
Total	4,837	5,943,522	677	44,067	5,970,791	100,622,241	

The average cost of fuel was $3.19 a ton. The consumption per 100 miles was slightly larger for all classes of locomotives than in 1906-07, the figures for 1906-07 being: Freight, 7.29 tons; passenger, 4.57 tons; mixed, 4.05 tons; switching, 3.76 tons; construction, 4.54 tons.



HIGH-SPEED VERTICAL ENGINES

of the English enclosed type with pressure oiling system, installed by us at the

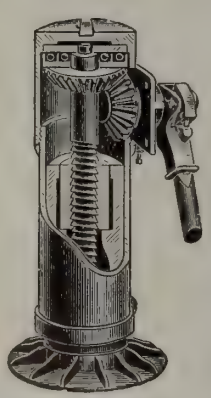
TRADERS BANK
TORONTO

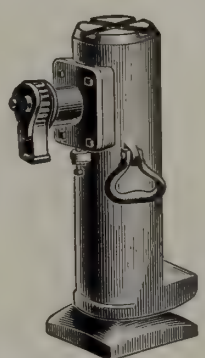
ROBB ENGINEERING CO., Limited, Amherst, N.S.

DISTRICT OFFICES: Traders Bank Building, TORONTO, Wm. McKay, Manager.
Bell Telephone Building, MONTREAL, Watson Jack, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.

NORTON JACKS

ARE MADE IN CANADA AND SAVE YOU DELAY AND DUTY ON AMERICAN MADE JACKS.

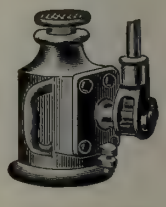

Sectional View


Foot Lift Jack

50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY

15 Ton Track Jack

Traversing Jack


Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this. Complete copies of any of the orders summarized below, or of others previously passed by the Commission, will be furnished for 25 cents, cash to accompany requests for copies in all cases.

6292. Feb. 17.—Directing G.T.R. to protect Foxmead crossing, near Atherly, Ont., by electric bell.

6293. Feb. 18.—Directing W.E. & L.S.R. Ry. to equip all its cars with air brakes within 3 months from date of order.

6294. Feb. 26.—Authorizing Bell Telephone Co. to place its wires across the M.C.R. tracks in Crowland tp., Ont.

6295. Feb. 19.—Authorizing Water Commissioners of Guelph, Ont., to lay a main under C.P.R. in Guelph, and a water conduit across G.T.R. in Puslinch tp., Ont.

6296. Feb. 19.—Authorizing city of Vernon, B.C., to lay sewer pipes under C.P.R.

6297. Feb. 19.—Authorizing C. H. Winslow, Millbrook, Ont., to lay water pipe under G.T.R. track.

6298. Feb. 19.—Authorizing C.P.R. to construct a spur to Pintsch Compressing Co.'s premises, North Bay, Ont.

6299. Feb. 10.—Fixing maximum charge to be made by shipments of new empty cars over two or more railways. See pg. 251.

6300. Feb. 19.—Authorizing Robitaille Eureka Distillery to place electric wire under Quebec Ry., Light and Power Co.'s tracks near Beauport station, Que.

6301. Feb. 15.—Authorizing C.N.Q. Ry. to ballast its Montford branch; make suitable ditches along its right-of-way; remove all brush; replace the rail now in use with a heavier rail; provide a platform and shelter for passengers at Chapleau; supply regular passenger trains with baggage cars; appoint a permanent agent at Montford; and certain other requirements.

6302. Feb. 20.—Authorizing Scarboro Independent Telephone Co. to place its wires across C.P.R. in Scarboro tp., Ont.

6303. Feb. 20.—Authorizing Bell Telephone Co. to place wires across G.T.R. at Boucher St., Meaford, Ont.

6304. Feb. 20.—Authorizing Alberta Government Telephones to place wires across C.P.R. at Standard Soap Works, Calgary, Alta.

6305. Feb. 20.—Authorizing Alberta Government Telephones to place wires across C.P.R. tracks near Strathcona, Alta.

6306. Feb. 13.—Dismissing application of Guernsey, Sask., Board of Trade for order directing C.P.R. to give to Guernsey a lower rate on grain to the terminal elevators at Fort William than at present.

6307. Feb. 13.—Dismissing application of Saskatchewan Grain Growers' Association alleging excessive rates on lumber and coal shipments.

6308. Feb. 13.—Dismissing complaint of Elstow, Sask., Board of Trade, alleging delay on part of railway companies in transportation and delivery of coal shipments.

6309. Feb. 13.—Dismissing complaint of W. O. Miller, Tessier, Sask., alleging inability to secure a settlement from the C.N. Ry. for property taken for railway purposes.

6310. Feb. 13.—Authorizing G.T.P. Ry. to construct, within 15 days, a temporary crossing over tracks at Zelma, Sask., and dismissing petition for a station and freight room accommodation.

6311. Feb. 13.—Dismissing petition of residents of Rush Lake, Sask., requesting C.P.R. to construct a highway over its tracks there.

6312. Feb. 13.—Dismissing complaint of C. L. Mintminnick of Churchbridge, Sask., that G.T.P. Ry. has failed to compensate him for right-of-way through his property.

6313. Feb. 13.—Dismissing petition of farmers and grain growers in Saskatoon County, Sask., for loading platform at a siding of C.N.R. Goose Lake branch on sec. 8-36-6, w. 3.

6314. Feb. 13.—Dismissing complaint of Strassburg, Sask., Board of Trade respecting C.P.R. freight rates on lumber shipments.

6315. Feb. 13.—Dismissing complaint of J. R. Standen and others of Osage, Sask., alleging that C.P.R. proposes closing its station there, and asking that the same be continued.

6316. Feb. 13.—Dismissing complaint of Rosaleigh School District 820 of Frobisher, Sask., of failure of C.P.R. to provide station agent or operator at Hirsch, Sask.

6317. Feb. 13.—Dismissing application of C.P.R. for authority to construct branch line in Regina, Sask., from northerly boundary of its station grounds between Broad and Rose Sts. across Dewdney St. and 8th Avenue.

6318. Feb. 13.—Dismissing complaint of J. L. Sundabe, Hitchcock, Sask., that C.P.R. has refused to put in a crossing over road allowance in sec. 22, tp. 3, r. 9, w. 2 m.

6319. Feb. 13.—Requiring C.P.R. and C.N.R. to file with Board joint tariff on coal shipped from Taber, Alta., destined to Dalmeny, Sask., making provision for same rate that exists from Taber to Rosthern, Sask.

6320. Feb. 13.—Authorizing C.P.R. Co. to move the existing westerly connection of spur across blocks 7 and 11 in Estevan townsite, Sask., and re-establish the easterly connection, thereby reinstating the location and length of spur as the same existed prior to said change made by the Co., and rescinding order of May 6, 1908.

6321. Feb. 13.—Ordering C.N. Ry. to erect and maintain a third-class station at Condie, Sask., and place an agent in charge on or before June 1.

6322. Feb. 13.—Ordering C.N. Ry. to erect fences on both sides of its right-of-way where the same crosses the lands of H. K. Miller, of Lumsden, Sask., on or before May 15.

6323. Feb. 13.—Ordering C.N. Ry. to fence along both sides of its right-of-way through sec. 32, 19, 21, w. 2 m., on or before May 15,

6324. Feb. 13.—Authorizing C.N. Ry. to construct crossing across its right-of-way in Aberdeen, Sask., and to grade approaches and furnish all necessary planking.

6325. Feb. 13.—Directing C.N. Ry. to establish gates on either side of its right-of-way and station grounds on 23rd St., Saskatoon, on or before May 15, and to continue the filling between its main line and Goose Lake branch.

6326. Feb. 8.—Directing C.N. Ry. to fence both sides of its right-of-way between Dauphin and Gilbert Plains, on or before Sept. 1.

6327. Sept. 1.—Granting permission to Pere Marquette Rd. and Lake Erie and Detroit River Ry. to load and unload on and from car ferries plying between Conneaut, Ohio, and Port Stanley, Ont., and forward to their destination trains in transit in the United States or Canada, on such ferries or on the lines of the said railway companies when the Lord's Day begins, and do any work necessarily incidental thereto, including the returning of empty cars which have been placed in the slip tracks at Port Stanley before 6 a.m. or after 8 p.m. upon the Lord's Day.

6328 to 6330. Feb.13.—Directing council of Dundurn, Sask., to elect whether it accepts permanent crossing over C.N. Co.'s tracks and station grounds 700 ft. south of the south limit of Clark St., and a temporary crossing over and at or near the north end of existing elevator track, such last crossing, if elected to be taken, to remain in existence and to be used only till the company may lay an additional track between the existing main line and the elevator track; and upon the laying of such new track, the temporary crossing at the end of the elevator track shall be closed, or the council may elect to take a permanent crossing as provided in order of Nov. 29, 1907, and immediately upon the council electing as aforesaid the Ry Co. shall construct such crossing and perform the grading and lay planking.

6331. Feb. 13.—Directing C.P.R. and C.N.R. Co.'s to agree upon terms for the erection of union station and establishment of joint facilities at Maryfield, Sask., on or before May 1, and to file agreement with Board. If the companies are unable to agree upon terms within time mentioned, then the same shall be settled by the Board, upon application of any interested party.

6332. Feb. 13.—Directing C.N.R. to construct a fence along both sides of its right-of-way where the same crosses the n.e. quar. sec. 21, tp. 19, r. 21, w. 2 m.

6333. Feb. 13.—Directing C.N.R. to construct farm crossing across the right-of-way through lands of C. Mann, Lumsden, Sask., to furnish gates and put in planking.

6334. Feb. 13.—Authorizing G.T.P.R. to refund overcharge admitted by letter of J. E. Dalrymple, Feb. 8, 1909, on shipment of settlers' effects from Mt. Forest to Moose Jaw, Sask.

6335. Feb. 20.—Amending order 1876 of Oct. 22, 1906, by striking out the clause limiting the speed to 15 miles an hour at which the C.P.R. shall operate trains over portion of the line from Bolton to Craighurst, Ont., authorized to be operated by said order.

6336. Feb. 20.—Authorizing Stormont Telephone Co. to place wires across G.T.R. tracks at Aultsville, Ont.

6337. Feb. 20.—Authorizing city of Winnipeg to lay sewer under C.P.R., Brown and Sutherland spur, where same intersects Sutherland Ave., Winnipeg.

6338. Feb. 19.—Authorizing Robitaille Eureka Distillery to place water pipe under Quebec Ry., Light and Power Co.'s tracks near Beauport, Que.

6339. Feb. 16.—Authorizing C.P.R. to construct its railway across 15 highways in Medonte tp., Ont.

6340. Feb. 22.—Ordering that G.T.R. crossing on Main Street, Welland, Ont., be protected by gates and watchmen.

6341. Feb. 12.—Directing that M.C.R. crossing on South Main St., Welland, Ont., be protected by flagmen, warning persons of approach of trains 17 and 31.

6342. Feb. 22.—Authorizing Okanagan Telephone Co. to place wires across C.P.R. at Vernon, B.C.

6343 to 6346. Feb. 22.—Authorizing Winnipeg Electric Ry. to place transmission wires across the C.P.R. in St. Boniface at four points.

6347. Feb. 22.—Authorizing the city of Winnipeg to lay a sewer under C.P.R. at Barton Ave.

6348. Feb. 25.—Authorizing Manitoba Government Telephones to erect wires across C.N. Ry. at Rat Portage Lumber Co.'s spur, Norwood, Man.

6349 to 6352. Feb. 26.—Authorizing Manitoba Government Telephones to erect wires across C.P.R. tracks at various points.

6353 to 6356. Feb. 26.—Authorizing C.N.-O.R. to erect telegraph wires across the

Wire Rope

SUITABLE FOR

Hoisting - Haulage - Guys
Mooring - Transmission of
Power - Grain Shovels

FOR

Derricks, Cranes, Elevators
Wrecking, Bridges, Dredges

ALSO

Ropes manufactured to suit any special requirement

All Lengths and Sizes in Stock

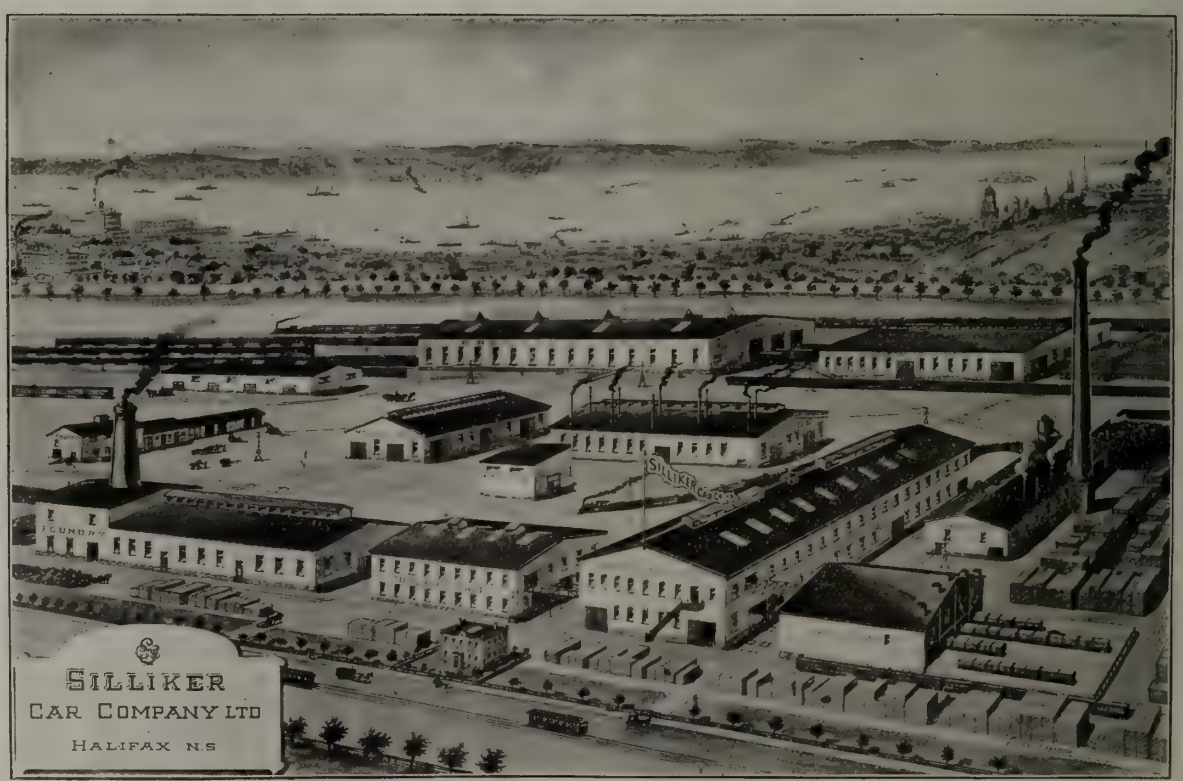
Ready for Immediate Shipment

WIRE ROPE FITTINGS OF ALL DESCRIPTIONS

The Dominion WIRE ROPE Co., Limited, Montreal

SILLIKER CAR COMPANY, LIMITED, HALIFAX, N.S., CANADA

STREET RAILWAY CARS



HEAVY FORGINGS AND CASTINGS

RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

G.N.W. Telegraph Co.'s wires at various points in Ontario.

6357. Feb. 26.—Authorizing Manitoba Government Telephones to erect wires across C.P.R. tracks 2¾ miles east of Plum Coulee, Man.

6358. Feb. 26.—Authorizing C.N.O.R. to erect wires across G.N.W. Telegraph Co.'s and Bell Telephone Co.'s wires, lot 3, con. 1, Cumberland tp., Russell Co., Ont.

6359 to 6363. Feb. 26.—Authorizing Alberta Government to erect wires across C.P.R. tracks at various points.

6364. Feb. 26.—Authorizing C.N.O.R. to erect telegraph wires across G.N.W. Telegraph Co.'s and Bell Telephone Co.'s wires at Longueuil St., L'Orignal, Ont.

6365. Jan. 27.—Authorizing C.P.R. and C.N.O.R. to construct branch lines in Parry Sound, Ont.

6366. Feb. 22.—Extending until May 1, 1909, order 6167, dated Feb. 4, 1909, directing express companies subject to the Board's jurisdiction in Canada to accept and carry acetylene gas under rules and regulations prescribed in connection therewith in the official Express Classification no. 18, and at the rating therein provided; and that a supplement be issued to Express Classification no. 16, as now in effect, to provide for the said changes becoming effective not later than March 1, 1909.

6367. Feb. 25.—Authorizing C.N.O.R. to take part of lot 22, con. 11, Mara tp., Ont., for diverting a highway.

6368. Feb. 22.—Varying order 5869, Dec. 16, 1908, and authorizing C.N.O.R. to construct its railway across highway on lot 20, con. 2, York tp., Ont., also rescinding order 6192, Feb. 4, 1909, dismissing the application.

6369. Feb. 27.—Authorizing C.P.R. to cross with its Sudbury-Kleinburg branch, highways in Vespra, Ont., and amending order 6139, Jan. 27, 1909.

6370. Feb. 13.—Authorizing the town of Indian Head to construct water pipe across C.P.R. property and under its tracks, Indian Head, Sask.

6371. Feb. 17.—Authorizing city of Calgary to lay water main under C.P.R. tracks at Fourth St. West, Calgary, Alta.

6372. Feb. 17.—Dismissing application of S. Ottewell, Clover Bar, Alta., for permission to allow his cattle to run under G.T.P.R. bridge at s.w. 13.53, 23 west 4th mer.

6373. Mar. 5.—Authorizing C.P.R. to operate bridge at mile 4.2, Guelph branch, Ontario Division, of its line.

6374. Feb. 26.—Authorizing C.P.R. (B.C. Southern Ry.) to construct and operate branch line, or spur, to F. Dailey's premises, lot 3063, group 1, east of Kootenay District, B.C.

6375. Feb. 26.—Approving C.P.R. plan showing bridge over highway near Highlands, Que.

6376. Feb. 17.—Dismissing complaint of C. Knight, Calgary, Alta., against the C.P.R., alleging discrimination in live stock rates from Strathmore to Hochelaga; also from Calgary et al and Winnipeg, and alleged discrimination between the complainant and P. Burns & Co.

6377. Feb. 17.—Authorizing city of Calgary, Alta., to lay water pipe under C.P.R. tracks at First St. West.

6377a. Feb. 26.—Authorizing Toronto Electric Light Co. to erect temporarily, certain wires for the conveyance of electricity over G.T.R. right-of-way and tracks near Lansdowne Ave., Toronto.

6378. Feb. 27.—Authorizing Bell Telephone Co. to erect wires and cables across G.T.R. tracks at Station St., Lennoxville, Que.

6379 to 6385. Mar. 1.—Authorizing Argyle Rural Municipality to erect wires across C.N.R. tracks at various points in Manitoba.

6386. Jan. 18.—Dismissing complaint of G. E. Barber Co., Ltd.; Hall & Fairweather, Ltd.; C. H. Peters & Sons, A. C. Smith & Co., and the W. F. Hathaway Co., Ltd., and the city of St. John, N.B., against an arrangement with the C.P.R., the I.C.R. and the Seely Packet Line, for handling grain products from the west for ports on the Bay of Fundy, from stations on the Dominion Atlantic Ry. in Nova Scotia.

6387. Feb. 27.—Authorizing G.T.R. to refund to A. Baile, Montreal, the amount of overcharge, namely, 20c. a ton on carload of coal shipped from Huntingdon, Que., to Ottawa.

6388. Feb. 26.—Authorizing Bell Telephone Co. to place wires under G.T.R. tracks at siding, corner of 7th con. and Crowland Rd., Crowland, Ont.

6389, 6390. Feb. 17.—Authorizing city of Calgary, Alta., to lay water mains under the C.P.R. tracks at Eleventh St. West and Thirteenth St. East.

6391. Feb. 17.—Dismissing application of city of Calgary for agreement between the city and C.P.R., dated Dec. 13, 1906, and the Board's order of same date with respect to subway under C.P.R. tracks at Osler St. and First St. East, Calgary.

6392. Feb. 17.—Dismissing complaint of T. Fitzgerald, Crossfield, Alta., that C.P.R. train employes in that district are employed an excessive length of time on continuous duty.

6393. Feb. 15.—Authorizing city of Medicine Hat, Alta., to construct a subway from the interesection of Toronto St. with North Railway St., under C.P.R. right-of-way, to the intersection of Toronto St. with South Railway St.

6394. Feb. 15.—Dismissing application of city of Medicine Hat, Alta., for an order authorizing the construction of an overhead bridge on Ottawa St., over C.P.R. right-of-way.

6395. Feb. 15.—Authorizing city of Medicine Hat to extend Main St. across C.P.R. lands and right-of-way, forming a public highway; and authorizing the city to construct a public crossing under the C.P.R. Saskatchewan River bridge, between the east pier and the east abutment, at the city's cost.

6396. Feb. 17.—Authorizing R. Lake, Blairmore, Alta., to lay water pipe under C.P.R. tracks at road allowance n.e. quar., sec. 34, tp. 7, r. 4, w. 5 m.

6397. Feb. 19.—Dismissing complaint of W. Robinson, Hurry, Alta., that the G.T.P.R. has constructed its right-of-way across his homestead, made a deep cut through his property, and thrown waste material over his land.

6398. Feb. 19.—Dismissing complaint of Alberta Farmers' Association, respecting condition of the Edmonton, Yukon & Pacific Ry. bridge, approved by order 5691, Nov. 24, 1908.

6399. Feb. 17.—Authorizing city of Calgary, Alta., to cross C.P.R. spur on Second St. East with Calgary St. Ry. tracks.

6400. Feb. 19.—Dismissing complaint of A. Landals, Strathcona, Alta., that the C.P.R. has constructed a wagon road across his property, cutting his place in three parts and shutting him off from water.

6401. Feb. 19.—Dismissing application of town of Vegreville, Alta., for authority to construct a highway crossing over C.N.R. tracks at Main St.

6402. Feb. 19.—Dismissing application of Parkdale Coal Co., Edmonton, Alta., against G.T.P.R. continuing its right-of-way through portion of lot 22, Edmonton Settlement Survey.

6403, 6404. Feb. 17.—Authorizing city of Calgary, Alta., to lay water pipe and sewer pipe under C.P.R. tracks at Eighth St. West, and Fifth St. West, respectively.

6405. Feb. 17.—Authorizing Calgary Gas Co. to lay gas main under C.P.R. tracks at Eighth St. West.

6406. Feb. 8.—Dismissing application of city of Winnipeg for authority to construct a bridge between Brown and Brant Sts., over C.P.R. yards, and directing the C.P.R. to contribute towards the cost of construction.

6407. Feb. 8.—Approving C.P.R. location line across road allowance on its Molson branch, between mile 99 and 124.

6408. Feb. 8.—Authorizing city of Winnipeg to construct crossings over the Louise Bridge spur at Talbot, Chalmers, Poplar and Gordon Sts., and over the old main line, or Selkirk branch, C.P.R., at Talbot, Chalmers and Nairn Sts., and ordering that all expense in connection with necessary grading, etc., be borne by the city.

6409. Feb. 8.—Dismissing application of D. A. Keizer, Engineer of St. Paul's municipality, for authority to lay a culvert under C.P.R. tracks at Rossmore Ave., lot no. 3, St. Paul's, Winnipeg.

6410. Feb. 19.—Authorizing Edmonton Radial Ry. to cross with its tracks the Edmonton, Yukon & Pacific Ry., at corner of Hardisty Ave. and Curry St., Edmonton, Alta.

6411. Feb. 19.—Dismissing application of East Clover Bar Branch of Alberta Farmers' Association, requiring railways to provide movable partitions in cars, to enable farmers to make individual shipments.

6412. Feb. 19.—Dismissing application of C.N.R. for authority to construct a spur from its main line to Cushing's mill and lumber yard, Edmonton, Alta.

6413. Feb. 19.—Approving location of C.P.R. branch line from Peave Ave. to Sixteenth St., along the south side of Mackenzie Ave., Edmonton, Alta.

6414. Feb. 19.—Authorizing city of Edmonton, Alta., to extend Sixteenth St. south, across C.N.R. lands and right-of-way, to join Sixteenth St. north of the said railway lands; and ordering that all expense in connection with the necessary grading, etc., be borne by the city, and that the C.N.R. shall receive no compensation for the use by the city of lands covered by the extension.

6415. Feb. 19.—Dismissing complaint of J. C. Haddock, Wabamun, Alta., that the G.T.P. Ry. Co. took possession of his lands on east half sec. 8, tp. 53, r. 4, w. 5 m., without full settlement.

6416. Feb. 19.—Dismissing application of J. Gainer & Co., Strathcona, Alta., for lower minimum weight on live hogs in double-decked cars; also for order authorizing C.P.R. to rebate to applicants excessive freight on two cars live hogs shipped from Wetaskiwin and Strathcona to Victoria, B.C.

6417. Feb. 19.—Dismissing complaint of C. Hind, Mannville, Alta., alleging excessive freight rates by the C.P.R. on a horse shipped from St. John, N.B., to Strathcona, Alta.

6418. Feb. 19.—Dismissing complaint of P. Reid, Blackfalds, Alta., that C.P.R. has removed gates andcut posts and wires where the railway affects his property, causing loss by cattle getting on the right-of-way and being killed.

6419. Feb. 19.—Dismissing application of city of Edmonton, for an order declaring that the plan, profile and book of reference of the C.P.R. location through Edmonton is not in accordance with the Railway Act, and that same be annulled.

6420. Feb. 19.—Dismissing complaint of United Farmers of Alberta that railway companies had not fenced their right-of-way, that grain cars are not provided with proper grain

ADDITIONAL SAFETY AND ECONOMY IN

TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints —after fourteen (14) years' service, having a record of over **50,000 miles in use** the extent of which is evidence of their excellence.

HIGHEST AWARDS
Paris, 1900;
Buffalo, 1901; St. Louis, 1904

CONTINUOUS JOINT

Over 50,000 miles in use

WEBER JOINT

Rolled from Best Quality Steel

WOLHAUPTER JOINT

CATALOGUES AT AGENCIES

Baltimore, Md. Boston, Mass. Chicago, Ill. Denver, Colo. Pittsburg, Pa.
San Francisco, Calif. Seattle, Wash. St. Paul, Minn. St. Louis, Mo. Troy, N.Y.

London, Eng. New York City.

THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES : BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base-Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, and Insulating Rail Joints, protected by Patents in U.S., Canada and Mexico.

Pintsch Light Steam Heat

Car lighting by the Pintsch System with improved mantle lamps and by Vapor lighting system for branch lines. Gas broilers, and ranges. Buoys.

The Safety Car Heating and Lighting Co.
2 RECTOR ST., NEW YORK.

Car heating by controllable direct steam and water circulating systems steam tight couplers, traps, train pipe valves and other appliances.

CHICAGO - BOSTON - ST. LOUIS - ATLANTA - PHILADELPHIA - MONTREAL - BERKELEY, CAL.

doors, that freight rates are excessive, that serious losses are sustained by reason of stock cars not being promptly spotted for unloading; and that in districts where new railway lines are being built, farmers are compelled to sustain heavy losses because the companies do not fence or protect their right-of-way while work is being done thereon.

6421. Feb. 19.—Authorizing G.T.P.R., on or before April 1, 1909, to construct a suitable temporary crossing for use of farmers desiring to cross the tracks with farm implements, between sections 12 and 13, tp. 53, r. 23, w. 4 m.; between mile 77 and 112; and that the temporary crossing shall be discontinued when the permanent subway is constructed.

6422. Feb. 17.—Authorizing the municipality of Didsbury, Alta., to open a street across Calgary and Edmonton Ry. right-of-way and tracks, in the line and of the width of Hespler St., in an easterly direction, to the easterly boundary of C. & E. R. lands, all expense in connection therewith to be borne by the municipality; any questions that may arise as to protection (if any) to be reserved for further consideration; and the crossing of the C. & E.R. lands at Waterloo St. shall not be affected by this order.

6423. Feb. 25.—Ordering the crossings in the village of West Lorne, Ont., be protected by gates to be installed by the M.C. Rd.; the gates to be controlled from a tower between the M.C.R. and Pere Marquette lines; detail plans to be submitted to engineer of Board; the gate operators to be appointed by the M.C. Rd., and the cost of installing gates and erecting tower to be borne equally by the M.C. Rd. and P.M. Rd.

6424. Feb. 25.—Ordering that the M.C. Rd.'s and Pere Marquette Rd.'s crossings in Dutton, Ont., be protected by gates.

6425. Mar. 1.—Authorizing the city of Calgary, Alta., to place its electric light and power wires across C.P.R. tracks at Eighth St. East, Calgary, Alta.

6426. Feb. 26.—Authorizing the C.P.R. to construct a branch line, or spur, from a point at chainage 141.77 on the Quebec section of its line, to the premises of Leroux Bros., lots 456 and 457; together with another spur commencing from a point on the first-mentioned spur 431 ft. in an easterly direction.

6427. Feb. 27.—Authorizing the Esquimalt and Nanaimo Ry. to construct a spur to the Shawinigan Lake Lumber Co.'s premises, lot 13, Malahat district, Vancouver Island, B.C.

6428. Feb. 27.—Authorizing C.P.R. to construct two branch lines, or spurs, on the s.e. quar. sec. 11, tp. 24, r. 1, w. 5 m., near Calgary Jct., Alta., for the Alberta Portland Cement Co.

6429. Feb. 27.—Authorizing C.P.R. to construct a branch line or spur in Abbottsford, B.C., to the Abbottsford Shingle Co.'s premises, on the n.e. quar. sec. 15, tp. 16, east coast meridian. B.C.

6430. Mar. 3.—Approving location of Kootenay Central Ry. from a point on the southern boundary of lot 109, G 1,547, to a point on the B.C. Southern Ry., north of Galloway, lot 3,063 A 320, East Kootenay, mileage 103.4 to mileage 173.29.

6431. Mar. 3.—Amending order 6160, Feb. 4, 1909, authorizing the Manitoba Government Telephones to cross C.P.R. tracks ¼ mile west of Brookdale, Man., by adding the following clause, viz.: "It is further ordered "that the poles on each side of the track be "guyed back so as to make it impossible for "them to fall on the track."

6432. Mar. 3.—Authorizing the Bell Telephone Co. to place its wires across T.H. & B. Ry. tracks ½ mile northwest of Chantlers station, Ont.

6433. Mar. 3.—Authorizing the C.N.O.R. to erect telegraph wires across Bell Telephone Co.'s wires, lot 20, con. 2, tp. Alfred, Ont.

6434. Mar. 3.—Authorizing A. B. Greenwood to place a telephone line across G.T.R. tracks at side road between lots 20 and 21, con. 7, North Gwillimbury, Ont.

6435 to 6438. Mar. 2.—Authorizing the Hamiota rural municipality, Man., to place wires across G.T.P.R. tracks at four points.

6439. Mar. 2.—Authorizing the city of Winnipeg to lay a sewer under C.N.R. tracks, where the same intersect Lombard St., known as the Winnipeg Transfer Ry.

6440. Feb. 25.—Ordering that the crossings of the highway by the M.C. Rd. and P.M. Rd., in Rodney, Ont., be protected by folding fence gates.

6441. Feb. 17.—Dismissing application of city of Calgary respecting subway under C.P.R. tracks at Osler St., and First St. East, Calgary, Alta.

6442. Feb. 19.—Dismissing application of H. Harvey, Strathcona, Alta., alleging loss sustained on certain goods shipped from Edmonton to a flag station on the C.N.R.

6443. Feb. 8.—Directing the C.N.R. to stop the train known as the "St. Paul Flyer" at St. Agathe, Man.; and to stop no. 7, due to arrive at Winnipeg at 7.25 a.m., at St. Agathe.

6444. Feb. 19.—Dismissing complaint of J. Gainer & Co., Strathcona, alleging excessive freight rates charged by the C.P.R. on live stock from Wetaskiwin, Alta., to Winnipeg, Man.

6445. Feb. 19.—Limiting approval of G.T.P.R.'s location plan, sec. 17, tp. 53, r. 23, w. 4 m., through Edmonton, known as its freight line, to 50 ft. on either side of the centre line as appearing upon the said plan.

6446. Feb. 19.—Dismissing complaint of H. A. Glaspell, alleging delay in delivery of express parcels by the Dominion Express Co., at Vegreville, Alta.

6447. Mar. 3.—Approving location of C.P.R. Touchwood Hills branch, from a point in sec. 15, tp. 28, r. 7, w. 2 m., at Theodore, Sask., to a point in sec. 30, tp. 28, r. 10, w. 2 m., and thence to a point in sec. 20, tp. 32, r. 17, w. 2 m., on the Quill Lakes branch.

6448. Mar. 3.—Authorizing the Chatham, Wallaceburg & Lake Erie Ry. to operate its trains over the crossing under the M.C. Rd. tracks on west side of Town Line Road, near Charing Cross, Ont.

6449. Mar. 2.—Approving revised location of C.P.R., mileage 1 to mileage 12.3, between Broadview and Grenfell, Sask.

6450. Mar. 2.—Approving location of Burk's Falls & French River Ry., from station 0 to station 55, lot 3, con. 1, Armour tp., Parry Sound district, Ont.

6451. Mar. 2.—Authorizing C.N.O.R. to open for traffic that portion of its railway between Rosedale and Queen St., Toronto, Ont.

6452. Mar. 2.—Amending order 5568, Nov. 3, 1908, by adding after the word "crossing" in the 6th line of paragraph 1, the words, "or by establishing electric connection by any other device or method which will indicate whether or not the bell is in good working order." This order refers to electric bells at crossings. See Dec., 1908, pg. 867, Jan., pg. 13.

6453. Feb. 19.—Dismissing complaint of C. N. Corbett, Edmonton, Alta., alleging excessive express charges by express companies in the west.

6454. Mar. 3.—Authorizing C.P.R. to construct a branch line or spur in St. Louis, Montreal parish, Que., to the Hartt & Adair Coal Co.'s premises.

6455. Mar. 3.—Authorizing the G.T.R. to construct four branch lines from a point on its branch to the premises of the Erie Realty Co., and of other traders north of Eastern Ave., Toronto, and thence westerly to Lever Bros.' premises, south of Eastern Ave.

6456 to 6460. Mar. 3.—Authorizing the Canadian Machine Telephone Co. to place its wires across T.H. & B.R. tracks at 5 points in Brantford, Ont.

6461. Mar. 3.—Authorizing the Alberta Government to place wires across the Edmonton, Yukon & Pacific Ry. tracks, 1½ miles east of Strathcona, between secs. 22 and 27, tp. 52, r. 24, w. 4 m.

6462. Mar. 3.—Authorizing Great Northwestern Telegraph Co. to place its wires across G.T.R. tracks, leading from its main tracks to Canadian Ship Building Co.'s yards, Bathurst St., Toronto.

6463. Mar. 3.—Authorizing Manitoba Government Telephones to place wires across C.P.R. tracks ½ mile west of Minnedosa station, Man.

6464. Feb. 4.—Authorizing G.T.R. to connect its tracks with the Hamilton Radial Ry. tracks near Burlington, Ont.

6465. Feb. 4.—Authorizing the Hull Electric Ry. to cross C.P.R. tracks in Hull, Que.

6466. Feb. 25.—Ordering that an electric bell be installed at the crossing of L'Esperance Road, Tecumseh, Sandwich East tp., Ont., by the G.T.R.; cost of installation, to an amount not exceeding $300, to be borne by the township, and the maintenance to be at the expense of the G.T.R.

6467. Mar. 5.—Authorizing the Chatham, Wallaceburg & Lake Erie Ry. to open for traffic portions of its line on Union St., Aberdeen Bridge, King, Third and Raleigh Sts., from Raleigh St. to William St., and on William and Queen Sts., Chatham, Ont.

6468. Mar. 5.—Approving P.M. Rd.'s Standard Passenger Tariff, C.R.C. 190.

6469. Mar. 5.—Authorizing C.P.R. to use and operate 25 bridges on its Toronto-Sudbury line.

6470. Mar. 5.—Authorizing C.P.R. Co. to construct a branch line or spur to the Okanagan Produce Co.'s premises, lots 4, 3 and 2, block 24, Vernon, B.C.

6471. Mar. 8.—Authorizing C.N.R. to connect its Hallboro extension with its Neepawa branch, near Hallboro.

6472 to 6474. Mar. 8.—Authorizing Bell Telephone Co. to erect its wires across the Central Ontario, C.P., and Brockville, Westport and N.W. Rys., at various points in Ontario and Quebec.

6475. Mar. 8.—Authorizing B.C. Telephone Co. to erect wires across E. and N.R. at Nanaimo, B.C.

6476, 6477. Mar. 8.—Authorizing Caradoc and Ekfred Telephone Co. to erect wires across the M.C.Rd. and G.T.R. at two points in Ontario.

6478. Mar. 6.—Authorizing C.P.R. to use 23 bridges on its Guelph and Goderich line.

6479. Mar. 6.—Authorizing South Leeds and Pittsburg Telephone Co. to erect wires across Thousand Islands Ry.

6480. Mar. 8.—Approving location of C.N.O. through Hardy, McConkey and Blair tps.

6481. Mar. 8.—Authorizing C.P.R. to use bridges on its Ottawa section, over Mill Creek and Back River.

6482. Mar. 8.—Authorizing C.P.R. to use 41 bridges on its Quebec section, between mileage 10.1 and 151.0.

6483. Mar. 8.—Authorizing C.P.R. to construct bridges over Lachine Canal, Montreal, near Ogilvie Flour Mills Co.'s premises; and rescinding order 6266, Feb. 16.

6484. Mar. 6.—Authorizing C.N.R. to construct its Hallboro branch across the C.P.R. Rapid City branch, in Manitoba.

6485. Mar. 6.—Authorizing G.T.R. to construct spur line to F. A. Laurie's premises, Lot 28, Parry Sound district, Ont.

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.

The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.

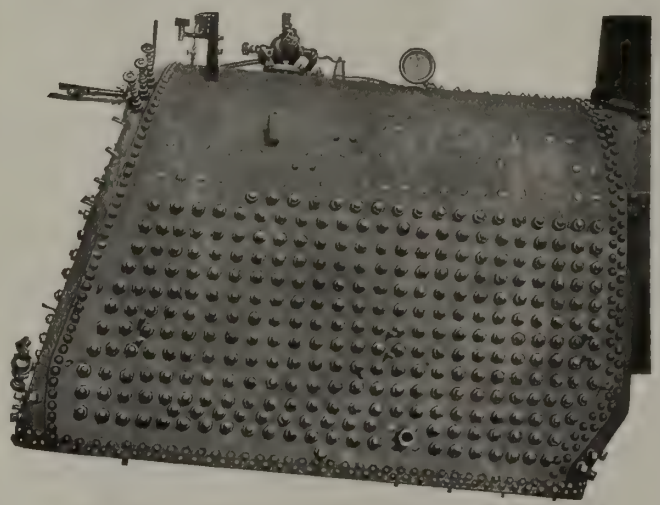
THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

AMERICAN BRAKE SHOE AND FOUNDRY COMPANY

NEW YORK MAHWAH, N.J. CHICAGO, ILL.

N. J. HOLDEN & CO., Agents, 302 St. James St., MONTREAL



AN INSTALLATION OF THE TATE FLEXIBLE STAY

THE TATE FLEXIBLE STAYBOLT.

THE PERFECT STAY

For Locomotive Fire Boxes

Over a million and a half bolts in service on over 100 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited
TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, = Pittsburgh, Penn., U.S.A.

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

6486. Mar. 6.—Authorizing C.P.R. to construct spur line for C. G. Johnson, in Vancouver, B.C.

6487. Mar. 9.—Authorizing G.T.R. to construct spur line to W. D. Morris' premises, Ottawa, Ont.

6488. Mar. 8.—Temporarily approving agreements of the Bell Telephone Co. with various rural telephone companies, provided tolls are not higher than those charged immediately previous to July 13, 1906, and authorized by law to charge.

6489. Mar. 8.—Authorizing city of Calgary, Alta., to erect light and power wires across C.P.R. at 8th St.

6490. Mar. 8.—Ordering that tender trucks (weighing 100,000 lbs. or over when loaded) of steam locomotives used in passenger service be equipped with steel-tire wheels on or before Dec. 1, 1909.

6491. Mar. 9.—Authorizing S. Hollingsworth, of Blueberry Creek, Castlegar, B.C., to lay wooden pipe under C.P.R.

6492. Mar. 8.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at Kent St., Simcoe, Ont.

6493. Mar. 9.—Authorizing Credit Municipal Canadien to lay pipes under G.T.R. at the Upper Lachine Road, Rockfield, Que., near boundary line between town of St. Pierre and Montreal West, and west of the Simplex Ry. Appliance Co.'s works at St. Pierre aux Liens, Que.

6494. Mar. 6.—Authorizing G.T.R. to construct spur lines to the Dyment-Mickle Lumber Co.'s premises, Nipissing district, Ont.

6495. Feb. 19.—Authorizing G.T.P.R. to take parts of various lots in the n.w. ¼ of sec. 18, tp. 53, north range 24, w. 4th mer., Edmonton, Alta.

6496. Mar. 11.—Authorizing C.P.R. to construct spur line to Columbia River Lumber Co.'s premises near Tappen, B.C.

6497. Mar. 11.—Authorizing C.P.R. to construct spur line to Manitoba Gypsum Co.'s premises, Winnipeg.

6498. Mar. 10.—Authorizing Bell Telephone Co. to erect wires across C.V.R. ½ mile west of Farnham, Que.

6499. Mar. 12.—Authorizing C.P.R. to divert original road allowance between secs. 25 and 26, tp. 16, r. 5, w. 2nd mer., Sask.

6500. Mar. 9.—Authorizing C.P.R. to construct spur line to Montreal Light, Heat and Power Co.'s premises, Montreal.

6501. Mar. 12.—Authorizing Winnipeg Electric Railway Co. to cross, at rail level, the C.P.R. line across Logan Ave., Winnipeg.

6502. Mar. 12.—Dismissing application of Toronto and Niagara Power Co. for approval of location of transmission line from Cainsville to Brantford, Ont.

6503. Mar. 11.—Authorizing C.N.O.R. to permanently divert side road lying between lots 13 and 14, con. 1, Gloucester tp., Ont.

6504. Mar. 9.—Authorizing N., St. C. & T. Ry. to connect its tracks with T.H. & B. Ry. tracks in Crowland tp., Ont.

6505. Mar. 12.—Directing Montreal Light, Heat and Power Co. to remove power wires placed across C.P.R. in vicinity of Lachine canal, Que.

6506. Mar. 12.—Authorizing C.P.R. to use bridge 37A on its Webbwood section, Ont.

6507. Mar. 12.—Authorizing C.P.R. to use bridge at mileage 27.34 and at highway crossing at Nelson St., Sudbury, on its Cartier section, Ont.

6508. Mar. 12.—Authorizing C.P.R. to use bridges 5.5 and 27.6 on its Teeswater section, Ont.

6509. Mar. 12.—Authorizing C.P.R. to use five bridges, 2.2, 6.8, 23.8, 27.3 and 30.1, on its Orangeville branch, Ont.

6510 to 6512. Mar. 12.—Authorizing C.P.R. to use certain bridges on its Sault Ste. Marie, Port Burwell and North Toronto branches, Ont.

6513. Mar. 12.—Authorizing Manitoba Government Telephones to cross G.T.P.R. 4½ miles east of St. Boniface station.

6514. Mar. 12.—Authorizing G.T.R. to construct spur line to Shirback, Connor & McLachlan's premises, Himsworth tp., Ont.

6515. Mar. 13.—Authorizing Wood Products Co. of Canada, Ltd., to erect wires across G.T.R. at Donald, Haliburton, Ont.

6516. Mar. 12.—Authorizing C.P.R. to use six bridges on its Owen Sound section, Ont.

6517. Mar. 12.—Authorizing Central Ontario Ry. to construct spur line to R. J. Graham Co.'s premises, Frankford, Ont.

6518. Mar. 9.—Authorizing C.N.O.R. to build across six highways in Gloucester tp., Ont.

6519. Mar. 12.—Authorizing Saraguay Electric Light and Power Co. to erect wires across C.P.R. in Notre Dame municipality, Hochelaga County, Que.

6520. Mar. 15.—Approving C.P.R. plans for proposed rearrangement of interlocking plant at Richmond St., London, Ont., at crossing of London St. Ry.

6521. Mar. 12.—Authorizing Northern Colonization Ry. (C.P.R.) to build across highways and divert certain portions of the highways between Nomingue, Que., and ten miles n.w.

6522. Mar. 16.—Authorizing municipality of Hamiota, Man., to erect wires across C.P.R. near Hamiota.

6523. Mar. 13.—Authorizing G.T.R. to build a bridge and approaches for vehicular traffic, on A. M. Dickie's farm crossing, in London tp., Ont.

6524. Mar. 16.—Authorizing Wainfleet tp., Ont., to lay culvert under G.T.R.

6525. Mar. 16.—Authorizing Essex Terminal Ry. to join its track with the C.P.R. at or near McDougal St., Sandwich West tp., Ont., and amending order 5204, by striking out the words "on the gravel road."

6526. Mar. 16.—Authorizing the G.T.R. to construct spur to C. A. Larkin's premises, Toronto.

6527. Mar. 16.—Authorizing C.P.R. to construct spur line in Stonewall, Man., to A. Patterson & Co.'s premises.

6528. Mar. 16.—Authorizing Bell Telephone Co. to erect wires across C.P.R. near Farnham, Que.

6529. Mar. 16.—Approving location of C.P.R. proposed new station and freight shed at Weston, Ont.

6530. Mar. 17.—Approving location of C.N.O.R. through Roberts tp., Ont.

6531. Mar. 17.—Directing G.T.R. to construct and operate spur line to Christie, Henderson & Co.'s premises, Toronto.

6532. Mar. 17.—Authorizing C.P.R. to build across highways in Bentinck tp., Ont.

6533. Mar. 17.—Approving temporarily agreements of Bell Telephone Co. with various rural telephone companies, provided that the tolls charged by same are not higher than was charged immediately previous to July 13, 1906, authorized by law.

6534. Mar. 18.—Approving location of Q.M. & S.R. new station at Sorel, and Pierreville, Que.

6535. Mar. 18.—Rescinding order 6490, of Mar. 8, 1909, in regard to engines weighing 100,000 lbs. or over being equipped with steel-tire wheels, on or before Dec. 1, 1909.

6536. Mar. 9.—Authorizing St. Mary's & Western Ont. Ry. to construct spur line to D. Maxwell & Sons' premises, St. Mary's, Ont.

6537. Mar. 16.—Authorizing C.P.R. to build across certain highways in Bentinck tp., Ont.

Abandonment of Locomotive Works Project.

In regard to the proposal of Beyer, Peacock & Co., Ltd., of Manchester, Eng., to establish locomotive works near Montreal, which was considerably discussed towards the end of 1907, the following extract from the remarks of Sir Vincent Caillard, Chairman of Directors at that company's recent annual meeting, will be of interest: "I come now to capital expenditure in suspense. At the general meeting last year I gave a full explanation of what this item comprised, and I may, perhaps, be allowed to express our regret that the project we then had in view with regard to Canada has not been carried out. This disappointment most certainly cannot be ascribed to any lack of encouragement on the part of the Canadian railway companies—and I am glad to have this opportunity of stating that in public—nor can it be ascribed to any want of energy on our part. I should like to add, with regard to the Canadian companies, that they treated us with every courtesy and kindness and gave us a warm welcome, but circumstances arose beyond our control. I need scarcely remind you of the financial crisis, the effects of which extended far into last year, and that trade depression reigned throughout the year, and is still with us. Circumstances arose, I say, beyond our control, which led us reluctantly to the conclusion that we had better abandon our Canadian project. I explained last year that even if we should have to abandon this scheme, there would be scarcely any, if any, risk of loss, and I am glad to repeat that statement now.".

Railway Commissioners' Titles.—An Ottawa press despatch of Mar. 9 says: "The Railway Commission has proclaimed itself a democratic body, and does not want to be addressed as 'their Lordships,' etc., but orders the presiding officer to be addressed as 'Mr. Chairman,' and the others as 'Mr. Commissioner.'" In our Oct., 1908, issue, we gave authoritative information as to the use, or misuse, of titles in this connection, in the hope that we might induce our contemporaries to conform to the rules of etiquette, but the frequent and recent use of the prefix "Judge," "Mr. Justice," or "The Hon.," when referring to the Chief Commissioner, makes us feel that our effort in that direction has been largely in vain.

Steel Tire Wheels for Tenders.—The Board of Railway Commissioners passed the following order 6535, Mar. 18: In pursuance of the powers conferred upon the Board by secs. 30 and 264 of the Railway Act, and of all other powers possessed by it in that behalf; and upon the report and recommendation of the Inspector of Railway Equipment and Safety Appliances, it is ordered that tender trucks where the tender when loaded (weighs 100,000 lbs. or over) of locomotives used in passenger service by companies operating railways by steam power, under the legislative authority of the Parliament of Canada, be equipped with steel-tire wheels on or before Dec. 1, 1909; and that the use in such service on or after Dec. 1 next, of tender trucks (where the tender when loaded weighs 100,000 lbs. or over) of locomotives equipped with cast-iron wheels, be prohibited, except in cases of emergency, in which it may be necessary to use the same to take trains to divisional or terminal points. And it is further ordered that every such railway company be liable to a penalty not exceeding $100 for each and every failure to comply with the foregoing regulations within the time of its coming into force and thereafter. This order rescinds order 6490 passed Mar. 8, the only difference between the two being a slight verbal one.

THE ALGOMA STEEL CO., LIMITED

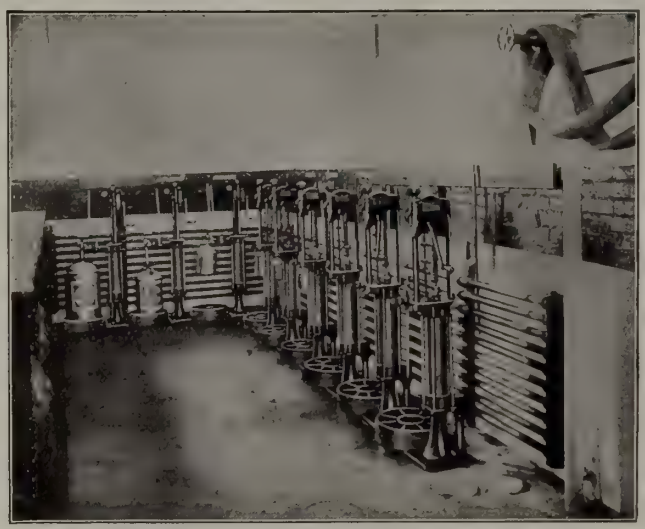
SAULT STE. MARIE, ONTARIO

IS NOW BOOKING ORDERS FOR **STEEL RAILS** FOR DELIVERY DURING THE SEASON OF 1909

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to ensure desired deliveries.

Office:
CANADA LIFE BUILDING,
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS



BOWSER PUMPS IN A RAILWAY STOREHOUSE

FIRE-PROOF OIL STORAGE

When your oils are stored by the Bowser System, you know they can never be the source of a fire—

What is more, fire starting from some other source cannot get to the oils.

These are only two results of

THE BOWSER SYSTEM

The Bowser is constructed so as to secure the measure of safety prescribed by the National Board of Fire Underwriters.

Equipments for Railway Oil Houses described in Bulletin 18. Send for it.

S. F. BOWSER & CO., LIMITED
66-68 FRASER AVENUE, - - TORONTO

THE
NEW HOTEL BREVOORT
CHICAGO

The Twentieth Century Hotel — Absolutely Fireproof

Centrally Located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG,
PROPRIETORS

ARTHUR M. GRANT,
MANAGER

Canadian Northern Ry. Construction, Etc.

Canadian Northern Quebec Ry.—The Board of Railway Commissioners has ordered the company to effect considerable improvements on its Montford branch between St. Jerome and Arundel, Que. The length of line covered by the order is about 40 miles, but the first 10 miles is reported to be comparatively good. Guy Tombs, the company's General Freight and Passenger Agent, stated subsequently that workmen were busy all last summer ballasting the track, digging ditches, erecting new stations and doing other work. New and heavier rails had been purchased in the fall; these had been delivered and were ready to be laid as soon as the spring opened up. Other betterments would be gone on with during the season.

The Canadian Northern Ontario Ry. has under construction on the wharf at the foot of York St., Toronto, a freight warehouse 350 by 40 ft., and one story high.

The Ontario Premier announced in the Legislature, Mar. 18, that the Government had decided to aid the C.N.O. Ry. to the extent of 4,000 acres a mile, or a total of 2,000,000 acres, for the construction of a line from Sudbury to Port Arthur, a distance of about 500 miles, the line to be constructed through the great clay belt. The company, said the Premier, asked for a land grant and for a guarantee of bonds. The Government decided to decline to guarantee any bonds, and to offer to the company a grant of 4,000 acres a mile, provided it proceeded at once with the construction of the 500 miles of railway, and to carry it through the southern portion of the great clay belt. The Government would retain the pine timber and minerals on the land granted, and the right to say when and at what price the land is to be put on the market for sale. If the company agreed to these terms, a bill would be prepared and laid before the house for approval.

A deputation from the western part of the province waited on the Government, Mar. 17, and asked that a generous subsidy be granted the company. Prior to this the company had, in response to the request of the Government, submitted a proposal, with respect to the construction of the line, asking for a cash subsidy of $3,000 a mile and 7,500 acres of land a mile, or a guarantee of bonds.

President Mackenzie, in an interview, Mar. 17, said: "If what I hear is true concerning the restrictions put upon the land grant, then the thing is almost valueless to us. The land up there, according to the general idea, is not much use anyway, and if we are to be bound by all sorts of restrictions in handling it, then the aid they give us will be practically nil."

Canadian Northern Ry.—Plans have been deposited with the Dominion Minister of Public Works, showing the location of a proposed steel dock at Port Arthur, Ont., upon the water lots lying between the north side of Park St., produced, and the south side of Lincoln St., produced.

A bill is before the Manitoba Legislature providing for the guarantee of bonds for the construction of 210 miles of line. The bond issue will be at the rate of $13,000 a mile. The bill also provides for the guarantee of $3,000,000 of bonds for terminal purposes. The station and terminals under construction, for which the guarantee of bonds is given, are to be used jointly by the C.N.R., the National Transcontinental Ry., and the Grand Trunk Pacific Ry.

We are advised that the company has not yet taken into serious consideration the question of electrifying its new shops at Winnipeg. A press report stated that the company had announced that its shops would be electrified in the near future, and that power would be supplied from the Winnipeg Electric Ry. plant at Lac du Bonnet.

A delegation from the territory north of Oak Point, Man., recently waited upon the Manitoba Government to urge the completion of the branch from Oak Point. Track has been laid as far as Lundar, and the delegation asked that it be extended along the lake shore to the narrows of Lake Manitoba, instead of directly northerly as previously intended.

Duluth, Winnipeg and Pacific Ry.—A company with this title was registered at St. Paul, Minn., Mar. 19. It has been organized for the purpose of constructing a line from Virginia, the southern terminus of the Duluth, Rainy Lake and Winnipeg Ry., to Duluth, Minn. The D.R.L. and W. Ry. was lately acquired by the Canadian Northern Ry.

Alberta Midland Ry.—The Alberta Legislature has passed an act incorporating a company with this title for the purpose of constructing a number of railways in the province. In the course of the discussion in committee, it was stated that the lines mentioned in the bill were those covered by the charter of the Alberta Central Ry., a company holding a Dominion charter, and that they were extensions of the Canadian Northern Ry. The routes of the various lines mentioned in the bill as it came before the committee were as follows: From Strathcona via Calgary to the confluence of the Little Bow and Belly Rivers, thence southerly to Lethbridge, with a branch from near Bittern Lake northeasterly to Vegreville; a branch from the crossing of the Little Bow River, southerly via Macleod to the southern boundary of the province; a branch from the last mentioned line between Macleod and the crossing of the Belly River, westerly to the western boundary of the province; a branch from between Cardston and the southern boundary of the province, to the western boundary of the province. In passing through committee provision was made for the construction of the following additional lines: From Calgary to Banff; from Cochrane northerly to join the C.N.R. at Pigeon Lake; an extension into Wetaskiwin; an extension to Nanton; and an extension from Content to Red Deer and on to Rocky Mountain House.

The Government Act for the guaranteeing of C.N.R. bonds to the extent of $13,000 a mile, provides for the construction of 850 miles of line, and covers practically the whole of the lines mentioned in the bill. In the discussion before the Legislature it was stated that the C.N.R. would commence the construction of the Athabasca Landing extension, and the line from Vegreville to Camrose and Calgary this season, and might possibly construct the lines in the Crow's Nest Pass country. (Mar., pg. 183. See also Saskatchewan and Alberta Railways, Feb., pg. 125.)

Level Crossings Protection.—The House of Commons has passed a bill providing for the appropriation by the Government of $200,000 a year for five consecutive years for the purpose of "aiding in the providing of protection, safety and convenience for the public in respect of existing highway crossings at rail level." The sums voted are to be placed to the credit of The Railway Grade Crossing Fund, and to be applied under the authority of the Board of Railway Commissioners. The Board may fix the amount the Dominion shall pay up to 20% of the cost of elimination and not exceeding $5,000 for each crossing not to exceed four tracks; where there are five or more tracks it is to be regarded as two crossings. Not more than three crossings in any one municipality will be eliminated in any one year. The act provides that municipalities shall contribute towards the elimination of the crossings, but the percentage to be contributed is not fixed.

TRADE AND SUPPLY NOTES.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

The Canadian Pilling Co. has recently installed a turntable tractor at the C.P.R.'s Quebec roundhouse. This makes 32 installed on the C.P.R. system at various points.

E. L. Dyer has issued a booklet, "How to test wire, how to build fences and about concrete posts," which can be obtained by mailing 10c. in stamps or coin to him at King St. and Atlantic Ave.

The Northern Electric and Manufacturing Co., Ltd., Montreal, has been awarded the contract for supplying and installing a Western Electric alternator, exciter and switchboard equipment for the town of Iberville, Que.

The Goldschmidt Thermit Co., 103 Richmond St. West, Toronto, has issued a 36 pg. booklet, "Instructions for the use of Thermit in Railroad Shops," which should prove of interest to railway mechanical men. A copy will be sent on application.

The Holden Co., Ltd., has been incorporated under the Dominion Companies Act, with $45,000 capital stock and head office in Montreal, to acquire the business heretofore carried on by N. J. Holden Co., Ltd., and to carry on a general railway and contractors' supply business, etc.

The Meaford Wheelbarrow Co., Ltd., Meaford, Ont., has secured the Canadian rights to manufacture the line of roller bearing wheelbarrows and concrete carts made by the Sterling Wheelbarrow Co., of Milwaukee, Wis., and will offer the same to the general trade.

The B. Greening Wire Co., Ltd., Hamilton, Ont., is installing electric welding machinery in its works for the more economical welding of the iron frames for their wire door mats, wire guards, tellers' cages, etc., and for the wire chain fittings, and the welding of wire generally.

C. F. Medbury, until recently Manager of the Westinghouse Electric and Manufacturing Co.'s office, has been appointed Manager of the Canadian Westinghouse Co.'s Montreal office, suceeding H. D. Bayne, who recently resigned, and who has since sailed on an extended tour through Europe.

The B. Greening Wire Co., Ltd., Hamilton, Ont., has in press a series of illustrated catalogues of goods manufactured in its various departments. The first one relates to the wire screening, wire cloth and perforated metal departments. It is copiously illustrated, and contains a number of useful tables, which will prove of value to anyone interested in screening wire cloth, or perforated metals. Copies will be sent by the B. Greening Wire Co., on request, to any address.

Owing to the rapid increase in the export business of The Page Wire Fence Company of Walkerville, Ont., since the introduction of its Empire white fencing for railway, farm and ranch use, it has been thought best to have the foreign business handled by a company of a name similar to that of the fencing, and to this end The Empire Fence Export Co., Ltd., has been formed. It is owned and controlled by the same people as the old company. The head office and factory will be at Walkerville, Ont.

MONTREAL

MARITIME EXPRESS

Leaves MONTREAL 12.00 noon
DAILY EXCEPT SATURDAY

QUEBEC

INTER COLONIAL

THE FAST LINE
THE PEOPLE'S RAILWAY

ST. JOHN
HALIFAX

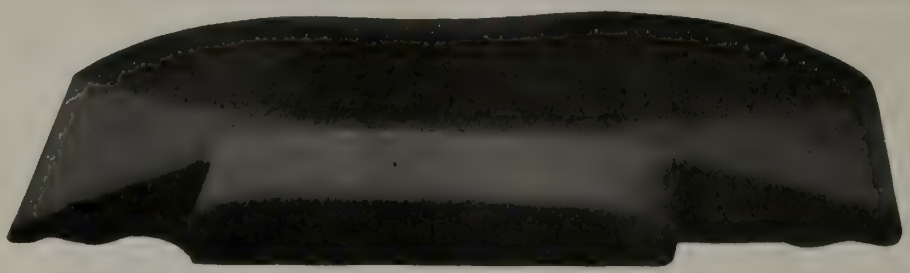
NOTED FOR EXCELLENCE
SLEEPING AND DINING CAR SERVICE

THE SYDNEYS

FOR RESERVATIONS, TICKETS, TIMETABLES, ETC., APPLY TO

TORONTO TICKET OFFICE
51 KING STREET EAST

GENERAL PASSENGER DEPT.
MONCTON, N.B.



GOES INSIDE THE RAIL

GOES OUTSIDE THE RAIL

WASHBURN REPLACERS

MADE IN CANADA

TAYLOR & ARNOLD
MONTREAL

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING
232 ST. JAMES STREET,

MONTREAL

TRANSPORTATION APPOINTMENTS.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian Northern Quebec Ry.—Quebec and Lake St. John Ry., W. D. Barclay, General Manager Halifax and Southwestern Ry. and Inverness Ry. and Coal Co., has also been appointed General Manager Canadian Northern Quebec Ry., and Quebec and Lake St. John Ry. Office, Quebec, Que.

W. W. Johnston, heretofore chief claims clerk, has been appointed Contracting Freight Agent. Office, Quebec.

H. McDonald has been appointed chief claims clerk, in charge of freight claims, vice W. W. Johnston, promoted. Office, Quebec.

G. E. Beekman has been appointed New England Passenger Agent. Office, 336 Washington St., Boston, Mass.

E. F. Tarbox has been appointed Travelling Passenger Agent. Office, 336 Washington St., Boston, Mass.

Canadian Pacific Ry.—M. McD. Duff has been appointed Assistant to the Manager, C.P.R. Steamship Lines, with office at Montreal. The Manager, A. Piers, has his office in Liverpool, Eng.

F. A. Gascoigne, heretofore Car Accountant, has been appointed Superintendent Car Service, Eastern Lines. Office, Montreal.

J. D. Altimas has been appointed Car Accountant, vice F. A. Gascoigne, promoted. Office, Montreal.

A. S. Maynard has been appointed Chief Commissary Agent, in charge of the purchasing of commissary supplies for the company's hotels, steamships and dining cars. The office is a branch of the Purchasing Department. Office, Montreal.

L. Fisher, heretofore Road Foreman of Locomotives, Saskatoon, Sask., has been appointed Road Foreman of Locomotives, Souris, Man., vice J. Scott, transferred.

J. Scott, heretofore Road Foreman of Locomotives, Souris, Man., has been appointed Road Foreman of Locomotives, Saskatoon, Sask., vice L. Fisher, transferred.

Jno. McRae has been appointed roundhouse foreman, Revelstoke, B.C., vice G. Chapman, resigned.

G. H. Tedlock has been appointed Locomotive Foreman, North Bend, B.C., vice D. Inches, resigned.

H. Vollans, heretofore Assistant Roadmaster, has been appointed Roadmaster, Cascade section, Pacific Division, vice A. Munro, deceased.

O. Johnson has been appointed Assistant Roadmaster, Cascade section, Pacific Division, vice H. Vollans, promoted.

H. M. Tait has been appointed Travelling Passenger Agent, C.P.R. Steamship Lines, for the State of Washington, with office at Seattle.

Grand Trunk Pacific Ry.—G. W. Robb, heretofore General Foreman Motive Power, G.T.R., Ottawa, has been appointed Assistant Master Mechanic, G.T.P.R. Office, Rivers, Man.

W. J. McKee, heretofore Locomotive Foreman, G.T.R., Hamilton, Ont., has been appointed Locomotive Foreman, G.T.P.R., Melville, Sask.

Grand Trunk Ry.—D. J. McCuaig, heretofore Locomotive Foreman, Ottawa, has been appointed General Foreman Motive Power Department, at Ottawa, Ont., vice G. W. Robb, resigned to enter G.T.P.R. service. No successor to D. J. McCuaig as Locomotive Foreman has been appointed and he will discharge the duties of both positions.

W. W. Yeager, heretofore leading machinist, Hamilton, has been appointed Locomotive Foreman, Hamilton, Ont., vice W. J. McKee, resigned to enter G.T.P.R. service.

The following agents have been appointed: St. Paul, Que., W. T. Parker; Dominion, Que., W. J. Mallett; Convent, Que., W. J. Mallett; River Beaudette, Que., J. A. Perrier; Morrisburg, Ont., G. A. Godfrey; Omemee Junction, Ont., J. M. Rutherford; Scotia Junction, Ont., S. Blatherwick; Mimico, Ont., W. E. Millar; Thorold, Ont., J. W. Ralston; Norwich, Ont., I. J. Heldman; Amherstburg, Ont. (outside agency), R. L. Kitchen; Goldstone, Ont., R. J. Hyde; Port Huron (Pass.), Mich., C. R. Clarke.

Intercolonial Ry.—A. J. Tingley, heretofore Police Inspector, has been appointed acting Special Agent, vice E. A. Williams, Special Agent, resigned to enter the Thiel Detective Agency service.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—E. Pennington, Vice-President and General Manager, has been elected President, vice T. Lowry, deceased. Mr. Pennington will continue to act as General Manager.

Niagara Gorge Rd.—E. S. Jerred has been appointed Canadian Travelling Passenger Agent, with office at Toronto, vice C. Graves, resigned.

Quebec and Lake St. John Ry.—See Canadian Northern Quebec Ry.

Temiskaming and Northern Ontario Ry.—S. B. Clement, heretofore Assistant Engineer, has been appointed Chief Engineer, vice G. A. McCarthy, resigned to enter private business. Office, North Bay, Ont.

The Western Canada Railway Club, which was recently formed in Winnipeg, held its inaugural meeting at the Royal Alexandra Hotel, Mar. 9. The proceedings were opened by an address from the Honorary President, W. Whyte, Second Vice-President C.P.R. A paper was read by G. J. Bury, General Manager C.P.R. Western Lines, entitled "A Review of Organizations and a Suggestion," which dealt with the history of labor organizations, and indicated their relation to rail way operation. A number of the members took part in the discussion, which was summed up by the Honorary President.

Canada Port, Docks, Storage and Warehouse Co.—Application is being made to the New Brunswick Legislature for an act incorporating a company with this title, with offices at St. George, N.B., and a capital of $99,000. The company is asking for very extensive powers, to construct docks, warehouses, elevators and all terminal facilities. The provisional directors are: G. W. Marsh, W. L. E. Marsh, J. Doust, Toronto; R. W. Agnew, C. H. Clarke, New York city. Two of the Toronto directors, Marsh and Marsh, some years ago were interested in a venture to establish a steamship line between Maritime Province ports and the West Indian Islands, and latterly were interested in a venture to acquire a controlling interest and rights at Letang, N.B.

Sir Thos. G. Shaughnessy, President C.P.R., stated recently that the company had invested $5,000,000 of its surplus funds in Dominion 10-year 3¾ % debentures.

E. de la Hooke, Secretary-Treasurer Canadian Ticket Agents' Association, London, Ont., has nearly recovered from a heavy fall on the ice on Mar. 9, which injured his hip.

The G.T.R., according to a Montreal dispatch, has decided to obey the Imperial Privy Council's judgment, by putting on a third-class passenger service between Montreal and Toronto at 2c. per mile.

The annual meeting of the Montreal Warehousing Co. was held Mar. 3. Following are the directors for the current year: C. M. Hays, President; E. H. Fitzhugh, Vice-President; W. M. Ramsay, J. W. Loud, W. Wainwright.

The C.P.R. Y.M.C.A. building at Kenora, Ont., was opened recently by Wm. Whyte, Second Vice-President C.P.R. The building is a substantial one and well equipped, special attention being paid to the living and boarding accommodation.

The monthly meeting of the Canadian Railway Club was held in Montreal, Mar. 2, when a paper was read by E. E. Lloyd, Chief Clerk office of Auditor of Stores and Mechanical Accounts, C.P.R., entitled Shop Timekeeping and Labor Distribution.

It is reported from Mexico City, that Sir Wm. C. Van Horne and associates have purchased the Pan-American Rd., and that it is their intention to extend it to a connection with the Guatemala Ry. system, and to construct branch lines in Mexico.

An order for the winding-up of the Spanish River Navigation Co. was made in Toronto Mar. 23. The company's affairs are said to be in a bad condition. P. H. B. Dawson, of Sault Ste. Marie, is appointed provisional liquidator, and reference is to the Local Master at Sault Ste. Marie.

Peter Fountain, a G.T.R. freight conductor, of Sarnia, pleaded guilty at the Stratford, Ont., Police Court, Mar. 26, to two charges of forgery. He used the names of Trainmaster Bowker at Stratford, and Superintendent Gillen at Toronto. On request of counsel he was remanded for sentence.

A recent press despatch from Winnipeg announced that the C.P.R. had decided to abolish its Secret Service Department. We are advised that the company has not had such a service for some time past, merely having a staff of men for making open inspections and investigating claims and irregularities.

H. G. Elliott, Assistant General Passenger Agent G.T.R., was, at the recent 32nd annual meeting of the Grand Chapter of Quebec Royal Masons, elected Grand First Principal Z, but for personal reasons he declined, and E. A. Evans, General Manager and Chief Engineer Quebec Ry., Light and Power Co., was chosen.

The C.P.R. is reported to have let a contract to Foley, Welsh & Stewart, for the construction of 600 miles of irrigation ditches to complete the western section of its system in Alberta. The main canal will be 40 ft. wide and will carry 6½ ft. of water. A quarter of a million acres will be served by the new system when completed.

Replying to questions in the House of Commons recently the Minister of Railways stated that during Dec., 1908, the number of permanent employes on the I.C.R. had been 7,192, and of temporary employes, 1,286, with a pay roll of $464,971.96. On the P.E.I. Ry., during the same month, there were 461 permanent and 204 temporary employes, the pay roll amounting to $26,034.33.

The Interstate Commerce Commission's Division of Prosecutions announced, Mar. 7, that an indictment containing 21 counts has been found in the District of Vermont against the C.P.R., and an indictment containing a similar number of counts against the Quaker Oats Co. The C.P.R. is charged with giving transportation of certain stockfeed and other grain products from Richford, Vt., to Boston, Mass., and nearby points, free of charge, and the Quaker Oats Co. is charged with receiving the concession.

During Jan., 18 employes were killed and 20 injured in the course of their work on Canadian railways. Of the fatalities 5 were due to collisions, 3 each to being run over and to being caught between cars; 2 each to derailments and to falling material, one each to a fall, to an explosion of dynamite, and to death by what is known as "bends" in a tunnel worker. Of the other accidents, 6 were due to explosions of steam, 5 to falls, 4 to falling material, 3 to derailments, and one each to being run over and to a collision.

DOMINION IRON AND STEEL CO.

LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1909. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICE AND WORKS: **SYDNEY, CAPE BRETON, CANADA**

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

CANADIAN GOLD CAR HEATING & LIGHTING CO.

492 ST. PAUL STREET, MONTREAL, QUE. LIMITED

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished. Improved System of Acetylene Car Lighting.

Largest Manufacturers in the World of Car Heating Apparatus

MAINLY ABOUT PEOPLE.

Lady Shaughnessy and Miss Shaughnessy are in Europe.

G. Shanks, C.P.R. yardmaster at Adamville Jct., was killed in a head-on collision there, Mar. 18.

E. B. Osler, M.P., director C.P.R., has been re-elected President Ontario Rifle Association for the current year.

Mrs. Robt. Stevenson, a sister of Lord Mount Stephen, and of Mrs. Robt. Meighen, died at Montreal, Mar. 3, aged 78.

Hugh Sutherland, Executive Agent C.N.R., Winnipeg, has been elected Chairman of the Selkirk Centennial Fair Committee.

Hon. J. S. Hendrie, M.P.P., has been re-elected Chairman of the Railway Committee of the Ontario Legislature for the current session.

The engagement of Miss R. Bosworth, daughter of G. M. Bosworth, Fourth Vice-President C.P.R., to D. B. Seeley, Montreal, is announced.

R. Kerr, Passenger Traffic Manager C.P.R., Montreal, attended the recent meetings of the Transcontinental Passenger Association at Chicago, Ill.

S. B. Morris, C.P.R. ticket agent, Rodney, Ont., has been re-elected Grand Master Workman of the Ancient Order of United Workmen of Ontario.

Miss Madeline Crossen, daughter of W. J. Crossen, President Crossen Car Manufacturing Co., Cobourg, Ont., is engaged to L. E. Jordan, of Ottawa.

D. Marshall, it is reported, will shortly be appointed Minister of Railways for Alberta, a new position about to be created by the Provincial Government.

H. R. Charlton, G.T.R. Advertising Agent, recently returned to Montreal from Seattle, Wash., where he arranged for the G.T.R. exhibit at the forthcoming Yukon exhibition.

J. M. Mackenzie, Miss Mackenzie and the Misses Ethel and Grace Mackenzie, of Benvenuto, Toronto, sailed for England in the middle of March and are expected to return in May.

H. P. Dwight, President G.N.W. Telegraph Co., Toronto, who has had a slight attack of pneumonia, was on Mar. 30 reported to be progressing very satisfactorily towards recovery.

J. W. Leonard, General Manager C.P.R. Eastern Lines, who has been at Preston Springs, Ont., since January, on account of ill-health, is reported to have considerably improved.

R. Boswell, after 19 years' service with the Dominion Transport Co. in Toronto, was presented with a clock, an oak secretaire and a gold fountain pen, by the staff, on retiring from the company's service, Mar. 17.

B. W. Folger, Manager Niagara Navigation Co., accompanied by Mrs. Folger and two daughters, who left Toronto in the middle of Jan. for Europe, returned at the end of March, after spending most of the time in Munich.

S. R. Poulin, Division Engineer National Transcontinental Ry., delivered an address to the Canadian Society of Civil Engineers' Winnipeg branch, Mar. 11, on the construction of the line between Moncton and Winnipeg.

T. Henry, Traffic Manager, and H. F. Chaffee, Assistant General Passenger Agent, Richelieu and Ontario Navigation Co., attended recent conferences of the South Eastern Passenger Association at Chicago, Cincinnati and St. Louis.

D'Arcy Scott, Assistant Chief Commissioner, who was to have held a sitting of the Board of Railway Commissioners at Montreal, Mar. 2, was prevented from attending, owing to the death of Mrs. M. P. Davis, Mrs. Scott's mother. The sitting was postponed for a week.

A. B. McDonald, who has recently been appointed general foreman car shops, I.C.R., Moncton, N.B., was born at Moncton, Sept. 16, 1869, and entered I.C.R. service Dec., 1889; was appointed charge hand Oct., 1904; car foreman, April, 1905; and General Foreman, Feb., 1909.

G. W. Robb, who has been appointed Assistant Master Mechanic G.T.P.R., Rivers, Man., was presented with a cabinet of silverware by the G.T.R. shop employes at Ottawa Mar. 13, on the occasion of his resigning the position of general foreman Motive Power Department there.

W. Alderson, who has recently retired from the position of General Car Inspector G.T.R., Toronto, after 50 years' service, was presented, Mar. 6, with an illuminated address and a purse of gold, and Mrs. Alderson with an umbrella and bouquet, by the staff of the car department of the whole G.T.R. system.

A Philadelphia, Pa., dispatch says: W. P. Henszey of the Baldwin Locomotive Works, one of the most prominent designers of locomotives in the world, died there, Mar. 23, from pneumonia, aged 77. During the 50 years of his connection with the works it is estimated that he designed more than 32,000 locomotives.

W. R. Baker, Secretary C.P.R., who is at present on a visit to Europe, was recently received by the Prince and Princess of Wales, and subsequently lunched at Marlborough House. He has been spending some time in the south of France with James Redmond, of Montreal, and is expected to return to Montreal in April.

W. McNab, Principal Assistant Engineer, G.T.R., Montreal, was re-elected President American Railway Engineering and Maintenance of Way Association, at the annual meeting held in Chicago Mar. 18. He occupied that position for a portion of the past year, having succeeded to it on the death of the previous President.

The Lord Chancellor and Lord Collins, two of the Judicial Committee of the Privy Council, before whom the G.T.R. Penny Fare case was recently argued, are shareholders in the G.T.R. On their desiring to know if counsel had any objection to their being members of the Board, it was stated that there was no objection whatever.

E. Dussault, who died at Quebec Mar. 7, held the contract for construction of the breakwater extension there, and amongst other works undertaken by his firm are the construction of the Government wharf at Levis, Que., and two lightships in the Traverse, and in partnership he built a branch of the Quebec Central Ry.

G. J. Bury, General Manager; W. B. Lanigan, Assistant Freight Traffic Manager, C.P.R. Western Lines, and T. R. Flett, Superintendent District 3, C.P.R., Brandon, Man., were guests at the Lanigan, Sask., Board of Trade dinner recently. The chief topic of discussion was of Lanigan as the future railway centre of the province.

Lord Strathcona has sent $2,000 to the fund being raised for the building of a new armory for the 65th Regiment at Montreal, and has also contributed $1,000 to the organ fund of the new All Saints' Cathedral, Halifax, N.S. He has offered $10,000 a year to encourage physical and military training, including rifle practice, in Canadian public schools.

C. McLellan, for over 50 years an employe of the G.T.R., died at Stratford, Ont., Mar. 16, aged 70. He was an apprentice in the London and Northwestern Ry. shops at Crewe, Eng., and after coming to Canada was engaged in the G.T.R. shops at Montreal, Brantford and Stratford, being latterly foreman of the running repair shops, from which position he retired two or three years ago.

W. Gell, Master Mechanic G.T.P.R., who has been in the London, Ont., hospital for some time past, and who recently underwent a serious operation, was reported, at the middle of March, to be progressing very favorably and was allowed out, but he suffered a relapse, which, though not at the time we write considered very serious, has necessitated his return to the hospital.

J. M. Egan, who recently returned from Brazil, where he is said to have assisted in building one of the largest railroads in that country, was, from Jan., 1882, to Sept. 1, 1886, General Superintendent Western Division C.P.R., Winnipeg; Sept. 1, 1886, to Feb., 1888, General Superintendent St. Paul, Minneapolis and Manitoba Ry.; and at a later date became President of the Central Georgia Ry., and Ocean Steamship Co.

Mrs. Nixon, wife of W. J. Nixon, C.P.R. train dispatcher, Medicine Hat, Alta., and her two children, were killed at Montreal, Mar. 17, in the accident at the Windsor St. station, Montreal. Mrs. Nixon and the children were in the ladies' waiting-room, awaiting the arrival of Mr. Nixon, who is a brother of A. J. Nixon, Assistant Superintendent G.T.R., London, Ont., and who was on the train which ran into the station.

H. D. Mackenzie, whose appointment as General Foreman of Locomotive Shops, I.C.R., Moncton, N.B., was announced in our last issue, was born at Churchville, N.S., July 22, 1865,a nd entered I.C.R. service July 26, 1881, since when he has been, to Sept. 1, 1897, machinist apprentice; Sept. 1, 1897, to Oct., 1899, charge hand at Moncton and Stellarton, N.S.; Oct. 16, 1899, to Feb. 1, 1909, Mechanical Foreman, Stellarton, N.S.

F. H. McGuigan, formerly Fourth Vice-President G.T.R., who has been a fruitful source of copy to the daily press since he resigned the Vice-Presidency of the G.N.R. (U.S.), has recently been named as a possible Manager for the Dominion Steel Co. Mr. McGuigan recently entered into business on his own account and at present is engaged in the construction of the Ontario Government's power transmission line, which will probably occupy his attention for some time to come.

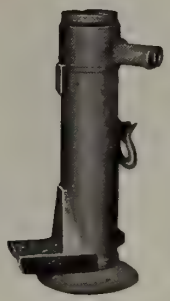
C. S. Richardson, who was recently appointed District Freight Agent C.P.R., Buffalo, N.Y., was born at New York City, Sept. 26, 1870, and was, from Feb., 1885, to Feb., 1887, clerk General Eastern Passenger Agent's office, West Shore Rd., New York; Feb., 1887, to Feb., 1890, ticket agent C.P.R., New York; Feb., 1890, to Feb., 1896, Travelling Passenger Agent C.P.R., New York; Feb., 1896, to Feb., 1901, Contracting Freight Agent C.P. Dispatch, New York; Feb., 1901, to Sept., 1903, Travelling Freight Agent C.P.R., Syracuse, N.Y.; Sept., 1903, to Jan., 1905, Freight and Passenger Agent C.P.R., New York; Jan., 1905, to Jan. 15, 1909, Travelling Freight Agent C.P.R., Buffalo, N.Y.

T. McHattie, who has recently been appointed Superintendent of Motive Power and Car Department, Central Vermont Ry., St. Albans, Vt., was born at Dufftown, Banffshire, Scotland, Aug. 8, 1854, and entered railway service Oct. 2, 1870, since when he has been consecutively to 1878 in locomotive shops, Great Western Ry. (now part of the G.T.R.) at Hamilton, Ont.; June, 1878, to Aug., 1886, locomotive engineer, same road; Aug., 1886, to April, 1889, locomotive foreman, G.T.R., at Palmerston, Ont.; April, 1889, to April, 1898, general foreman in charge of locomotives, same road, at London, Ont.; April, 1898, to Jan., 1909, Master Mechanic, Eastern Division, same road, at Montreal.

H & E PATENT BALL-BEARING LIFTING JACKS

For Railway and Bridge Work, Contractors' and Builders' Use

Foot-Lift



For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed. Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

Square Base

Journal Jack

Plain

MANUFACTURED BY

H & E LIFTING JACK COMPANY, WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

THE

N. L. PIPER RAILWAY SUPPLY CO., LIMITED

314 FRONT ST. WEST

TORONTO

MANUFACTURERS OF

ANCHOR LIGHTS

MAST HEADS

SIDE LIGHTS

SHIP LAMPS ETC.

CANADIAN LOCOMOTIVE Co. LTD.,

KINGSTON, ONT.,

Builders of Simple and Compound **LOCOMOTIVES** Adapted to every variety of service.

W. U. Appleton, whose appointment as Assistant to the Superintendent of Motive Power, I.C.R., Moncton, N.B., was announced in our last issue, was born at Moncton, Jan. 29, 1878. He entered the I.C.R. service as messenger, and was transferred to the locomotive shops as apprentice, Sept., 1895, since when he has been from Dec., 1899, to April, 1901, clerk in Mechanical Superintendent's office; April to Sept., 1901, machinist, Moncton shops; Sept., 1901, to Oct., 1902, clerk to Superintendent of Machinery and Rolling Stock; Oct., 1902, to May, 1903, clerk Master Car Builder's office; May, 1903, to May, 1904, clerk General Superintendent's office; May, 1904, he was appointed Chief Clerk to Superintendent of Motive Power, which position he still also holds.

Imperial Service Medals for long and meritorious service were presented to I.C.R. employes at St. John, N.B., recently. Following are the names of the recipients, with their occupation and length of service: G. Collard, brakeman, 34 yrs.; D. Driscoll, porter, 26 yrs.; P. Driscoll, porter, 31 yrs.; A. Fraser, blacksmith, 25 yrs.; I. B. Humphrey, station master, 36 yrs.; W. Kelley, conductor, 46 yrs.; J. H. Magee, tinsmith, 35 yrs.; J. Millican, conductor, 47 yrs.; M. Manson, porter, 25 yrs.; J. McAnulty, porter, 25 yrs.; D. McDonald, porter, 26 yrs.; E. L. Perkins, storekeeper, 36 yrs.; T. W. Prince, engineer, 44 yrs.; A. Rainnie, conductor, 48 yrs.; R. M. Scott, locomotive inspector, 36 yrs.; E. P. Shaw, checker, 35 yrs.; I. G. Stevens, policeman, 27 yrs.; E. Shaw, crossing man, 33 yrs.

E. Pennington, who has been elected President Minneapolis, St. Paul and Sault Ste. Marie Ry., consequent on the death of T. Lowry, was born at La Salle, Ill., Sept. 16, 1848, and entered railway service in 1869, since when he has been; to 1870, warehouseman; 1870 to 1872, brakeman; 1872 to 1875, conductor; 1875 to 1877, roadmaster; 1877 to 1879, Superintendent of Construction, 1879 to 1882, General Roadmaster; 1882 to 1884, Assistant Superintendent Chicago, Milwaukee and St. Paul Ry.; 1884 to June, 1888, Superintendent Minneapolis and Pacific Rd.; June, 1888, to Apr. 15, 1898, Superintendent Minneapolis, St. Paul and Sault Ste. Marie Ry.; Apr. 15, 1898, to Feb. 1, 1899, General Superintendent, same road; Feb. 1, 1899, to Mar., 1909, Vice-President and General Manager, same road.

P. W. Snider, Superintendent C.P.R. Telegraph Department, St. John, N.B., died there Mar. 22, of Bright's disease. He was born in Halton County, Ont., July 14, 1854, and learned telegraphy in the Dominion Telegraph Co.'s office at St. Catharines, Ont., in 1870. He was subsequently employed by the same company in Brantford, London, Toronto and Ottawa until 1877, when its lines were extended to the Maritime Provinces. He opened its office at St. John, N.B., in Oct., 1877, and was section manager for the Maritime Provinces until the consolidation of that company with the Western Union Telegraph Co. in 1881. From Aug., 1881, to 1889, he was cashier of the Western Union's St. John office, and was then appointed Manager of the C.P.R. Telegraphs, St. John office. In 1890 he was appointed circuit manager for the Maritime Province district, and in charge of the maintenance of lines, and in Nov., 1903, was appointed Superintendent.

D. Sutherland, who has recently been appointed General Agent, C.P.R., Prince Rupert, B.C., was born at Niagara Falls, Ont., Sept. 21, 1873, and entered railway service 1888, since when he has been consecutively: Dec., 1888, to Dec., 1890, clerk in District Passenger Agent's office, C.P.R., Toronto; Dec., 1890, to Oct., 1893, clerk in Assistant Freight Traffic Manager's office, same road, Toronto; Oct., 1893, to May, 1896, clerk in General Freight Agent's office, same road, Toronto; May, 1896, to May, 1897, clerk in General Freight Agent's office, same road, St. John, N.B.; May, 1897, to May, 1899, City Freight Agent, same road, St. John, N.B.; May, 1899, to Dec., 1901, Travelling Freight Agent, Atlantic Division, same road, covering New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland; Dec., 1901, to Nov., 1906, General Freight Agent, Newfoundland Ry.; Dec., 1906, to Jan., 1909, Travelling Freight Agent, C.P.R., Vancouver, B.C.

Edward S. Piper, President of the N. L. Piper Railway Supply Co., Ltd., died in Toronto Mar. 24, aged 67, after several months' illness. He was a son of the late Noah L. Piper, one of the original York pioneers. He was educated at the Model School and Upper Canada College, Toronto, and at Dr. Tassie's grammar school in Galt. On leaving school he was associated with his father in the house-furnishing business. He was soon made a partner, and at his father's death succeeded to the business. He had a genius for invention, and patented many improvements in railway lamps. His success with these and other inventions led him to merge his house-furnishing business into that of railway supplies, in which he built up a very successful trade. He invented and patented many other railway appliances, including orderboards, semaphores, street gates, etc., which the railways have adopted and are still using. He was widely known among railway officials throughout the Dominion. He was an Anglican, a Freemason, an Oddfellow and a Forester. He is survived by a widow, one daughter and four sons. One of his brothers, H. L. Piper, is Managing Director of the Hiram L. Piper Co., Ltd., Montreal.

Cause of C.P.R.'s Montreal Accident.

In giving evidence at the inquest into the causes of the recent accident at Windsor St. station, Montreal, when an uncontrolled train ran into the waiting-room there, H. H. Vaughan, Assistant to the Vice-President C.P.R., said: "The cause of the accident had evidently been that the plug had been struck by the driving wheel, a very rare occurrence with this style of engine. It is a thing which would happen very suddenly. It was caused by the breaking of the spring hanger, which was probably due to some hidden defect in the material. Defects in the spring hangers are constantly occurring on account of their very severe service, although they are made of the best material possible. The breaking of this spring hanger would lower the boiler on one side, and cant it two or three inches toward the wheels. If the engine had lurched over as far as possible the driving wheel would have come in contact with the washout plug. That blown-out plug was the only thing that I could find on the boiler to account for the escape of steam. The needed repairs had all been made at Newport, and I received a report to that effect from the B. & M. locomotive foreman there. There were always minor repairs to be made after every run of 125 or 150 miles."

Asked as to how he accounted for the scalding of the engineer, he said he could not speak from knowledge, but proceeded to give his views as to what must have taken place after the fireman jumped: "My idea is that at first the engineer did not think that anything serious had happened. Otherwise I am convinced that he would have shut the throttle and applied the air brakes immediately. I do not suppose we have a man but would have done that. I think the engineer got off his seat to go to the side where the plug had blown out, and then found that the steam and water he was getting was very much worse than he expected. He probably at first thought that the gauge glass had broken, and as he felt for that he got a whole spurt of hot steam and water in his face, and very likely inhaled some of the boiling vapor. Either that overcame him or he fancied that the whole side of the boiler had blown out, and staggered to the gangway and got off. I think this because it is so infinitely easy for an engineer to close the throttle and apply the air. I have often seen engineers leave their places and look at anything suspicious, leaving the engine running, and I am convinced that from his side of the cab, the thing seemed trivial, and the engineer went to fix it, with the result I have stated."

Mr. Vaughan then stated that while he could not speak from actual knowledge, as he had not seen the work done, the C.P.R. had had the track measured and an estimate of the efficiency of the brakes, under the conditions that were known to have existed, prepared by the Westinghouse Co., and on this information, which could be verified by the experts who supplied it, he gave the following explanation as to why the brakes did not act: "It is 1,930 ft. from the station buffer block to where the brakeman had first taken alarm. The brakeman thinks he acted very quickly; but he was excited. Probably three or four seconds elapsed between his realizing where the train was and actually applying the brake. He had to turn around, enter the door, think where the valve was, and then open it, all of which would have taken three or four seconds. At that time the train was probably travelling from 50 to 55 miles an hour, or from 70 to 80 ft. a second, so that it would have run 250 ft. before the valve was opened. Then after the valve is opened it would probably take 1¼ seconds before the full brake pressure was set. In addition, the broken spring hanger on the engine prevented the brakes from working on the engine, so that the train had only a small percentage of its total weight braked. Assuming a speed of 55 miles an hour, with the last car 300 ft. from the laundry, leaving about 1,600 ft. to the buffer bars at the station, and allowing for the length of the train, we would expect the train to have a speed of about 25 miles an hour when it hit the stop block, which would be sufficient to account for the accident. It is inconceivable that with the brake in perfect working order at Montreal Jct., it should be out of order when it was applied. As to the brakeman's idea that the brake did not set right, this was probably due to the fact that he was only accustomed to feeling the brakes applied from the engine, which was quite different to the effect when the brakes were applied from the rear of the train."

Cost of Accidents.—The Secretary of the Board of Railway Commissioners has issued the following circular to railway companies: "I am directed by the Board to request you to be so good as to furnish, for the use of the Commission, statements, under separate heads, all losses, direct and indirect, sustained by your company in Canada and charged or chargeable to the company during the company's last five financial years—including the cost of all repairs and renewals, damages for injuries to persons, payments in settlement of possible claims, and all other expenses—caused by and due to the following: head-on and rear-end collisions, side pitch-ins, open switches, broken rails."

The Minister of Railways, replying to questions in the House of Commons recently, stated that it was not the intention of the Government to add to the obligations already incurred in granting aid to railways. This was the reply to the final question, the previous questions having to do more particularly with an interview which the Premier of Alberta had with the Prime Minister and the Minister of Railways, when the desirability of aid being granted by the Dominion Government for the construction of railways in Alberta was urged.

Repairing Heavy Steel Sections

For welding locomotive frames, driving wheel spokes, mud rings, gear wheels, crank shafts, stern-posts of steamships, rudder stocks, anchors, and other steel sections, the Thermit Process offers the only method by which the repair may be made without removing the broken part. Heavy steel sections of all kinds may be welded IN PLACE. Simply send us a blue print of the parts to be repaired and we will submit an estimate immediately.

A large number of Thermit repairs are described in "REACTIONS," the Thermit Quarterly. Copies will be sent free on request. Write also for Pamphlet No. 20-N illustrating over 30 important Thermit welding operations.

Goldschmidt Thermit Company
103 Richmond St. W. - - Toronto, Ontario

General Offices: 90 West St., New York
Pacific Coast Branch:
432-436 Folsom St., San Francisco, Cal.

THE CANADA IRON CORPORATION

Successors to: LIMITED

CANADIAN IRON & FOUNDRY CO., LIMITED
CANADA IRON FURNACE CO., LIMITED
ANNAPOLIS IRON CO., LIMITED
JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE — MONTREAL, P.Q.,

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and Gas Pipe, Specials, Valves, Hydrants, Etc.
Castings of All Kinds

W. T. RODDEN, Managing Director J. F. JOHNSON, Secretary-Treasurer
GEO. C. TUNSTALL, Jr., Sales Manager

STANDARD EXPLOSIVES

LIMITED

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL
Works: L'ISLE PERROT, NEAR VAUDREUIL, P.Q.

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

PUBLICATION OFFICE,
157 Bay Street, Toronto, Canada.
Local and Long Distance Telephone, Main 3201

UNITED STATES REPRESENTATIVE
A. Fenton Walker
143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.
The Toronto Transportation Club.

SUBSCRIPTION PRICES, INCLUDING POSTAGE

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, APRIL, 1909

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Hinton St., Toronto.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, A. S. Hobson, Sherbrooke, Que.; MANAGER, J. E. Duval, 121 Board of Trade, Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. F. Chapman, Deseronto, Ont.; SEC.-TREAS., T. Marshall, Toronto.

OFFICIAL ORGAN.—THE RAILWAY & MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche. Office, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, L. R. Johnson, Montreal; SECRETARY, J. Powell, St. Lambert, Que.

MEETINGS at Windsor Hotel, Montreal, 1st Tuesday of each month, 8 p.m., except June, July and August

Canadian Street Railway Association.

PRESIDENT, J. E. Hutcheson, Ottawa; SEC.-TREAS., Acton Burrows, 157 Bay St., Toronto.

OFFICIAL ORGAN.—THE RAILWAY AND MARINE WORLD, Toronto.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal.

MEETINGS at 877 Dorchester St., Montreal, every alternate Thursday, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, R. J. Craig, Cobourg, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN.—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto.

MEETINGS at Rossin House, Toronto, 3rd Tuesday each month, except June, July and August.

Dominion Marine Association.

PRESIDENT, C. J. Smith, Montreal; COUNSEL, F. King, Kingston, Ont.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto SECRETARY, R. B. Wolsey, C.E., Toronto. Rooms, 96 King St. West, Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee.

CHAIRMAN, A. A. Heard, Albany, N.Y.
SECRETARY, Jas. Morrison, Montreal.

Quebec Transportation Club.

PRESIDENT, E. A. Evans; SECRETARY, A. H. Davis, Box 324, Quebec.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

Western Canada Railway Club.

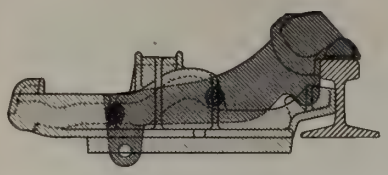
PRESIDENT, Grant Hall, Winnipeg; SECRETARY, W. H. Rosevear, Winnipeg. Meetings at Royal Alexandra Hotel, Winnipeg, 2nd Monday of each month, except June, July and August.

Alphabetical List of Advertisers.

	PAGE
Abbott, W.	Cover 1
Acme Railway Equipment Co.	250
Alexander Car Replacer Mfg. Co.	304
Allan, A. A. & Co.	280
American Brake Shoe & Foundry Co.	264
American Car & Equipment Co.	306
American Hoist & Derrick Co.	252
Babcock & Wilcox Ltd.	312
Banwell, Hoxie Wire Fence Co., Limited	288
Beatty, M., & Sons, Ltd.	310
Belle City Malleable Iron Co.	306
Boker, Hermann & Co.	300
Bowser, S. F., & Co., Limited	266
Bradstreet Company	292
Brown Hoisting Machinery Co.	248
Burnham, Williams & Co.	292
Burrows,—Acton Burrows, Limited	—
Butterfield & Co.	298
Canada Car Co., Ltd	250
Canada Iron Corporation, Ltd.	274
Canadian Bridge Co., Ltd.	302
Canadian Bronze Co., Ltd.	310
Canadian Fairbanks Co., Ltd.	244
Canadian Gold Car Heating & Lighting Co., Ltd.	270
Canadian Locomotive Co., Ltd.	272
Canadian Northern Railway	282
Canadian Office & School Furniture Co., Ltd.	310
Canadian Pacific Railway Land Department	296
Canadian Railway Accident Insurance Co.	Cover 1
Canadian Ramapo Iron Works, Ltd.	300
Canadian Rand Co., Ltd.	282
Canadian Road Machine Co., Ltd.	287
Canadian Westinghouse Co., Ltd.	Cover 2
Cardwell Mfg. Co.	302
Chicago Ry. Equipment Co.	308
Cleveland City Forge & Iron Co.	302
Clifton Hotel, Niagara Falls, Ont.	300
Coddington, W. H.	308
Coghlin, B. J., & Co.	308
Continental Iron Works	278
Crossen Car Mfg. Co., of Cobourg, Ltd.	276
Date, John	302
Delaware and Hudson Co.	310
Dominion Bridge Co., Ltd.	292
Dominion Car & Foundry Co., Ltd.	Cover 4
Dominion Iron & Steel Co., Ltd.	270
Dominion Wire Rope Co., Ltd.	260
Dougal Varnish Co., Limited	Cover 1
Drake & Weirs Co.	308
Drewry, E. L.	296
Drummond, McCall & Co.	266
Duner Co.	310
Engineering News Book Dept.	284
Falls Hollow Staybolt Co.	302
Farlow Draft Gear Co.	288
Flannery Bolt Co.	264
Galena Signal Oil Co.	238
Galen Hall, Atlantic City, N.J.	290
Galt Malleable Iron Co.	310
Gardner, J. T.	304
Gartshore, J. J.	298
Gartshore-Thomson Pipe & Foundry Co., Ltd.	304
Goldschmidt Thermit Co.	274
Grand Trunk Railway	276
Greening, The B., Wire Co., Ltd.	308
Ground Anchor Co., Ltd.	280
H and E Lifting Jack Co	272
Hamilton Pattern Works	298
Hamilton Steel & Iron Co., Ltd.	254
Harrison Dust Guard Co.	302
Hart-Otis Car Co., Ltd.	—
Hayes Track Appliance Co.	276
Holden Co., Ltd., The	278
Hollenden, The, Cleveland, O.	Cover 1
Hopkins, F. H., & Co.	242
Hotchkiss, Blue & Co.	294
Hotel Cadillac, Detroit, Mich.	Cover 1
Hudson's Bay Company	270
Hunt, Robert W., & Co.	306
Hunter-Rose Co., Ltd.	310
Hutton, James, & Co.	308
Illinois Central Railroad	304
Imperial Bank of Canada	306
Intercolonial Railway	268
International Marine Signal Co.	286
International Mercantile Marine Co.	298
Jardine, A. B., & Co.	280
Jessop, Wm., & Sons, Ltd.	300
Kerr Engine Co., Ltd.	298
Knowlton, W. H.	306
Lehigh Valley Rd.	310
Lewis, Rice, & Sons, Ltd.	264
Lufkin Rule Co.	Cover 1
McConway & Torley Co.	292
McCord & Co.	256
McGregor-Banwell Fence Co., Ltd.	286
Meaford Wheelbarrow Co., Ltd.	290
Metcalf, John S., Co.	306
Midland Towing and Wrecking Co., Ltd.	304
Modoc Soap Co.	310
Montreal Locomotive Works, Ltd.	246
Montreal Rolling Mills Co., Ltd.	284
Montreal Steel Works, Ltd.	Cover 2
Mussens Limited	Cover 1 and 240
National Malleable Castings Co.	Cover 1
New Brunswick Wire Fence Co., Limited	304
New Hotel Brevoort, Chicago, Ill.	266
Northern Electric and Manufacturing Co., Ltd.	294
Norton, A. O.	258
Ontario Wind Engine and Pump Co.	298
Orford Copper Co.	310
Ottawa Car Co. Ltd.	Cover 1
Owen Sound Wire Fence Co., Ltd.	306
Page Wire Fence Co., Limited.	296
Parry Sound Lumber Co., Ltd.	300
Phillips, Eugene F., Electrical Works, Ltd.	307
Piper, The Hiram L., Co., Ltd.	310
Piper, N. L., Railway Supply Co., Ltd.	272
Polson Iron Works, Ltd.	254
Positive Lock Washer Co.	306
Preston Car & Coach Co., Ltd.	310
Provincial Steel Co., Limited	308
Pyke, J. W., & Co.	268
Pyle National Electric Headlight Co.	252
Rail Joint Co. of Canada, Ltd.	Cover 1 and 262
Rendle, A. Edgcumbe	Cover 1
Rhodes, Curry & Co., Ltd.	256
Robb Engineering Co., Ltd.	258
Robertson Machinery Co.	310
Safety Car Heating & Lighting Co.	262
Saxby and Farmer, Ltd.	Cover 1
Sheriffs Mfg. Co.	300
Silliker Car Co., Limited	260
Simplex Railway Appliance Co., Ltd.	Cover 4
Smart, James, Mfg. Co., Ltd.	—
Southam Press, Ltd., The	306
Standard Coupler Co.	310
Standard Explosives, Limited.	274
Standard Steel Works.	292
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold.	278
Toronto Bolt and Forging Co., Ltd.	284
Toronto Pressed Steel Co., Ltd.	282
Vulcan Iron Works	308
Wallace Supply Co.	300
Washburn Steel Castings & Coupler Co.	268
Waugh Draft Gear Co.	Cover 1
Wire & Cable Co.	Cover 1

Railway Lands Patented.—Letters patent were issued covering railway land in Manitoba, Saskatchewan, Alberta, and British Columbia, during Nov., 1908, as follows:

	Acres.
Canadian Northern Ry	15,939.67
C.P.R., grants	659.73
G.T. Pacific Ry.	158.88
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.	325.00
	17,083.28



The plan of having a single size applicable to a wide range of rail weights and heights is a valuable feature of Hayes Derails. It vastly simplifies ordering and stock keeping. For instance, size 5 of any model may be used on any ordinary rail from 4 to 6 inches high, which limits include most of the rails in common use.

The sliding type may be operated by any mechanism which is used to throw a switch; it works in with existing conditions in any track without special attachments.

25,000 Hayes Derails are now in use on over 300 roads. They are made in Canada at Hamilton, Ontario.

Address: Hayes Track Appliance Co., Geneva, N.Y.

CROSSEN CAR MFG. COMPANY
OF COBOURG, LIMITED

MODERN HIGH-CLASS

ROLLING STOCK

Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows

Car Castings, Forgings and Repair Parts

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON [via Boston & Maine R.R. and Cent. Vermont Ry.] MONTREAL, TORONTO and CHICAGO.
THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.
Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, General Passenger and Ticket Agent, MONTREAL, QUE.

National Transcontinental Railway.

The report of the Commissioners of the N.T.R. for the nine months ended Dec. 31, 1908, presented to the House of Commons, shows that there had been expended $18,866,212.84, making a total expenditure since the initiation of the work of $45,924,156.88. There were 668.65 miles of grading completed, and 309.12 miles of track laid. The entire line is under contract with the exception of the entrance into Winnipeg. Contracts for steel superstructure and viaducts amounting to 23,765 tons have been awarded, and 6,995 tons have been practically completed. Contracts for 174,818 tons of 80-lb. rails have been awarded, of which 105,692 tons are being furnished by the Dominion Iron and Steel Co., and 69,123 by the Algoma Steel Co. The necessary fastenings for these rails have been ordered through Canadian manufacturers. The McArthur contract for the construction of the section between Winnipeg and the Fort William branch of the G.T. Pacific Ry. has been approximately 82% completed, and the work is to be finished so as to permit of the operation of the line in Sept. During the year certain items of classification were disputed between the engineer acting for the G.T. Pacific Ry., and the Commissioner's Chief Engineer, and as, after considerable discussion, they found they could not agree in every particular, it was decided to put in force the arbitration clauses of the N.T.R. Act. Accordingly C. Schreiber was decided upon as third arbitrator. No further progress can be made towards a settlement of the differences until the snow has finally cleared away.

The through mileage from Moncton to Winnipeg is 1,804.84, and the work done in the different districts is as follows: District A., Moncton to the New Brunswick line, 255.10 miles, 39% done; district B., from the New Brunswick line to Clear Lake, long. 74° w., Que., 398.74 miles, 53% done; district C., from Clear Lake, Que., to Quebec-Ontario line, nothing done; district D., from Ontario-Quebec line to near long. 84° w., 248 miles, about 4% done; district E., from long. 84° w., to near long. 89° 30′ w., 259.91 miles, nothing done; district F., from long. 89° 30′ w., to east bank Red River near Winnipeg, 374.66 miles, 87% done. In district C. it is estimated that there are 2,500,000 acres of good farming land available on its being cleared, while an additional 1,250,000 acres will be available on being drained. The Hurricanaw River will give navigation for about 70 miles southerly of the railway. In district D. it is estimated that there are 1,344,000 acres of land available for agricultural purposes on its being cleared on the first 185 miles; 3,800,000 acres on the next 100 miles, and 500,000 acres in the Missanabie River valley, in addition to large areas which will require drainage, and from mileage 325 to mileage 475 there is about 1,600,000 acres of good sandy loam available.

With reference to the cost of the line the Minister of Railways said a memorandum by the Chief Engineer, dated Feb. 9, confirmed his estimate of April 3, 1908, placing it at $63,427 a mile. From information supplied by the Finance Department it was stated that loans of £1,425,428 1s. 7d. and £2,689,851 7s. 11d. at 3½% had been raised for the purposes described in clause 23, chap. 71, of the statutes of 1903; the interest charged on these loans to Jan. 31 had been £85,520 13s. 0d. The debentures issued by the commissioners, now amounting to $46,000,000, and deposited with the Minister of Finance, were not issued in respect of these loans, but were issued generally as money was required for payment of construction work. The statute makes no provision by means of which the commissioners can make payment of the interest on these debentures as it accrues, until such time as there is a net revenue and income derived from the operation of the line, when the principal and interest becomes a first lien thereon.

A semi-official statement has been made at Moncton, N.B., that the line between Moncton and Chipman, N.B., the starting point of the Canada Eastern Ry. branch of the Intercolonial Ry., will be so far completed by the fall as to permit it to be opened for the carrying of coal and other freight.

A. E. Doucet, District Engineer, Quebec, in reviewing the work done on his district, says progress under very favorable circumstances is being made, there being over 6,000 men employed between the Quebec-New Brunswick boundary and Weymontachene River. On the south side of the St. Lawrence River easterly the work is practically completed for 150 miles, and there are over 3,000 men employed on the remaining mileage to the New Brunswick boundary. On the north side of the St. Lawrence River track had been laid from Cap Rouge to Portneuf River, where there was a gap of 12 miles on which some steam shovel work was required. Bevond this track had been laid 68 miles, where a bridge was being constructed over the Milieu River by the Dominion Bridge Co. The bridge has a total length of 3,000 ft., and is 175 ft. above water level. It is expected that the bridge will be completed in May. Beyond the Milieu River track had been laid for 48 miles to the St. Maurice River, beyond which no track had been laid. Supplies and material had been taken into points 71 miles beyond the St. Maurice River, and a certain amount of work had been done.

J. D. McArthur, in an interview Mar. 6, said the Winnipeg-Lake Superior section of the line would be completed so far as the grading was concerned by May 1. The last section of the grading was about half completed. Tracklaying will be pushed, and it is hoped to get it ready for operation for the fall.

In an interview at Winnipeg Mar. 12, S. R. Poulin, District Engineer, stated that track was expected to be laid between St. Boniface and the Winnipeg River, 113 miles, in a few days thereafter. Tracklaying would be resumed on the east bank of the Winnipeg River April 1, and on the same date another gang would start laying track westerly from the junction with the G.T.P.R. Lake Superior branch. Ballasting would be proceeded with simultaneously from the two ends. There was nothing, he said, to prevent the line being completed between Winnipeg and Lake Superior Jct. by Sept. 1. Easterly of this junction, very satisfactory progress was being made on the other 150 miles of the route in district F. The first 80 miles had been fully cleared and prepared for the grading gangs, and grading was being proceeded with on 50 miles. Clearing gangs were at work on the remaining 70 miles.

Tenders will be received to April 8 for the construction and erection of a steel and concrete bridge and approach spans over the Red River between Winnipeg and St. Boniface, Man., together with grading and approach spans over certain streets in Winnipeg.

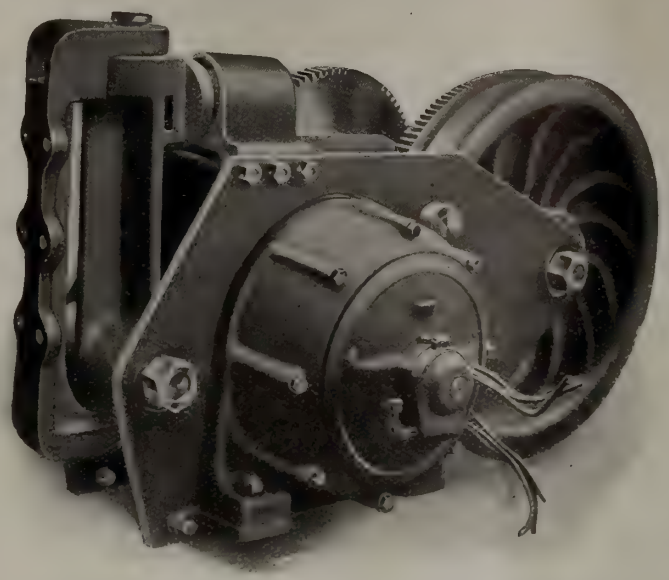
THE QUEBEC BRIDGE.

During the discussion of the vote of $150,000 in the House of Commons for the preparation of plans for the reconstruction of the bridge across the St. Lawrence at Quebec, the Minister of Railways said the engineers had decided that they could not use any part of the material prepared for the former bridge; it was useful for nothing but scrap. The engineers hoped to have the plans for a bridge 150 ft. above high water ready by the autumn, but it would not be possible to ask for a vote on account of construction until next session. The G.T.P.R. Co. had not made any overtures to the Government with regard to the building of the bridge, but the company had been giving consideration to the question of carrying on traffic across the river in connection with the expectancy that the N.T.R. tracks would be laid from Moncton to Levis during 1910.

Some newspapers have been advocating the construction of a tubular bridge under the water, and this was mentioned during the discussion. The Minister said he saw the suggestion made, but thought it would be utterly impracticable. The water at that point is 200 ft. deep, and the current is very rapid.

GRAND TRUNK PACIFIC RAILWAY.

On Mar. 16, in the course of his speech in the House of Commons on the work of the Department of Railways for the year, the Minister of Railways read a report dated Feb. 5 from C. Schreiber, the Department's Consulting Engineer on the G.T.P.R. The report stated that from Winnipeg to 8.50 miles west of Battle River, 683.50 miles, grading and bridging was completed, and track laid over the whole distance, with suitable sidings at each station, of which 92 miles had a full lift of ballast, 502 miles had a first lift, and 89.50 miles was a skeleton track having no ballast. Station buildings had been completed at West Winnipeg, Melville, Portage la Prairie, Nokomis and Rivers; others were in course of erection at Biggar and Wainwright, while contracts had been let for those at Scott, Iwana, Allan, Lazare, Kelliher, Semans, Leney, Punnichy, Bradwell, and Goblenz. Engine houses had been erected at Rivers and Melville, while others were in course of erection at Watrous, Biggar and Wainwright. Water services had been provided at Beaudry, Elie, Harte, Rivers, Lazare, Welby, Gerald, Melville, Watrous, Bradwell, Earl and Biggar; and was being provided at Portage la Prairie, Squirrel Creek, Pope, Quadra, Miniota, Uno, Atwater, Birmingham, Ituna, Mostyn, Touchwood, Wainwright, Quinton, Raymore, Nokomis, Iwana, Landis, Reford, Unity, Winter, Yonker, Artland and Dunn. Grain elevators had been erected at 31 points, 39 elevators in all having being erected, while loading platforms had been constructed at 52 points. There had been erected on each side of the line 345 miles of fencing. A two-line telegraph wire has been strung from Winnipeg for 672 miles, and a single-line wire from mileage 672 to Battle River. This section of the line was opened for public traffic Sept. 21, 1908, since when it had been successfully operated. On the section from Battle River to Wolfe Creek, 241 miles, the steel viaduct over the Battle River was completed Dec. 11, and the Clover Bar bridge over the Saskatchewan River on Dec. 26, 1908. The Battle River bridge consists of 51 spans of 50 ft., and one of 150 ft., making in all 2,700 ft., and is 180 ft. high. The grading and bridging were practically complete from the Battle River to 50 miles west of Edmonton, 172 miles, so that there was no impediment to the laying of track over the whole distance. From mileage 50 west of Edmonton to Wolfe Creek (the western limit of the Prairie section), 69 miles, about 75% of the grading had been done and a number of the culverts built. There were two gangs of men engaged in driving piles for pile and trestle bridges. The grading and bridging on this section should be finished by July. The work, at the time of the report, was practically closed down for the winter, with the exception of the pile



PILLING ELECTRIC MOTORS

FOR TURNTABLES AND SWING BRIDGES

ALSO

COMPRESSED AIR MOTORS

CANADIAN PILLING CO.

MONTREAL

MORISON Suspension Furnaces

The universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine —Boilers—

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

MANUFACTURED BY

THE CONTINENTAL IRON WORKS, WEST AND CALYER STS., BOROUGH OF BROOKLYN, Near 10th and 23rd Street Ferries. NEW YORK

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

PURCHASING AGENTS!!!

When ordering material to be applied to new equipment, do not overlook the fact that we are sole agents in Canada for the following standard specialties:

MONKBRIDGE (Yorkshire) Staybolt Iron for Locomotive Fire Boxes
Curtain Supply Co.'s Car Window and Vestibule Curtains
Pantasote Curtain and Upholstery Material
"AJAX" Passenger Car Vestibule Diaphragms
FEWINGS Cast Steel Car and Engine Replacers
FORSYTH Safety Deck Sash Ratchets
FORSYTH Car Buffing Device
FORSYTH Draw-bar Centreing Device

Complete literature and prices covering any of the above lines will be promptly sent on request.

MONTREAL 302 St. James Street — THE HOLDEN CO., LIMITED — WINNIPEG, 291½ Portage Avenue — TORONTO 42 York Street

driving for bridges, the construction of concrete piers and pedestals for the Pembina River bridge, and some grading in rock cuttings and muskegs between mileage 65 west of Edmonton and Wolfe Creek. On the Mountain section the first 100 miles easterly from Prince Rupert was under contract and fair progress was being made with the grading, which is largely composed of solid rock. The quantities excavated were 633,396 cubic yards of solid rock, 94,470 cubic yards of loose rock, and 94,407 cubic yards of earth. There had been 32 culverts constructed on the 100 miles, and a capacious wharf and warehouse had been erected at Prince Rupert. There were 1,850 men and 90 horses and mules engaged on the work. This was the only work in progress on the mountain service, which is about 836 miles long.

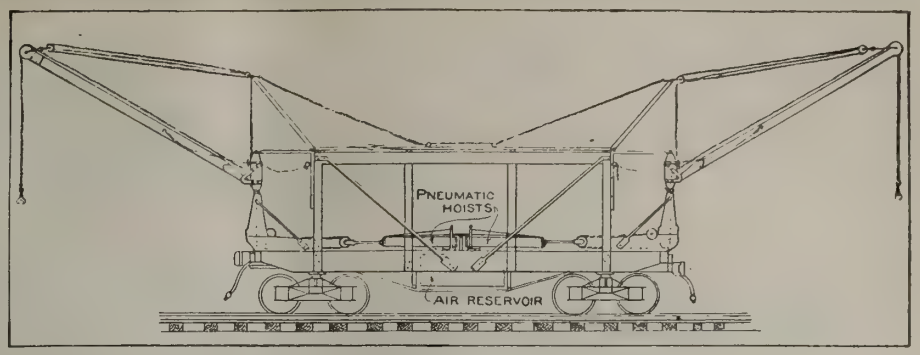
Replying to questions as to the financing of the line, the Minister of Railways said the Government had guaranteed bonds in respect of the construction of the Western Division N. T. Ry. to the amount of £3,200,000, all of which had been issued and sold at 92½, the net proceeds of the sale being $14,385,600. The sum of $10,335,482.92 had been paid on account of work done on the Prairie section; $2,150,852.30 on account of the Mountain section; and the balance, $1,899,264.78, was deposited in bank to the credit of the Receiver-General. The G.T.R. Co. had guaranteed series A bonds to the amount of £2,100,000, and series B bonds to the amount of £1,354,000. Certain debenture equipment stock of the G.T. Pacific Ry. had also been guaranteed by the G.T.R. The whole of series A bonds, which realized £1,975,705, had been used for construction on the Prairie division, and £128,000 of the series B bonds, which realized £1,228,755, had been expended on the Mountain section.

The final location of the G.T. Pacific Ry. between Wolfe Creek and Prince Rupert has been completed, and it is stated that surveys will be started during the summer for the branch from near Fort George to Vancouver. In connection with the construction going on in the vicinity of Prince Rupert tenders have been asked for the supply of 300,000 cross and switch ties, and 4,000 telegraph poles.

The British Columbia Legislature has before it a bill ratifying an agreement between the Government and the company extending the time within which the company must complete the survey and subdivision of the townsite of Port Rupert, and in some other respects varying the agreement previously made with respect to the same. It is announced that the first sale of lots at the townsite will be made May 1.

Grand Trunk Pacific Branch Lines.—The Alberta Legislature has passed the act authorizing the granting of aid, by way of guarantee of bonds, for the construction of 491 miles of branch lines in the province. The Legislature was informed that the company would construct the line from Wainwright to Calgary and Coutts this fall. (See Saskatchewan and Alberta Lines, Feb., pg. 125.)

Pacific Northern and Omineca Ry.—In the passing of this company's bill for an extension of time through the British Columbia Legislature, it was given permission to construct a branch from the Skeena River, by way of the Copper and the Telkwa Rivers, to a junction with the G.T.P. Ry. at the confluence of the Bulkley and Telkwa Rivers. This branch is to form part of the main line of the G.T.P.R. The company is given until 1911 to construct this branch, and to 1910 to construct 15 miles of its line between Kitimat and the Copper River. (Mar., pg. 185.)



Derrick Car for Handling Railway Rails.

The increase in the weight of railway rails in recent years makes the use of machinery for handling them a necessity. A number of railways have appliances for this purpose, but an unusual type is adopted by an eastern line. The machine consists of a flat car with a derrick at each end, which is worked by a pneumatic hoist, taking air from the brake system. The car carries an air reservoir connected directly with the train line, and when this tank is to be filled the locomotive engineer allows the air pump to run the pressure up to 80 lbs. When the train is moved a valve is closed, shutting off the connection between the train pipe and the reservoir. The reservoir will hold sufficient pressure to handle 20 rails after being shut off from the train line.

The accompanying illustration shows the construction of the derricks. Each cylinder operating a derrick has a piston with a travel of 7 ft., and a pulley is attached to the end of the piston rod. A full movement of the piston pulls the hoisting cable 14 ft. The hoisting cylinders for the two derricks are independent, each being worked by a separate air cock. Both derricks can be worked simultaneously in loading or unloading rails.

Railway Rolling Stock Statistics.

Returns for the year ended June 30, 1908, show that there were added to the rolling stock of the various Canadian lines 368 locomotives, 8,302 freight cars, and 384 passenger cars. On that date there were in service 1,122 passenger, 2,392 freight and 358 switching locomotives, a total of 3,872, against 964 passenger, 2,206 freight, and 334 switching locomotives at June 30, 1907. This motive power was equivalent to 169 locomotives for every 100 miles of line, against 156 for the preceding year. In the passenger service there was one locomotive for every 30,343 passengers carried, as against one for 33,337 in 1907. In the freight service there was one locomotive to every 26,368 tons of freight hauled, as compared with one to every 28,951 tons in 1906-07. The number of passenger miles per passenger locomotive was 1,855,580, and the number of ton miles per freight locomotive was 5,418,692, showing an increase of 270,509 in passenger miles, and 120,545 in ton miles, per locomotive as compared with 1906-07.

The number of passenger cars of all kinds in service June 30, 1908, was 4,026, an increase of 384 over June 30, 1907, the distribution among the various classes being: 1st class, 1,493; 2nd class, 487; combination, 422; emigrant, 303; dining, 114; parlor, 63; sleeping, 236; baggage, express and postal, 873; others, 35.

The cars available for freight service showed an increase of 8,302, the number available being 115,709, distributed as follows: box, 72,863; flat, 21,759; stock, 5,047; coal, 11,616; tank, 197; refrigerator, 2,423; others, 1,804. In addition there were 7,180 pay, gravel, derrick, caboose, and other cars in the various companies' service. Excluding the companies' cars the supply of freight cars represented an average of 5,039 cars per 1,000 miles of line, against 4,783 in 1907. The capacity of the cars was 3,277,394 tons, an average of 28.28 tons per car; the figures for 1907 were incomplete, but they showed a car capacity of 2,908,903 tons, or 27.56 tons per car. In regard to available car supply it must be borne in mind, says the report, that the normal number of cars undergoing repairs is about 5.02% (at one period during 1907-08 the percentage reached 9.5), so that it may be assumed that at least 5,808 cars are in the shops at all times.

Victorian State Railways, Australia.—A bill is being introduced into the local Parliament providing for the expenditure of £1,000,000 on improvements of the various lines, additions to rolling stock, additional telegraph and telephone lines, etc. The railways are controlled by a commission of which T. Tait, formerly Manager of Transport, C.P.R., is chairman.

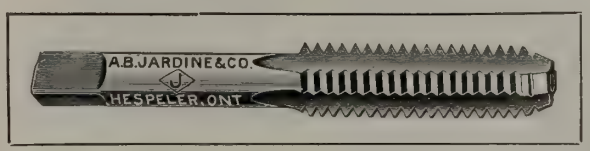
Telephone Dispatching on the C.P.R.—In reference to the particulars which we gave in our last issue respecting the extensions of the system of telephone dispatching on the C.P.R., we are officially advised that appropriations have been made for the stringing of a telephone wire between Fort William and White River, Ont., and that the work of erection will be commenced as soon as weather permits. The dispatchers will be located at White River. Appropriations have also been made for a telephone circuit between Winnipeg and Brandon, Man., and Medicine Hat and Calgary, Alta., which will be put in operation during the summer.

The Eastern Canadian Passenger Association held a meeting at Toronto, Mar. 2, for the consideration of rates for the forthcoming Alaska-Yukon Exhibition at Seattle, Wash., and for other business.

A resolution was submitted to the House of Commons, Mar. 8, by Hon. H. R. Emmerson, asking the House to secure by lease or otherwise such branch lines now connecting with the I.C.R. as will serve as direct and profitable feeders to the traffic of the said railway. After some discussion the debate was adjourned.

A bill introduced into the House of Commons by J. Conmee, M.P., has for its object the insuring to every railway employe of the privilege of exercising his franchise wherever he may be. The voter will be required to present at the poll, where he may be on the date of the election, a certificate from his home constituency certifying his right to vote. He will then vote for the candidate of his choice, and his sealed vote will be forwarded to his home constituency, and counted along with the other votes cast.

"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes

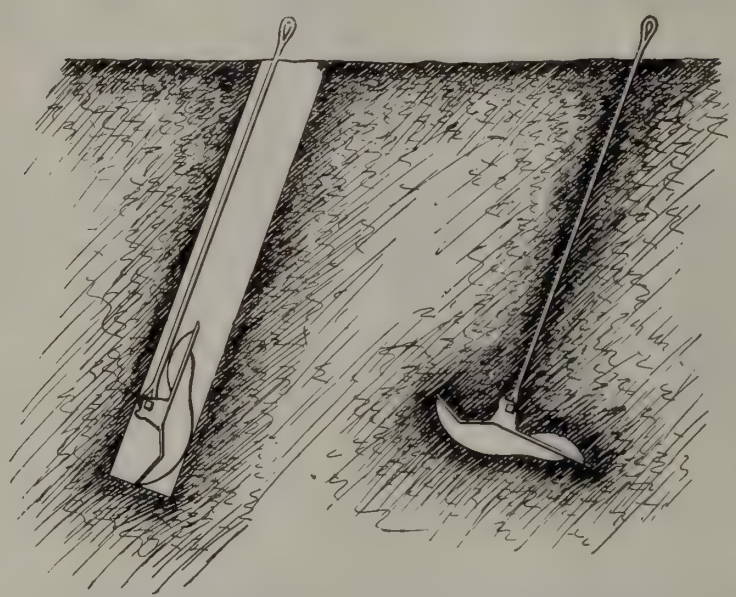


Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.



"AULD" TYPE GUY ANCHORS

Write us about your pole line; we can increase its efficiency and save you money

Sole manufacturers under letters patent No. 90301 and No. 101462

THE GROUND ANCHOR CO.
LIMITED
Street Railway Chambers
MONTREAL

Get exactly the Cap you want at Allan's

We have spent a lifetime gathering cap knowledge, and we are using it in the biggest cap output of any firm in Canada. Our specialty is Uniform Caps. We make them in every required style — at any price you want to pay. We can work up to any specification and make them quickly.

"Railroad"

Write — just telling what you want — to

A. A. ALLAN
& CO., LIMITED
51 Bay Street
TORONTO - CANADA

"Steamboat"

Canadian Northern Ry. Earnings, etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-08, from July 1, 1908:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July..	$728,500	$ 525,600	$ 202,900	$159,000–
Aug..	747,400	561,300	186,100	30,400–
Sept..	901,700	650,600	251,100	42,000+
Oct...	1,172,700	752,600	420,100	110,200+
Nov..	1,156,900	744,300	412,600	144,300+
Dec..	927,900	642,800	285,100	42,400+
Jan...	526,200	425,900	100,300	15,400–
Feb..	502,600	409,200	93,400	9,700+
	$6,663,900	$4,712,300	$1,951,600	$143,800+
Inc....or Dec....	$ 292,200	$ 148,40c	$ 143,800	.....

Approximate earnings for 3 weeks ended Mar. 21, $458,500, against $408,800 for same period 1908.

C.P.R. Earnings, Expenses, etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-8, from July 1, 1908:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
J'ly	$6,292,880.82	$4,018,307.57	$2,274,573.25	$232,279.41–
Aug.	6,385,956.69	3,807,057.98	2,578,898.71	8,623.56+
Sept.	6,391,672.48	4,277,064.71	2,114,607.77	36,745.58–
Oct..	7,381,970.41	4,726,703.70	2,655,266.71	25,050.93–
Nov.	7,303,303.20	5,082,223.85	2,221,079.35	223,954.86–
Dec.	6,955,874.11	4,759,122.54	2,196,751.57	119,561.99+
Jan..	4,761,859.93	4,372,110.10	389,749.83	234,241.95–
Feb..	4,966,208.14	4,204,063.36	762,144.78	405,048.17+
	$50,439,725.78	$35,246,653.81	$15,193,071.97	$219,039.01–
Inc.. or Dec..	$926,624.82	$1,145,663.83	.....	.....
	.....	.....	$219,039.01	.....

Approximate earnings for 3 weeks ended Mar. 21, $4,277,000, against $3,570,000 for same period 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross revenue for Jan. $203,657.11; net revenue, $41,298.76; against $210,897.48 gross and $52,878.23 net for Jan., 1908. Aggregate gross revenue for 7 months ended Jan. 31, $1,655,002.38; net revenue, $505,382.29; against $1,986,633.92 gross and $550,780 67 net for same period 1907-8. Approximate gross earnings for Feb., $193,014, and for 3 weeks ended Mar. 21, $139,897, against $187,927 and $148,984 for same periods 1908.

MINERAL RANGE RD.—Gross revenue for Jan. $62,685.47; net revenue, $3,900.30; against $58,657.99 gross and $6,265.00 net for Jan., 1908. Aggregate gross revenue for 7 months ended Jan. 31, $492,065.58; net revenue, $93,373.50; against $482,321.11 gross and $84,176.07 net for same period 1907-08. Approximate earnings for Feb., $59,621, and for 3 weeks ended Mar. 21, $45,009, against $55,776 and $45,218 for same periods 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross revenue for Jan., $762,640,67; net revenue, $219,550.06; against $761,539.89 gross and $245,559.13 net for Jan., 1908. Aggregate gross revenue for 7 months ended Jan. 31, $7,801,440.83; net revenue, $3,604,745.13; against $7,535,418.54 gross and $3,073,814.89 net for same period 1907-08. Approximate earnings for Feb., $769,988, and for 3 weeks ended Mar. 21, $620,750, against $653,123 and $632,152 for same periods 1908.

Grand Trunk Ry. Earnings, Expenses, etc.

The following figures give the earnings of the G.T.R., the C. A. R., the G. T. Western Ry., and the D. G. H. & M. Ry., separately, for Jan., as compared with Jan., 1908:

GRAND TRUNK RAILWAY.

	1909	1908
Earnings	$1,990,200	$2,085,821
Expenses	1,745,900	1,925,111
Net earnings	$ 244,300	$ 160,710

CANADA ATLANTIC RAILWAY.

Earnings	$ 113,000	$ 122,237
Expenses	123,400	144,152
Def.	$ 10,400	$ 21,915

GRAND TRUNK WESTERN RAILWAY.

Earnings	$ 416,400	$ 419,307
Expenses	334,200	355,023
Net earnings	$ 82,200	$ 64,284

DETROIT, GRAND HAVEN & MILWAUKEE RY.

Earnings	$ 120,800	$ 142,691
Expenses	101,700	116,393
Net earnings	$ 19,100	$ 26,298

Approximate earnings for Feb., $2,529,471, and for 3 weeks ended Mar. 21, $2,044,718; against $2,357,767, and $1,978,557 for same periods 1908.

TRAFFIC RECEIPTS OF THE SYSTEM.

Aggregate from Jan. 1:

	1909.	1908.	Increase.	Decrease.
Grand Trunk	£812,691	£795,842	£16,849	...
Canada Atlantic	45,150	46,202	...	£ 1,052
G. T. Western	157,873	160,035	....	2,162
D., G. H. & M.	46,591	51,252	.....	4,661
Total.....	£1,062,305	£1,053,331	£ 8,974	

ELECTRIC RAILWAYS

Projects, Construction and Betterments.

Belleville Radial Ry.—Application is being made to the Ontario Legislature for an act incorporating a company with this title, with power to construct an electric railway in Belleville, and through the tp. of Thurlow and Port Ann, and Tyendinaga to Shannonville. The capital of the company is placed at $250,000, and it may issue bonds to the amount of $25,000. The offices are to be at Belleville, and the provisional directors are: W. B. Deacon, J. Elliott, F. Ketcheson, J. G. Lindsay, A. McGie, W. S. Morden, Belleville. The line may be constructed in two-mile sections, but construction shall be carried on continuously so as to form one continuous railway, and the Ontario Railway and Municipal Board may approve of plans for the construction of different sections.

British Columbia Electric Ry.—Work in connection with the reclamation project undertaken by the company will be started early in April. This is in connection with what is known as the Stave Lake power plant. The surveyors have practically completed their work, and the construction of the pipe lines and dyke will probably be in hand before high water time. R. W. Le Baron is the engineer in charge of construction. In connection with the power development it is proposed to construct an electric railway from Burnaby Lake to New Westminster, and another from near Burnaby Lake to Port Moody, B.C.

Brantford Street Ry.—The most important piece of work to be undertaken in connection with the reconstruction of the street railway in Brantford, Ont., which is owned by the same interests as the Grand Valley Ry., is the relaying of the Colborne and Market street lines. According to the contract with the city this work must be done within three and four months respectively from May 1. The reconstruction of the line on other streets, and the construction of some additional lines, has to be completed within two years. When the lines are reconstructed in accordance with the agreement, there will be 16 miles of electric railways in the city.

Calgary, Alta.—The Calgary, Alta., city council has ordered 400 tons of 80-lb. steel, 710 tons of 60-lb. steel, and the ties necessary for its line. It has also placed orders for the following electrical equipment and rolling stock: A 750 h.p. 3-cylinder compound engine with the Robb Engineering Co., Amherst, N.S.; generator set and switchboard; six cars, pay-as-you-enter type, with the Preston Car and Coach Co., Preston, Ont., and six similar cars with the Ottawa Car Co., Ottawa, Ont.

Cobourg, Port Hope and Haverlock Electric Ry.—When this application and that of the Cobourg, Peterborough and Kawartha Lakes Ry. came before the Railway Committee of the Legislature recently, the promoters of each company presented their claims for consideration, The committee expressed a desire that they should come to an agreement, to merge the two bills in one, but they were unable to do so, and both bills were reported

Grand Valley Ry.—The lines projected by this company include a line from Brantford to Port Dover, Ont., 33.66 miles, passing through Mount Pleasant, Boston, Townsend Centre, Waterford, Bloomsburg, and Simcoe; from Brantford to Woodstock, where connection will be made with the Woodstock, Thames Valley and Ingersoll Ry., owned by the same interests; and the extension of this line from Ingersoll to London; and an extension of the present line between Brantford and Galt, from Blue Lake to St. George. This latter extension will be six miles, and it is said arrangements have been completed for going on with its construction this season.

Levis County Ry.—A new 250 k.w. motor generator is being installed at the company's substation. The present equipment at the station consists of two 250 k.w. motor generators. The company purchases its power, the current being brought into the substation by an 11,000 volt, 3-phase high-tension line.

Manitoba Radial Ry.—Application is being made to the Dominion Parliament for an act extending the time for the commencement and completion of the line of railway authorized by the act 6-7 Edward VII, chap. 105. Smith and Johnson, Ottawa, are solicitors for applicants.

Montreal and Southern Counties Ry.—Several important contracts are reported to be let in connection with the construction of this projected electric railway. It is understood that the company will use the southern roadway on the Victoria Jubilee bridge for the laying of its tracks. At present a single track only will be laid, supplemented for traffic purposes by two switches. This, it is anticipated, will enable all the traffic offering until the line is extended to Longueuil, Chambly, and other points. Work will, it is said, be commenced at an early date upon the substation and car barns at St. Lambert, so as to have them completed during the coming season. E. A. Mumford, Secretary of the company, states that the tubular steel poles for the electric installation have been purchased, together with all the necessary appliances for the overhead work on the Victoria bridge, and that tenders will shortly be invited for the supply of all the electrical equipment necessary.

Montreal Terminal Ry.—When the application made by this company for various amendments to its act of incorporation was before the Railway Committee of the House of Commons, the clause authorizing the company to "lay out, construct and operate an elevated railway from the western limits of Montreal to the eastern limits of Maisonneuve," was withdrawn. The application therefore resolved itself into one for an extension of time within which to construct lines already authorized. Representatives of the city of Montreal urged that no further extension of time should be granted until the company produced its plans. It was stated that the company had had seven years in which to do so, and still they were not forthcoming. The further consideration of the bill was postponed.

Morrisburg Electric Ry.—The Ontario Legislature is being asked to pass an act amending the act incorporating this company, by authorizing it to extend the main line from Ormond, continuing through the townships of Winchester, Osgoode and Gloucester, to Ottawa, passing near the villages of Kenmore, Metcalfe and Greeley; and by extending the line from Ste. Therese to connect with the main line in Osgoode tp., and by increasing the capital stock from $500,000 to $1,000,000. The petitioners are: C. M. Willard, H. Loughridge, W. M. Loughridge, J. W. Bogart, G. W. Bogart, R. Merkley.

Ottawa and St. Lawrence Ry.—Application is being made to the Ontario Legislature for an act incorporating a company for the purpose of constructing an electric railway from the boundary line between Ontario and Quebec, in Lancaster tp., Glengarry county, westerly along the north shore of the St. Lawrence River, to Brockville, thence northwesterly to Perth, connecting there with the Lanark County Elec-

IMPERIAL PNEUMATIC TOOLS

Two Photos Showing "IMPERIAL" Air Tools at Works of Locomotive and Machine Company, Montreal.

CHIPPERS
RIVETERS
AIR DRILLS
MOTOR HOISTS

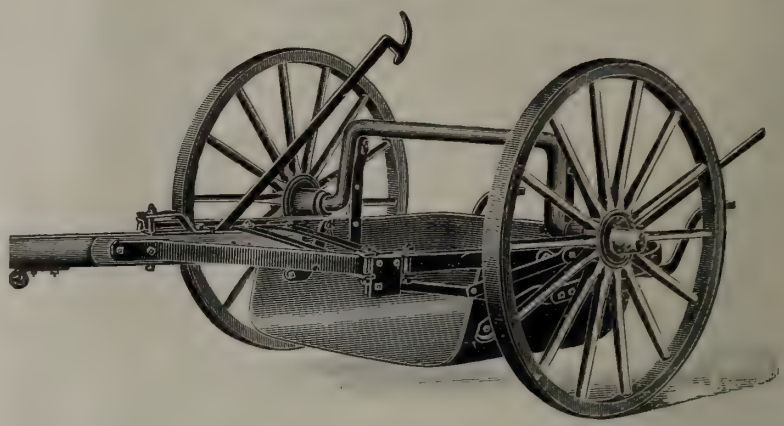
Built in all Standard Sizes
Efficiency Guaranteed.

A complete line of the above appliances and all sizes of Air Compressors for pneumatic work carried in stock for immediate shipment.

CANADIAN RAND CO., LIMITED
MONTREAL, QUE.

BRANCHES AT:
TORONTO, HALIFAX, WINNIPEG, MONTREAL, ROSSLAND, COBALT.

THE TORONTO PRESSED STEEL CO.
TORONTO, CANADA LIMITED



Our **SOLID PRESSED BOWL DRAG** and **WHEEL SCRAPERS** are the most satisfactory in the market. They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies, including

PLOUGHS **DUMP CARS**
DUMP WAGONS **DUMP CARTS**
WHEELBARROWS **TRUCKS**
CEMENT MIXERS **WAGONS**
etc., etc.

PROMPT SHIPMENTS **SEND FOR CATALOGUE**

New Trails to the
Canadian Game Lands

Before the six railways of the Canadian Northern System followed the old fur trails into the Canadian game lands, only a hardy few dared to go in. But now, the back places of the woods—wealthy in moose, caribou, deer and bear—may be quickly and easily reached. The Canadian Northern system serves a wide range of undisturbed territories. Here are a few suggestions:

The country between Parry Sound and Sudbury, traversed by the CANADIAN NORTHERN ONTARIO RAILWAY, is a land of lonely muskeg and brulé, the native country of the white-tailed deer. From Sudbury north to Sellwood this same line goes in through a moose hunting territory unequalled in Ontario.

The CANADIAN NORTHERN QUEBEC and QUEBEC AND LAKE ST. JOHN RAILWAYS span the native country of the ouananiche, northern brook trout, and the spruce-shored lakes of the Roberval country, where moose and caribou abound.

The eastern shore of Nova Scotia, from Yarmouth to Halifax, is served by the HALIFAX AND SOUTH WESTERN RAILWAY. On the barrens, slightly inland from the railway, are some of the best places for big moose in the east.

THE CANADIAN NORTHERN RAILWAY from Port Arthur to Edmonton, with many branches, griddles almost undisturbed haunts of moose, caribou, deer, wolves, bear, and all species of four-footed and feathered game.

For Information, General and Special, Address the Information Bureau, Canadian Northern Railway, Toronto

tric Ry.; from Morrisburg to Ottawa, connecting there with the Lanark County Ry.; with branch lines from Kenmore to Metcalfe and Russell connecting with the Ottawa and New York Ry. The company desires to have power to amalgamate with the Lanark County Electric Ry., and all railway lines intersecting; to acquire by purchase any electric railway within the territory comprised within its territory; to contract with the Brockville, Westport and Northwestern Ry. for trackage on that part of its line between Brockville and Athens; and to acquire running rights over the tracks of the Cornwall Electric Ry. It also desires to have power to operate steam and other vessels on the St. Lawrence River, and any inland waters touched by the company's lines. The company's offices are to be at Ottawa; its capital is fixed at $1,000,000, and it may issue bonds to the amount of $20,000 a mile. The provisional directors are: W. J. Armitage, W. L. Redmond, W. P. Walker, M. S. Beckstead, F. Iveson, C. S. Cossett, L. H. Daniels, T. Berney, J. L. Rolston, W. O. Riddell, J. E. Askwith. In passing through committee it was decided to change the name of the company to the Ottawa and St. Lawrence Ry., instead of that mentioned in the application for a charter—the Eastern Ontario Counties Electric Belt Line Ry. Co.

Ottawa Electric Ry.—The supplementary estimates for the Department of Agriculture submitted to the House of Commons, contain an item of $10,500, being the further amount required for construction of a branch of the electric railway to the experimental farm, Ottawa, including cost of fence.

Peterborough Radial Ry.—By an act under consideration by the Ontario Legislature, the company is asking for an extension of five years for the completion of the lines authorized.

Port Arthur and Fort William Electric Ry.—Tenders are being asked by the Commissioners for rails, ties and other construction material required for the double-tracking of the electric railway connecting Port Arthur and Fort William, Ont.

Quebec Ry., Light and Power Co.—E. A. Evans, General Manager, stated in an interview, Mar. 11, that extensive improvements were under consideration, which, if carried out, would mean extended operations, and giving the company a much greater earning capacity. These improvements would mean the expenditure of a large amount of money, and were necessitated by the fact that Quebec city is extending on every hand, and that the tourist traffic to the city is increasing at a very great rate.

St. John to Edmundston, N.B.—Application is being made to the New Brunswick Legislature for an act incorporating a company for the purpose of constructing a railway, with authority to use electric power, from St. John, along the valley of the St. John River to Centreville, and to Grand Falls or Edmundston. J. J. F. Winslow, Fredericton, N.B., is solicitor for applicants.

Simcoe Electric Ry. and Power Co.—The Ontario Legislature is being asked to pass an act incorporating a company with this title, with power to construct an electric railway from Midland to Coldwater, Ont., and branches or extensions. The company also asks for authority to lease from the Crown the big shute of the Severn River, and develop the water power there, and dispose of electrical energy for commercial purposes. W. Finlayson, Midland, Ont., is solicitor for applicants.

Stratford and St. Joseph Radial Ry.—The Ontario Legislature is being asked to pass an act extending the time within which this company may construct its projected electric railway between Stratford and St. Joseph, on the shore of Lake Huron, Ont. J. U. Vincent, Ottawa, is solicitor for the company.

Toronto, Niagara and Western Ry.—The company's application for an extension of time for the construction of the several lines of electric railway which it has been authorized to construct, has been approved by the House of Commons. There was considerable opposition to the passing of the bill, the principal ground taken being that although the company had been granted several extensions of time, no serious construction had been done. It was stated that the company had made a considerable expenditure in acquiring its right-of-way, and in the construction of abutments for bridges, etc. One of the members stated that the promoters of the company informed the Railway Committee that about $250,000 had been expended; that a portion of the line had been constructed at Mimico, the abutments of a bridge at Twelve Mile Creek, Bronte, put in, and other work done.

Toronto Ry.—Car barns are to be erected in the northwest part of the city, either on Bloor St. or Lansdowne Ave. While the site has not definitely been announced, it is thought that it will be on Lansdowne Ave. A switch has already been put into that property.

Windsor Tunnel and Lake Erie Co.—A press report states that the company expects to start construction on its projected line early in July. The line will connect Windsor, Sandwich, West Vereker, New Canaan, McGregor, Huron and Oxley, and will have a total length of about 30 miles. It is proposed to connect the line with the Detroit River tunnel, and so secure connection with the electric railway lines in Detroit, Mich. The officers are: President, R. A. Bailey, Detroit, Mich.; Vice-President, Dr. J. A. Smith, Windsor, Ont.; Treasurer, W. Boug, Windsor; Secretary, J. G. Leggatt, Windsor.

Winnipeg Electric Ry.—It was stated Mar. 10, by Manager Phillips, that the proceeds of the issue of £300,000 of new stock, which was being made in London, Eng., would be used for the extension of lines, the relaying of track on streets to be paved or repaved by the city, and the provision of new cars.

Electric Ry. Finance, Meetings, Etc.

Berlin, Ont.—The Berlin, Ont., city council, Mar. 15, by a vote of nine to five, decided to take the management of the electric railway owned by the city from the Light Commissioners, and to operate it directly by the council.

British Columbia Electric Ry.—Gross earnings for Jan., $200,280; operating expenses, $105,006; net operating earnings, $95,274; renewal funds, $13,958; net earnings, $81,316; approximate income from investments, $13,550; net income, $94,866; against $171,160, gross earnings; $90,724, operating expenses; $80,436, net operating earnings; $10,750, renewal funds; $69,686, net earnings, $11,036, approximate income from investments; $80,722, net income for Jan., 1908. Aggregate gross earnings for 7 months ended Jan. 31, $1,343,919; net earnings, including estimated income from investments, $630,005; against $1,167,960 gross, and $583,042 net, for same period 1907-08.

Halifax Electric Tramway.—Railway receipts for Feb., $12,537.02; against $12,272.37 for Feb., 1908. Total receipts for 2 months ended Feb. 28, $26,322.61, and for 3 weeks ended Mar. 21, $9,127.39; against $25,192.46, and $8,762.34 for same periods 1908.

London St. Ry.—Gross earnings for Jan., $17,737.83; expenses, $12,985.11; net earnings, $4,752.72; Feb. gross earnings, $16,497.00; expenses, $12,724.38; net earnings, $3,772.62; against $17,284.37 gross earnings; $12,969.20 expenses; $4,315.17 net earnings for Jan.; and $16,094.87 gross earnings; $12,746.52 expenses; $3,348.35 net earnings; for Feb., 1908.

Montreal St. Ry.—Total earnings for Feb., $284,090.21; operating expenses, $199,912.17; net earnings, $84,178.04; city percentage on earnings, $16,373.83; interest on bonds and loans, $15,164.36; rent leased lines, $498.67; surplus, $52,141.18; against $270,224.43, total earnings; $201,449.05, operating expenses; $68,775.38, net earnings; $14,567.24, city percentage on earnings; $17,935.96, interest on bonds and loans; $444.43, rent leased lines; $35,827.75, surplus for Feb., 1908. Aggregate total earnings for 5 months ended Feb. 28, $1,514,614.68; operating expenses, $959,551.64; net earnings, $555,063.04; total charges, $145,341.74; surplus, $409,721.30; against $1,458,462.81, total earnings; $943,475.93, operating expenses; $514,936.88, net earnings; $148,134.68, total charges; $366,852.20, surplus, for same period 1907-08.

Nelson Electric Tramway.—A resolution has been passed by the city council of Nelson, B.C., to purchase the rights and franchises of the Electric Tramway Co. The company has been in difficulties for some years past, and since the fire at the car barns in May, 1908, when the cars were destroyed, it has shown no desire to renew the service. The company offered the city the whole of its property in the city, including tracks, etc., valued at $75,000, for $10,000.

Quebec Ry., Light and Power Co.—Negotiations, it is reported, are in progress for the transfer of a controlling interest in this company to a British financial syndicate. Another report says the C.P.R. is likely to acquire control.

Southwestern Traction Co.—The Ontario Legislature has decided that the company's bonding power shall not exceed $25,000 a mile of line. Application was made to have it increased to $33,000 a mile.

Southwestern Traction Co.—It was reported from London, Ont., Mar. 23, that the London and Western Trust Co. had been appointed to act as receiver of the S.T. Co., during a temporary financial difficulty, which it is anticipated will be speedily adjusted.

Winnipeg Electric Ry.—The Manitoba Legislature has passed an act authorizing the company to issue $1,500,000 of debenture stock, and a meeting of the shareholders has been called for April 7 to authorize the directors to make an issue of £300,000 of 4½% perpetual consolidated debenture stock under the act, and to authorize the execution of a mortgage to the British Empire Trust Co., to secure the same. This issue of debentures has been underwritten by Sperling & Co., and Kitcat, Mortimer and Arthur, London, Eng., and is being offered to the public at 97. The debentures are being issued subject to the existing issue of $1,000,000 of 5% mortgage bonds, redeemable Jan. 1, 1927, and to the $4,000,000 of 5% mortgage bonds redeemable 1935, and certain provisions as to future issues, either for extensions, or for redeeming previous issues. The trust deed provides that the company may purchase any of the stock on the market at or below 105 plus accrued interest, or may redeem the whole or any part, to be selected by drawings, of the stock at 105, the same premium becoming payable by reason of a voluntary liquidation of the company.

SIX GOOD
BOOKS
FOR
RAILROAD MEN

THE ENGINEERING NEWS
BOOK DEPARTMENT
220 BROADWAY, NEW YORK

ECONOMICS OF RAILWAY OPERATION
By M. L. BYERS
C.E., Ch. Eng. M. of W., Mo. Pac. Ry.
672 pp., many diagrams and forms illustrating the best modern practice - $5 net
The only publication explaining in detail the operative systems of American railways. Sir William Van Horne says of it: "I regard it as a most useful and valuable book."

TRACK AND TRACK WORK
(Third Edition, Revised and Enlarged)
By E. E. R. TRATMAN
Assoc. M. Am. Soc. C.E.
520 pages, 232 illustrations, 44 tables and an appendix of statistics of standard track construction - - - $3.50 net
The standard treatise on this subject.

DESIGN OF TYPICAL STEEL RAILWAY BRIDGES
By W. CHASE THOMSON
M. Can. Soc. C.E. Assist. Eng. Dominion Bridge Co.
178 pages, 21 figs., 5 fold. plates - $2 net

FIELD PRACTICE OF RAILWAY LOCATION
By WILLARD BEAHAN
270 pages, 50 illustrations - $3.00 net

RIGHT OF WAY SURVEYING
By A. I. FRYE
8vo, 50 pages - - - - - $1.00 net

RAILWAY LOCATION AND CONSTRUCTION
By E. N. McHENRY
88 pages, 2 folding plates - $1.00 net

Any of these books will be sent, postpaid, on receipt of price, or further details with full list of contents will be given if desired.

KEEP YOURSELF POSTED ON THE LITERATURE OF YOUR SPECIALTY

For the guidance of technical men we issue, at intervals, notices of **new** and **recommended** books on various subjects, by all publishers. This service is **absolutely free** to all and involves no obligation of any kind whatever.

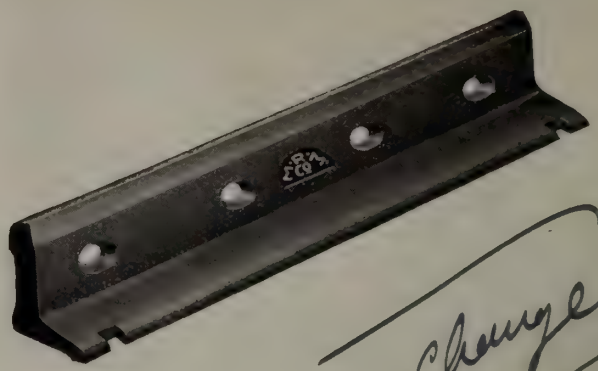
Mark on the attached coupon the special subjects on which **you** wish to be kept informed regarding **new** publications, adding any subjects not mentioned thereon in which you are interested. Send us this coupon **at once** and we will send you these notices as issued.

Engineering News Book Dept. R.M.W. 4/9
220 Broadway, New York

Send me notices of new books on

Engineering:	..Mining	..Cement and Concrete
..Civil	..Municipal	
..Electrical	..Railroad	..Contracting
..Mechanical	..Architecture	..Metallurgy
	..Chemistry	

Name.....
Address.....
.....



Change

ANGLE BARS

We roll these for 80 lbs. A.S.C.E. Steel Rails, punched as required and cut to any length.

They are rolled from the very best material, and will stand the closest inspection.

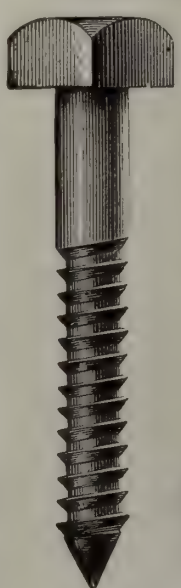
THE MONTREAL ROLLING MILLS CO.

TORONTO BOLT AND FORGING CO.
LIMITED

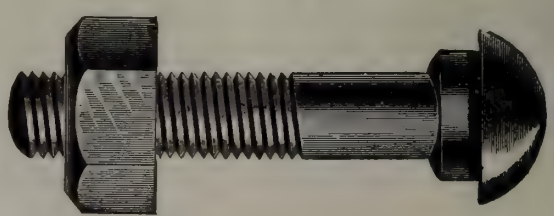
Manufacturers of

BOLTS AND NUTS

OF ALL KINDS, INCLUDING



Track Bolts
Track Spikes
Lag Screws
Boiler and
Bridge Rivets



TORONTO — CANADA

ELECTRIC RAILWAY STATISTICS FOR YEAR ENDED JUNE 30, 1908.

The following abbreviations are used in the names of railways—E., electric; E. R., electric railway; E. S. R., electric street railway; Ry., railway; S. R., street railway. The minus mark (—) in the column for net earnings shows that there was a deficit in the operations of the line to the extent of the figures given. The numbers in brackets—thus (1)—after the name of a railway refer to notes below.

Name of Railway	Mil'ge	Gross Earnings	Net Earnings	Proportion of Earnings to Working Expenses	Earnings per Car Mile	Operating per Car Mile	Passenger Car Mileage	Freight Car Mileage	Locomotive Mileage	Passengers Carried	Freight Carried
				p.c.	cts.	cts.					Tons
Berlin and Waterloo S.R.	3.12	$ 29,962.69	$ 9,662.64	67.75	33.68	22.81	88,961			621,916	
Leased Berlin & Bridgeport Ry.	2.38	6,252.82	565.50	90.95	18.21	16.54	34,384			138,000	
Brantford S.R. (1)	7.00	32,909.18	2,773.72	91.57	26.17	23.97	125,722			485,213	
Brantford & Hamilton Ry. (2)	23.00	6,525.41	1,311.99	79.89	23.00	18.30	28,362			21,897	5
British Columbia E.R. (3)	78.93	1,199,881.45	445,062.20	62.90	30.34	19.56	3,857,049	97,302		21,328,180	37,859
Cape Breton Electric Co. (4)	11.90	89,199.47	32,656.01	63.38	27.82	17.63	320,591			1,586,062	
Chatham, Wallaceburg & L. Erie	21.50	43,206.70	1,703.53	96.07	37.09	35.63	116,480			159,700	
Cornwall S.R.	6.30	26,224.76	3,784.79	85.57	13.25	11.34	198,016		7,718	368,070	8,450
Egerton Tramway Co	8.10	47,229.17	13,817.07	70.74	33.87	23.96	134,386	5,054		920,413	
Galt, Preston & Hespeler S.R. (5)	9.00	109,103.63	36,789.77	66.28	43.90	29.09	220,557	27,945		708,296	92,063
Leased Preston & Berlin E.R.	10.75										
Grand Valley Ry. (1)	23.50	36,947.10	—2,162.26	105.85	24.25	25.67	152,303			207,582	
Guelph Radial Ry.	6.00	28,304.01	7,017.94	75.20	15.50	11.66	180,000	2,500		636,976	12,000
Halifax E. Tramway Co	12.13	174,646.62	55,186.44	68.40	21.66	14.82	806,411			3,928,892	
Hamilton & Dundas S.R. (2)	7.25	47,592.33	14,996.85	68.50	49.07	33.61	96,981			462,063	480
Hamilton, Grimsby & Beam. E.R. (2)	22.00	90,182.71	22,279.66	75.30	31.61	23.80	285,225			473,099	16,095
Hamilton Radial E.R. (2)	24.75	114,798.20	27,173.21	76.32	29.13	22.23	394,022			1,003,000	1,945
Hamilton S.R. (2)	22.00	322,943.10	75,296.55	76.68	20.05	15.37	1,610,402			8,078,816	
Hull Electric Co. (5)	16.75	74,311.51	—13,568.88	118.25	14.51	17.16	499,998	12,038		1,112,898	9,927
International Transit Co. (6)	3.37	40,018.73	8,237.74	79.41	15.16	12.04	263,881			956,329	
Kingston, Ports. & Cataraqui E.R.	8.00	29,711.89	—1,911.92	106.43	14.88	15.83	199,680			821,754	
Levis County Ry.	10.25	55,699.92	—5,218.44	109.36	20.24	22.17	274,674			1,483,732	
London S.R.	26.46	231,935.65	64,009.46	72.36	16.26	11.76	1,425,995			6,325,541	
Montreal Park & Island Ry. (7)	23.60	283,276.79	97,407.88	65.59	30.96	20.31	897,680	17,115		3,539,049	39,400
Montreal S.R. (7)	71.82	3,736,620.50	1,565,858.31	58.09	25.91	15.05	14,418,605			91,120,394	
Montreal Terminal Ry. (7)	20.89	97,354.84	—4,185.88	104.29	18.37	19.16	491,977	37,883		1,151,011	88,277
Nelson Tramway Co	3.00	5,418.25	11,680.99	315.58	20.15	63.61	26,880			196,527	
Niagara Park & River Ry. (8)	11.75	142,516.02	65,637.43	53.94	38.69	20.87	367,727	552		1,440,058	
Niagara, St. Cath. & Toronto (9)	30.00	160,415.51	47,950.69	70.10	29.86	20.94	285,672	251,385	251,385	977,561	112,597
Niag. Falls, Wesley Pk. & Cl. Ry. (9)	4.50	32,546.29	15,102.79	53.59	17.62	9.44	184,670			762,437	
Oshawa Ry.	8.83	58,372.96	8,064.05	86.18	134.21	115.67	25,460	18,032	43,492	141,085	91,568
Ottawa E.R.	23.38	598,009.62	207,307.56	65.33	17.92	11.71	3,335,324			13,445,041	
Peterborough Radial Ry.	6.00	31,042.45	3,099.82	90.01	11.72	10.55	264,813			665,430	
Port Arthur S.R. (10)	9.00	87,367.01	25,938.11	70.31	44.50	31.33	196,078			1,652,018	
Pt. Dalhousie, St. C. & Tho. S.R. (9)	8.17	21,043.68	7,145.57	66.04	16.95	11.19	124,125			441,664	
Quebec Ry., Light and Power Co.											
Citadel Division	17.22	255,676.00	71,819.49	71.90	19.19	13.79	1,332,310			6,049,203	
Montmorency Division (11)	25.00	139,999.26	47,781.74	65.87	51.95	34.22	269,485			1,265,890	
Sandwich, Wind. & Amh. Ry. (12)	35.44	159,958.94	66,220.17	58.60	24.00	14.07	665,855			2,690,473	
Sarnia S.R.	8.00	37,435.71	1,974.02		25.05	23.73	149,400			633,545	
Sherbrooke S.R.	7.00	34,132.55	2,422.70	92.90	11.83	10.99	288,322			901,533	
Southwestern Traction Co	28.50	60,505.23	8,902.84	85.28	23.12	20.08	241,357	15,569		324,167	1,184
St. John Ry.	12.50	156,654.31	9,714.94	93.80	17.09	16.03	916,391			3,433,809	
St. Stephen S.R.	3.00	28,293.30	—3,699.71	113.07	15.43	17.39	183,960			586,956	
St. Thomas S.R. (13)	7.50	11,563.76	—4,402.62	137.98	3.42	4.72	338,040			511,604	
Sydney and Glace Bay Ry. (4)	18.80	110,697.84	52,549.40	52.52	36.57	19.21	302,674			2,210,939	
Toronto Ry. (14)	52.39	3,609,218.35	1,633,879.94	54.73	24.31	13.38	14,843,574			87,964,425	
Toronto Suburban Ry.	9.81	39,009.66	4,785.68	87.73	19.27	16.91	202,386			862,590	
Toronto & York Radial Ry. (14)	78.05	299,812.04	108,021.01	63.97	29.88	19.11	936,508	66,675		2,920,696	220,000
Windsor, Essex & L. Shore Rap. Ry.	37.28	35,585.62	11,852.03	66.69	32.37	21.59	109,108	796	796	138,710	625
Windsor and Tecumseh (12)											
Winnipeg E.S.R.	52.66	903,184.61	465,080.57	48.51	25.80	12.28	3,500,270			21,292,004	
Woodstock, T.V. & Ing. E.R. (1)	11.50	19,534.90	3,820.20	80.44	17.10	13.76	114,184			387,500	
Yarmouth S.R.	2.00	14,196.43	3,185.26	77.56	16.67	12.93	85,120			230,000	
Totals	992.03	14,007,049.48	5,311,169.57				56,412,035	552,846	303,391	299,099,309	732,475
							56,96	4,881			

Notes to Electric Railway Statistics.

(1) The Brantford St. Ry. is owned and operated by the same interests which own the Grand Valley Ry., and the Woodstock, Thames Valley and Ingersoll Ry.

(2) The statistics for the Brantford and Hamilton Ry. cover its operations for one month only, the line being a new one. The B. and H. Ry. is owned by the Dominion Power and Transmission Co., which also owns or controls the Hamilton and Dundas St. Ry., the Hamilton, Grimsby and Beamsville Electric Ry., the Hamilton Radial Electric Ry., and the Hamilton St. Ry.

(3) The British Columbia Electric Ry. owns local electric railways in Victoria, Vancouver and New Westminster, and a suburban line connecting the last two cities.

(4) The Cape Breton Electric Co. owns the local electric railway in Sydney, and owns jointly with the Dominion Coal Co. the Sydney and Glace Bay Ry.

(5) The Galt, Preston and Hespeler St. Ry., together with its leased line, is operated in connection with the C.P.R., under a lease. The C.P.R. also owns the Hull Electric Co.

(6) The International Transit Co. is one of the companies owned by the Lake Superior Corporation at Sault Ste. Marie, Ont., and connects with the Trans-St. Mary's Ry. at Sault Ste. Marie, Mich., owned by the same company.

(7) The Montreal Park and Island Ry., and the Montreal Terminal Ry., are owned by the Montreal St. Ry.

(8) The Niagara Falls Park and River Ry. is owned by and operated in connection with the International Ry. of Buffalo, N.Y.

(9) The Niagara, St. Catharines and To-

1. Egerton Tramway Co. changed to Dicks County Electric Co

ronto Ry. also owns the Niagara Falls, Wesley Park and Clifton Ry., and the Port Dalhousie, St. Catharines and Thorold Electric St. Ry.

(10) The Port Arthur St. Ry. was owned by the City of Port Arthur, Ont., during the period covered by these statistics. It is now owned jointly by the cities of Port Arthur and Fort William.

(11) The Quebec Ry., Light and Power Co. operates a steam freight service over its Montmorency Division, the statistics of which are given in the steam railway statistics.

(12) The Sandwich, Windsor and Amherstburg Ry. owns and operates the Windsor and Tecumseh Electric Ry., and the statistics given include the operation of both lines. The S.W. and A. Ry. is in its turn owned by the Detroit United Ry.

(13) The St. Thomas St. Ry. is owned by the city, and operated by a commission.

(14) The Toronto Ry. owns the Toronto and York Radial Ry.

Electric Railway Notes.

The Winnipeg Electric Ry. is building at its own car shops, 30 double-truck cars, 32 ft. 11 ins., length of body; 45 ft. 4 ins., length over all. These cars will be equipped with G.E. 80 motors and Westinghouse air brakes.

Press reports recently stated that the Montreal and Southern Counties Ry. had ordered 6 observation type electric cars, 56 ft. long, to be built at the G.T.R. shops, Montreal. On Mar. 22, we were officially advised that the order had not been placed.

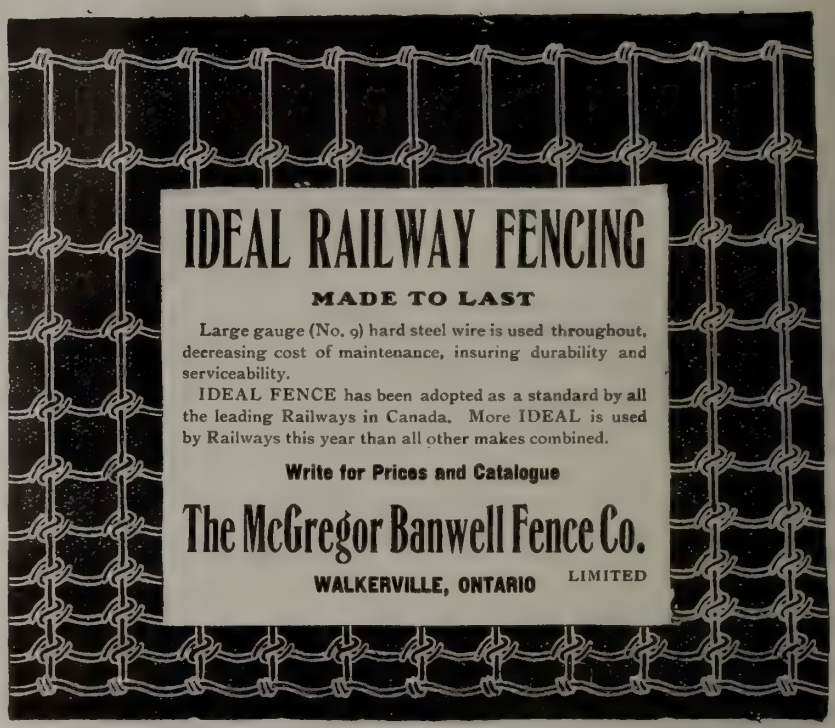
N. M. Cantin, who was actively engaged in the promotion of the Stratford and St. Joseph Electric Ry., was charged in the Toronto Police Court, Mar. 4, with stealing a certificate of 9,000 shares of stock in a mining company. The charge was withdrawn, the Crown Attorney stating he was satisfied there was no theft, and that the matter should not have been brought into court at all.

The Ontario Railway and Municipal Board is being asked by Vaughan and Markham townships to order the Toronto and York Radial Ry. to properly construct the road between the rails, and for 18 ins. on either side, and to keep same in proper repair. The townships allege that the railway company has not properly removed the snow from its road, but has done it in such a way as to block traffic on the highway.

The British Columbia Electric Ry. is constructing at its car shops, New Westminster, 16 passenger cars and one observation car for its Vancouver lines; six cars and a shunter for its New Westminster line; six box cars and an electric locomotive for the Chilliwack line, now nearly completed; seven box cars, two flat cars and an electric locomotive for its Lulu Island line. It has, it is reported, in addition, placed orders for some electric locomotives.

The Calgary Electric Ry. has ordered 4 pay-as-you-enter cars from the Preston Car and Coach Co., Preston, Ont., of which the following are chief particulars: Length of body, 28 ft.; length of rear vestibule, 7 ft.; length of front, 4½ ft.; with bull-nose roof, semi-elliptic side sash and deck sash, 14 walk-over cane upholstered seats and 2 stationary seats; P.C. & C. Co.'s automatic folding door fixtures, positive sand boxes. The cars are to be equipped with Westinghouse 101-B motors.

The Winnipeg Electric Ry. Co. is objecting to the city's application to the Legislature for amendments to its charter, in so far as they refer to power to lay conduits in streets, and to compel companies operating wires to rent space in those conduits. The company


IDEAL RAILWAY FENCING
MADE TO LAST
Large gauge (No. 9) hard steel wire is used throughout, decreasing cost of maintenance, insuring durability and serviceability.
IDEAL FENCE has been adopted as a standard by all the leading Railways in Canada. More IDEAL is used by Railways this year than all other makes combined.
Write for Prices and Catalogue
The McGregor Banwell Fence Co.
WALKERVILLE, ONTARIO
LIMITED

THE INTERNATIONAL
MARINE SIGNAL CO.
OTTAWA, CANADA

MANUFACTURERS OF

Automatic Acetylene Gas Buoys, Beacons and Fog Signals.

Mariners describe our lighted buoys as "floating lighthouses."

states that in accordance with the city by-law passed last summer, compelling the company to put all wires underground, it had commenced that work and had made excavations. The city had, however, stopped the work on the ground that the company had no power to use streets and lanes for conduits.

The question of the operation of street cars on Sundays has come up for consideration by the Ontario Legislature in bills put forward by various company and municipally owned lines at the current session. The general policy of the Government in regard to these was stated by the Premier in reply to a deputation from London, Mar. 10, asking that such operation be not allowed. He stated the Government had no right to decide the question of Sunday cars on purely moral grounds. Neither London nor any other municipality would get Sunday cars unless the people voted for them, and it will be a future and not a past vote.

Grain Elevator Notes.

The Alberta Pacific Co.'s elevator at Ponoka, Alta., and 20,000 bush. of grain, were destroyed by fire recently.

Conger & Co.'s elevator at Rouleau, Sask., was destroyed by fire recently, together with about 70,000 bush. of grain.

Arrangements are reported to have been made for the erection of an elevator at Wainwright, Alta., for M. Orr, Stoughton, Sask.

The Vancouver Milling and Grain Co. has let a contract for the construction of an elevator of 115,000 bush. capacity at Vancouver, B.C.

The Northern Elevator Co. has commenced work on the construction of elevators at Leslie and Elfors, Sask., and is said to be contemplating the erection of another one at Wynyard, Sask.

Clark and Hannah's elevator, Orangeville, Ont., and about 20,000 bush. of grain, were destroyed by fire recently. The estimated loss is $12,000, of which $4,000 represents the elevator.

K. Burnett, Nanton, Alta., is reported to have secured a site in Vancouver for the construction of an elevator there, which it is stated will be ready for operation for dealing with the coming season's winter wheat.

Press reports state that 43 elevators will be built in Alberta during the current year, divided as follows: Alberta Pacific Elevator Co., 25; Alberta Grain and Elevator Co., 8; and private firms, 10. Most of these, it is stated, will be erected in the southern part of the province.

As a result of a recent meeting between a New Westminster, B.C., deputation and members of the Calgary Grain Conference, a committee of six has been formed to investigate the question of the erection of terminal elevators at New Westminster for the purpose of handling grain from the prairie provinces.

An order-in-council has been passed establishing fees for the inspection and weighing of grain as follows: For inspection, grain in sacks, one-third cent. per cental; in bulk, 50c. per carload; and 50c. per 1,000 bush.; for weighing, 30c. for each carload into and out of elevators, and 30c. per 1,000 bush. for each cargo from elevators.

Application is being made to the city council of Vancouver, B.C., by H. Mooer & Co., Kingston, Ont., for assistance in the erection of a terminal elevator at that port to cost $400,000, by way of exemption from taxation and a guarantee of bonds. Press reports state that the request is not likely to be granted, as the Dominion Government and the C.P.R. have under consideration proposals for the construction of elevators at that port.

F. W. Peters, Assistant to Second Vice-President C.P.R., Winnipeg, who was in Vancouver recently, is stated to have assured the local authorities that the company is prepared to deal with the question of erecting elevators on the Pacific coast, and that it will be found that when grain begins to move westward, elevators will be there to deal with it. When the time came, the matter would be principally in the hands of F. F. Busteed, General Superintendent of the Pacific Division, who superintended the erection of the terminal elevators at Fort William, Ont.

The Alberta Grain Growers' convention at Calgary, recently, adopted a resolution to urge the Dominion Government to undertake the erection and operation of a terminal elevator on the Pacific coast, to deal with Alberta grain shipped west, and failing action by the Government, to urge the C.P.R. to undertake it, to be ready to handle the 1909 crop. The convention also desired amendments to the Manitoba Grain Act, in its application to Alberta, so that any farmer wishing to put grain through elevators by sale or otherwise be enabled to obtain cars in the same proportion as if loaded from platforms, and that the companies keep books for the purpose of entering requests for cars.

Regarding the C.P.R. elevator which is to be constructed by the John S. Metcalfe Co., on Maple Island, near Victoria Harbor, Ont., at the terminal of the Georgian Bay and Seaboard Ry. (C.P.R.), we are advised that in the main it will be the same as the one recently constructed by the same firm for the G.T.P.R. at Tiffin, Ont., a description of which appeared in our Dec., 1908, issue. In the case of the C.P.R. elevator, the working house will be smaller, and the power plant larger than that of the G.T.P.R. Any other differences are of a minor character. The capacity of the new elevator will be 2,000,000 bush., and the contract price is about $900,000.

MARINE DEPARTMENT.

The Sagamo-Kenosha Collision.

Commander O. G. V. Spain, R.N., Dominion Wreck Commissioner, has given the following judgment in connection with the investigation of the collision which occurred between the Muskoka Lakes Navigation and Hotel Co.'s steamboats Sagamo and Kenosha, at Beaumaris, Ont., Aug. 11, 1908:

"The court having made a full and exhaustive enquiry into all the circumstances attending the casualty, and having carefully reviewed the whole of the evidence that it was possible to obtain from the officers and crews of the vessels themselves, and also from passengers, finds as follows: The accident was caused by the Kenosha striking the port quarter of the Sagamo with her stem. The court considers that the officers of the Kenosha are in fault, that the Captain was below at the time of the accident, and the deck was in charge of Jas. Ariss, the mate, who was under the influence of liquor, and incapable of performing his duties in a satisfactory manner. There were large numbers of passengers on board each vessel, and it was much more by good luck than good management that a serious disaster was averted. R. Hanson, Captain of the Kenosha, who holds a certificate of competency as master of a passenger vessel in the minor inland waters, is severely censured, not only for being below at the time his vessel was leaving the dock, but also for leaving the deck in charge of an officer who was under the influence of liquor. The certificate held by Jas. Ariss, as mate in the minor inland waters, is cancelled, as the court considers that an officer who is intoxicated when in charge of a vessel, more especially a vessel carrying large numbers of passengers, is not a fit and proper person to hold

Champion Revolving Dump Car

The CHAMPION CAR is radically different from any now on the market. It is simple, strong, compact and being built entirely of iron except the bed, is extremely durable. The bed revolves and may be dumped on either side or end. Write for catalogue of cars and drums.

The Canadian Road Machine Co., Limited
HAMILTON, CANADA

this position. The master and officers of the Sagamo are exonerated from blame. The court desires to bring to the notice of the Manager of this company, the grave responsibility that rests, not only with the officers of the vessels, but with himself. Too great care cannot be taken on board passenger vessels in seeing that the masters and officers are thoroughly competent and sober. It appears by the evidence that on previous occasions it was known to the Manager that mate Ariss had been under the influence of liquor on duty, and the court considers that, being aware of this fact, the company should not have kept this officer in such a responsible position, where the lives of numbers of passengers might at any time be left in his sole charge."

Hudson Bay Co.'s Steamboat Service.

This company has now a complete service covering the ocean journey to the Labrador coast, and Ungava, Churchill, York and Moose Factories in Hudson Bay, and all the navigable streams in the interior waters of Northwest Canada. Following is a list of the steam vessels which will be operated during the year, together with their respective routes:

Discovery—London, Eng., to Hudson Bay.
Pelican—London, Eng., to Labrador, Ungava and Hudson Bay points.
Port Simpson—Stikine and Skeena Rivers, B.C.
Hazelton—Stikine and Skeena Rivers, B.C.
McKenzie River—McKenzie River, B.C.
Wrigley—McKenzie River, B.C.
Peace River—Peace River, Alta.
Messenger—Peace River, Alta.
Grahame—Athabasca River, Alta.
Primrose—Athabasca River, Alta.
Saskatchewan—Saskatchewan River, Sask.
Churchill—Churchill River, Keewatin Terr.
Lac Seul—Lost Lake and Lac Seul, Keewatin Terr.
Inenew—James Bay.
Eskimo—James Bay.

The whole of the company's transport service is directed and supervised from Winnipeg, where the head office for Canada is located.

The St. Lawrence Power Development.

C. J. Smith, President; A. A. Wright, H. A. Calvin, L. Henderson and F. King, counsel, representing the Dominion Marine Association, waited on the International Waterways Commission in Buffalo recently, and presented a memorial, of which the following are the main points:

"In pursuance of the opportunity afforded by your commission, we have caused careful examination to be made of the plans submitted by the Cedars Rapids Manufacturing and Power Co. respecting its proposed works in the Cedars Rapids of the St. Lawrence River, and submit that the proposed works, if permitted to be undertaken, would very seriously interfere with the interests of navigation on the St. Lawrence, by diverting water from its present channels, by completely barring other necessary channels, by overloading and congesting the canal at this point, by entailing risk of accident in the proposed works and possible blockades, and by causing derangements of present conditions, the consequence of which it is impossible for expert engineers or others to estimate with any degree of certainty.

"It appears that the proposed works would completely bar the river to The Calvin Co., whose rafts are obliged to take the channel now proposed to be closed; and that the channels now available for certain boats of the Richelieu and Ontario Navigation Co.,

THE
FARLOW TWIN SPRING DRAFT GEAR

Designed for Wooden or Steel Cars and Engines.
Pulling Strains Distributed Equally on the Three Cross Keys.
Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.
BALTIMORE, MD. CHICAGO, ILL.

PEERLESS
The Fence that saves Expense

Because it saves repairs. It does not sag, bag, snap, or break, and when once put up it stays in good shape. Adjusts itself to all irregularities of the ground and resists weather—wear and stock especially well. Makes the best railroad fence you can possibly put up, both in appearance and lasting qualities. You can do no better than to erect Peerless Fencing. It will always be a standing example of your good judgment. The free book we are sending out is very interesting to people in your field. Shall we send you a copy—a postal request will bring one promptly.

THE BANWELL HOXIE WIRE FENCE CO.,
LIMITED
Dept. 17 HAMILTON, ONT.
WINNIPEG, MAN.

STRONGER
Than Stock-Weather and Wear

and others, would be materially altered, or rendered useless, while, of course, no guarantee can be given that other equally satisfactory means of passing the Rapids will be afforded. While engineers may be able to estimate the probable volumes of water, and the possible or even probable direction and velocity of currents, experience alone will give certain results, or settle the questions of grave importance whether proposed new channels will be safely navigable for the vessels requiring to use them. It has been admitted that undertakings by power development companies to meet future emergencies, and to protect or indemnify navigation interests, should not be accepted, and that the protection should be applied before the development is permitted.

"We have a larger duty to perform than merely to protect the interests of the two companies above named, and their cases are cited merely as concrete examples sufficient in themselves to warrant refusal of sanction for the proposed works, without reference to the other dangers and difficulties entailed, such as the congestion of canals, the risk of accident to the works and the chance of blockades, not to mention the various other perils which can only be foreseen with reference to other cases where navigators are proved to have suffered by the positive evidence of increased insurance rates. We beg leave to refer to various previous memorials and petitions submitted to your commission, in which they have, through their individual bodies, declared themselves unalterably opposed to power developments on the St. Lawrence and other rivers which may in the present, or future, possibly interfere to any extent with any navigation interests; and we refer again to the well-defined policy already laid down by your commission that the interests referred to are to be considered paramount; we submit that it is abundantly apparent that these interests would be directly and definitely prejudiced and interfered with by the proposed works, and that the rights of navigators would also be rendered liable to the other indirect perils and difficulties referred to, and that, therefore, the plans submitted cannot properly be given the sanction for which the promoters ask. We therefore pray that the plans and proposals submitted be not sanctioned by your Commission."

Memorials were also presented by the Shipping Federation of Canada, Montreal Board of Trade and Montreal Chambre de Commerce, to the same effect. A meeting took place, Mar. 8, in Ottawa, when the deputation placed its views of the Long Sault Development Co.'s proposals before the Premier, the Ministers and Chief Engineers of the Railways and Canals, and Public Works Departments, and the Chief Engineer of the Marine Department, during which the plans were thoroughly discussed.

Shipping Federation of Canada.

The annual meeting was held in Montreal Feb. 10. In submitting the sixth annual report for the year 1908, Hugh A. Allan, President, said:

The season of navigation opened April 30 with the arrival of the s.s. Corsican, and the last ocean vessel to leave was the s.s. Dahomey, Nov. 26. The number of seagoing vessels that arrived during the season was 739, of a tonnage of 1,958,604 tons, compared with 742 vessels of a tonnage of 1,923,658, showing a decrease of 3 vessels and an increase of 34,946 tons. The passenger business eastbound shows an increase, which may be accounted for by the U.S. travelling public appreciating the natural advantages of the St. Lawrence in preference to other routes. The westbound traffic shows a considerable falling off. The number of cattle shipped increased 2,565; the number of sheep shipped (which is the smallest since 1879) decreased 1,274. The apple shipments decreased 262,608 barrels; cheese decreased 169,480 boxes; eggs decreased 17,547 cases; lard decreased 13,077 packages; flour and meal decreased 127,408 barrels; lumber decreased 9,663,118 feet b.m.; butter increased 26,365 packages; box meats increased 13,439 boxes; pulp and paper increased 18,456 tons; hay increased 8,939 tons; grain and seeds decreased 1,482,207 bush. Time, however, works its own cure, and already there are signs of improvement and, as in past years any improvement in trade in the west always reflects itself on Montreal, we may probably look for a gradual betterment during the coming year.

There was a decrease in employment of longshoremen during the season, the daily average being 669, as compared with 786 in 1907. The season passed without any recurrence of labor troubles. The new bonus system is appreciated by the regular men who look to the wharves annually for their living, and has had the effect of retaining until the close of navigation the greater number of the men who signed the contract at the beginning of the season, thereby reducing the floating element which caused so much trouble by making unreasonable demands when the call for labor exceeded the supply.

The marine signal service stations that were opened in Oct., 1907, for reporting vessels and conveying to them the conditions of the river, have been found of great advantage. This was especially so during the unprecedented period of fog and bush fires which we passed through, enabling us to know the whereabouts of vessels that were delayed with passengers on board. Although the present system works well in clear weather, the executive committee consider it would still be of greater advantage if wireless communication could be set up between vessels and the shore in smoky or thick weather; this latter point is receiving the Minister's consideration. Another matter is the work done in connection with the dredging of the Beaujeu channel below Quebec; a 30 ft. channel with a width of 600 ft. has been opened during the season, enabling vessels drawing under 30 ft. to reach Quebec at any state of the tide. Dredging operations are being continued, and the intention is to extend the width of the channel to 1,000 ft. It is very gratifying to learn that a start has been made to deepen the St. Lawrence ship channel to 35 ft., and that good progress has been made with the deepening at Cap-à-la-Roche. I think it is only fair to mention the satisfactory condition in which the different aids to navigation have been kept during the season. From the record kept of reports and complaints from masters and pilots, the following figures show a very satisfactory condition for the season. In 1906, 52 defects were reported; in 1907 47, and in 1908, 17.

The question of the rental of the permanent sheds, and how best to reach the upper storeys, has been under consideration by the Montreal Harbor Commissioners. The executive committee considers that the charging of rentals for the permanent sheds is a very unwise step, and is not in accordance with the policy of making Montreal a free port, which policy was first adopted by the Government when it took over the Lake St. Peter debt, and has been continued since then by the reductions from time to time in the wharfage rates. While the committee admit that the erection of these sheds has been very beneficial to the trade of the port, they do not believe that the policy of making steamers of the regular lines trading to the port, whose bills of lading only call for delivery at ships' rail, pay all the rental charges, while the merchants and receivers of freight, who benefit by the improved wharf accommodation, receive this benefit without cost to themselves. The executive committee does not ask for free sheds, but it considers that the new conditions call for a re-arrangement of these charges so that all parties benefiting shall pay a proportion of the benefits received. It was stated by the Chairman of the Harbor Commissioners at a meeting of the Manufacturers' Association, that $30,000 has been saved in three months in the handling of freight on the wharves, and as the season of St. Lawrence navigation extends over seven months of the year, it is reasonable to suppose that the saving during the whole season will amount to about $70,000. The executive committee therefore is of opinion that this saving should enable the Commissioners to reduce the charges of rentals to the regular lines, and thinks it well also to point out that a tramp steamer might come to the port and have her cargo handled without contributing a cent to shed rentals. In the committee's opinion the Harbor Commissioners should be asked to consider whether the system prevailing at Boston and Portland of covering the cost of shed accommodation by a charge on the goods cannot be adopted here. If this were done, the regular lines running to Montreal would be put on a par with the lines running to Boston and Portland, and therefore able to compete with them.

The Federation has protested for years against the sick mariners' dues of 2c. a ton, charged 3 times a year on every ship arriving in any of the provinces except Ontario. The monies collected from these dues form part of the Consolidated Fund of Canada, and a large surplus has accumulated. The Government introduced a bill during the last session reducing the dues from 2c. to 1½c. per ton. It is to be hoped that in the near future this unjust impost will be abolished altogether; the charge falls upon vessels which gain no advantage from the fund; besides, not being levied in Ontario, the tonnage from that province goes free both in home ports and in the U.S., an unfair discrimination against the other provinces.

The cordial relations that have existed between the Federation and the different Government departments have continued during the year, and to this I attribute largely the success of our work, and it gives me pleasure to testify to the assistance, co-operation and assiduity of the Minister of Marine, and the other officers of his department.

THE HARBOR COMMISSIONERS' REPLY.

The Montreal Harbor Commissioners replied to Mr. Allan in an interview in the Montreal Witness as follows: "Mr. Allan's remarks were somewhat misleading. Out of the total revenue for the port of Montreal, which amounts to about $500,000, the shipping companies contributed last year $29,500; the merchants, manufacturers and railway companies contributed the balance. The shed rental charge this year is only 3% on the actual cost, which is a very moderate rental, considering that these new magnificent steel sheds are the best of their kind, and have more than doubled the storage capacity in the central part of the harbor. The erection of these sheds has enabled the steamship companies using them to handle freight with very much greater despatch and at greatly reduced cost. The cargo of a steamer of one of the leading lines using this port on a voyage last season was loaded and unloaded, a total of 13,000 tons in 72 hrs., a time record which has not been surpassed by any of the modern ports in Europe. There has also been a saving to the steamship com-

panies as far as labor costs are concerned, not as many men being required now as heretofore, owing to the erection of these fine new sheds. The rental asked from the shipping companies for this year will be less than one-fifth of the total revenue, and therefore, his statement that the merchants and receivers of freight benefit by the improvements carried on in the port of Montreal, without cost to themselves, is incorrect. Before these sheds were definitely decided upon by our predecessors in office, the shipping people unanimously agreed to pay 3% interest on the cost of construction. One of the largest companies has already agreed to the new rental charge without criticism. As to wharfage rates, in 1896 the harbor commissioners, having a surplus and no improvements being carried on, the wharfage rates were reduced 25%. In 1901, 60% of the wharfages on exports were reduced 50%. This means a reduction in revenue approximately $100,000 a year. It is not the commissioners' intention to raise the wharfage rates to where they were prior to 1896, but to make a small increase with due regard to the port's best interests to enable them to meet their obligations. As far as the 'free port' is concerned, the commissioners have not been given to understand that this is the Government's intention, and they do not know of any 'free port' in the world."

Since the foregoing statement was made, the commissioners have reconsidered the matter of an increase in wharfage rates, and announced that the increased charges, of which notice had been given, would not be put in force this year, but most probably would be next year.

Atlantic and Pacific Ocean Marine.

J. White has been appointed harbor master at Charlottetown, P.E.I.

J. P. Esdaile, steamboat inspector for Nova Scotia since 1889, died at Halifax Mar. 14.

The Allan Line s.s. Virginian, after being overhauled, has returned to service, completing her first passage since then on Mar. 12.

The Dominion Public Works Department received tenders, Mar. 23, for the construction of three ice piers on the Annapolis River at Annapolis Royal, N.S.

The Elder-Dempster Co. is reported to have decided to place steamships on the route between Montreal and the Atlantic terminals of the Tehuantepec Ry. of Mexico, at Coatzacoalcos.

Capt. C. Cameron, who was in command of various trans-Atlantic liners for 25 years, and who until recently was captain of the White Star s.s. Oceanic, died at Southampton, Eng., Mar. 14.

The C.P.R. has extended the privileges of its pension fund to the crews engaged on its Atlantic steamships. The minimum pension is the same as that granted to the staff on shore, viz., $20 (in sterling £4 2s. 2d.) a month.

W. J. Dott and G. R. Nicholson are reported to have been appointed joint managers of Allan Bros. and Co., London and Liverpool, Ltd., at Liverpool, Eng., representatives of the Allan Line, succeeding the late W. Beckett Hill.

The Dominion Department of Agriculture received, Mar. 17, offers of a steamboat required for quarantine service at Halifax, N.S. The size of the vessel desired is: Length, 80 ft.; breadth, 20 ft.; draught, 8 ft.; with a speed of about 10 knots an hour.

The s.s. Stikkelstad, which sailed from Glasgow, Scotland, Nov. 23, 1908, for Sydney, N.S., has been given up as lost, and from the wreckage found along the west

The Meaford Wheelbarrow Co., Limited

MEAFORD, ONTARIO

MANUFACTURERS OF ALL STYLES

WHEELBARROWS, both wooden and steel
WHEEL SCRAPERS, square box and pressed bowl
PRESSED STEEL SEAMLESS DRAG SCRAPERS

ALSO

DUMP CARS for hand work **GRADING PLOUGHS**
DUMP CARTS, and other Contractors' Supplies

Newest Patterns
Prompt Shipments

The Salt Breath of the Sea Brings Health

GALEN HALL ATLANTIC CITY, N.J.

Hotel and Sanatorium

New Stone, Brick and Steel Building, with every convenience, luxuriously furnished and superior table. ALWAYS OPEN. ALWAYS READY. ALWAYS BUSY. Half an acre of Medicinal and other Baths, with trained operators and attendants.

F. L. YOUNG - - General Manager

coast of Scotland it is assumed that she was wrecked shortly after leaving Glasgow.

The following Government appointments in Nova Scotia have been announced: F. P. Chiasson, harbor master, Margaree; P. L. McFarlane, harbor master, Baddeck; S. C. McMillan, receiver of wrecks, Isaac's Harbor district; J. Melonson, Port Warden, Annapolis Royal.

The British Secretary of State for the Colonies recently announced that the whole question of the promotion and extension of trade relations between Canada and the West Indies, including improved steamship communication, would be covered by the Royal Commission appointed to enquire into it.

The Leyland Line, which it was recently announced was to withdraw from the St. Lawrence route, has been amalgamated with J. H. Welsford & Co., owners of the Gulf Transport Line, in England. The bulk of the Leyland staff will be retained by the new management, and a considerable reduction of capital will be made.

The Newfoundland barque Lairnia was wrecked recently at Chance Cove, about 15 miles from Cape Race, and became a total loss. She got safely to shore after considerable difficulty. She was a wooden vessel, built at Glasgow, Scotland, in 1869, her dimensions being: Length, 125.1 ft.; breadth, 24.1 ft.; depth, 13.6 ft.; tonnage, 251 register.

The Union Steamship Co. is reported to have decided to build another steamship similar to the s.s. Makura for the Canada-Australia route, at a cost of about $2,000,000. It is stated that the company, which at present receives a subsidy of $325,000 annually, is prepared to place two more vessels on the route, if the subsidy is increased by $100,000.

The Osaka Shosen Kaisha, which is to inaugurate a trans-Pacific service in June, in connection with the Chicago, Milwaukee and Puget Sound Ry., has chartered the British s.s. Strathearn, owing to its inability to complete some of the vessels under construction by the time mentioned. One of the six vessels to be operated by the company is to be named Canada Maru.

The Nippon Yusen Kaisha's s.s. Aki Maru, which arrived at Seattle, Wash., recently, reported that telegraph communication had been maintained with either the Japanese shore station or the Vancouver Island station throughout the whole voyage across the Pacific. This was not accomplished direct with shore stations all the time, but by means of relays through other vessels of the same fleet leaving or approaching either shore.

The Minister of Marine gave notice in the House of Commons, Mar. 3, of a resolution empowering the Government to enter into a contract for a subsidized line of steamships between Canada and France. The aggregate amount to be paid is not to exceed $200,000 a year, and at least 15 round trips must be made during the year. The Government's intention is said to be to enter into a new contract with the Allan Line for a 15-knot service, replacing the present 12-knot service.

Press reports state that the keels of two Atlantic liners for the C.P.R. have been laid at Govan, Scotland. It is stated that the new vessels will be a great advance on the present Empresses, both in accommodation and speed. Sir Thos. G. Shaughnessy, while in St. John, N.B., recently, stated in response to a question as to the transfer of the Empress vessels to the Pacific route, that he had nothing to add to what had already been said, except that the scheme had not assumed a definite shape.

C. N. Armstrong, who recently returned to Montreal from London, Eng., is reported to have said that the work in connection with the projected "all red" route from England, via Black Sod Bay, Ireland, will be pushed on, immediately on the passage of the bonus bills by the British Parliament. The subject does not appear to have been mentioned in the British Parliament during the present session, in any form, and there seems no likelihood of the matter being dealt with during the present year at any rate.

The grounds on which the Allan Line is protesting against the entrance of the White Star Line into the Canadian trade, are that the latter line agreed to remain out of the St. Lawrence trade, or else to keep its name out of it. The steamships Laurentic and Megantic will, as has been announced, take up the St. Lawrence route on the opening of the season, operating in conjunction with the Dominion Line as the Dominion-White Star Line, and this is looked upon as an infraction of the agreement with the Allan Line. Both the Dominion and White Star Lines are owned by the International Mercantile Marine Co. The matter is being arbitrated upon.

The Canada Line, a joint service between continental Europe and Canada, operated by the Hamburg American Line, the Holland American Line, and the North German Lloyd, in connection with the C.P.R. and G.T.R., was inaugurated Mar. 19 by the sailing of the s.s. Prinz Oskar from Rotterdam for Halifax. Three twin-screw steamships will be utilized on the route, viz., Prinz Oskar and Prinz Adalbert, sister vessels, of 6,000 tons gross, owned by the Hamburg American Line, and Willehad, 4,800 tons gross, owned by the North German Lloyd. The ports of call are: Halifax, St. John and Portland, Me., on the winter schedule, and Quebec and Montreal in the summer. The Canadian office of the line is at Montreal, under J. Thom's management, and agencies have been established at Quebec, Toronto and Winnipeg.

Maritime Provinces and Newfoundland.

Capt. R. Keay has been appointed harbor master at St. Andrews, N.B.

The La Have Steamship Co., Ltd., has declared a dividend of 5% for the past year.

N. Martin has been appointed harbor master and port warden of Port Hawkesbury, N.S.

An order-in-council was passed recently, rescinding a previous order prohibiting the use of trawls in St. Mary's Bay, N.S., from Oct. 1 to June 30.

The Halifax and Inverness Steamship Co.'s s.s. Strathlorne is having her machinery installed at Halifax. The hull was built at Mahone Bay, N.S. When completed she will be operated between Halifax, Cape Breton ports and Prince Edward Island.

The C.P.R., under the franchise of the New Brunswick and Canada Ry., has deposited with the Dominion Public Works Department, plans and description of the site of a wharf which it proposes to construct at St. Andrews, N.B.

The Island Tug Co., Charlottetown, P.E.I., owns 2 steam tugs and one twin-screw passenger and freight steamer Harland. The latter is under contract with the P.E.I. Government, and the tugs have been hired by the Dominion Government to attend the dredges Montague and Prince Edward.

The North Shore Steam Ship Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $50,000 and office at Sydney, N.S., to own and operate steam and other vessels, and to carry on the business of shipowners and common carriers within and without the Dominion. The provisional directors are: J. T. Burchell, J. A. Young, W. F. Burns, C. M. Burchell and H. Ross, Sydney, N.S.

At a recent meeting of the St. John Board of Public Works, the question of increased wharf accommodation was referred to a committee. It was stated that the Eastern Steamship Co. is making application for the berth now occupied by the s.s. Senlac, which is to be removed to another route. The company, it is said, will put on a morning boat, to connect with the s.s. Prince Rupert.

The Marine Department has given notice that the whistling buoys formerly moored near Pubnico harbor lighthouse, Shelburne harbor entrance, Liverpool bay, northeast shoal off the south coast, Nova Scotia; and near Indian rocks, P.E.I.; the gas buoy and the bell buoy at Thrumcap shoal, Halifax harbor, N.S., and the bell buoy at Prim reefs, Hillsborough Bay, P.E.I., have been replaced by combined gas and whistling buoys.

Press reports state that the s.s. Senlac, which has been operated between Halifax and St. John for the past few years, is about to be withdrawn from that route, and run between Gaspe, Quebec, and Campbellton. She is managed by W. Thomson & Co., St. John, N.B., and receives about $10,000 a year in subsidies. It is stated that the opening of the railway between Halifax and Barrington has interfered with her trade. The Senlac was recently quarantined with smallpox on board, and the agents are reported to have said that she will be laid up.

Application is being made to the N.B. Legislature for an act incorporating the New Brunswick Docks and Terminals, Ltd., with power to construct and operate docks, dockyards, wharves, piers and terminals at Bathurst and such other port or ports on the Bay Chaleur and Miramichi River, as may be selected for the purpose. Those mentioned in the application are: G. E. Drummond, T. J. Drummond, E. McDougall, Montreal; W. F. C. Parsons, Londonderry, N.S.; J. J. Drummond, Midland, Ont.; W. M. MacLeod, and R. W. Cooper, London, Eng.; all of whom are interested in the Canada Iron Corporation Ltd.,

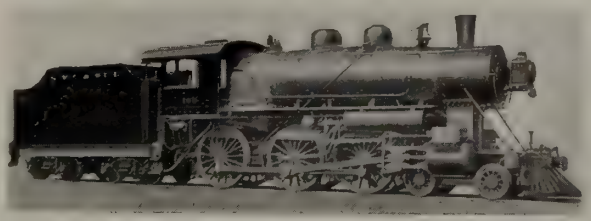
The Avon Marine Insurance Co., of Windsor, N.S., was wound up recently. It was organized in 1851, in the days when wooden shipbuilding was a flourishing industry in the province. The original capital stock paid up was $25 a share, and for 3 years dividends of $65 a share were paid, and subsequently for a number of years dividends of $50, $45 and $40. In the winding up $112 a share, making a total of $44,800, has been paid to the shareholders. The Secretary of the company was presented with the office furniture, and the President with a model of a barque.

The s.s. Beothic, built at Glasgow, Scotland, for Job Bros., St. John's, Nfld., for sealing purposes, arrived there recently. The arrangement of holds, crew's quarters, etc., is similar to that on other vessels of the same firm. Forward under the peak deck are the crew and firemen's quarters, on the bridge deck are captain's room and chart room, and underneath this the saloon, with staterooms on each side, having accommodation for 10 passengers. Her dimensions are: Length over all, 252.8 ft.; length between perpendiculars, 240 ft.; breadth (moulded), 35.6 ft.; depth (moulded), 19.2 ft.; depth of hold, 16.11½ ft.; mean draught (laden), 17.9¼ ft.; tonnage, 1,140.13 gross, 471.42 register; deadweight (including bunkers), 1,505 tons; total water ballast, 412 tons; capacity for grain, 94,460 cubic ft.; capacity for bales, 90,000 cubic ft.

Baldwin Locomotive Works

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND



LOCOMOTIVES

Mine, Furnace and Industrial Locomotives
Electric Locomotives with
Westinghouse Motors and Electric Trucks

BURNHAM, WILLIAMS & COMPANY
PHILADELPHIA, PA., U.S.A.
Cable Address:—"Baldwin," Philadelphia

Standard Steel Works Co.

HARRISON BLDG., PHILA., PA., U.S.A.

THE BRYDGES ENGINEERING & SUPPLY CO. Limited
WINNIPEG, MAN. REPRESENTATIVES

Wheels mounted on axles fitted with motor gear ready for application to equipment

Standard

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.

BRIDGES

TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

The McConway & Torley Co.

PITTSBURGH, PA.

Manufacturers of the

JANNEY
JANNEY "X"
AND
PITT FREIGHT COUPLERS

Buhoup 3-Stem Equipment
Buhoup Vestibule Equipment

Malleable Iron and Steel Castings for Railroad Use

Established 1849

BRADSTREET'S

Capital and Surplus $1,500,000

OFFICES THROUGHOUT THE CIVILIZED WORLD

EXECUTIVE OFFICES

NOS. 346 and 348 BROADWAY, N.Y. CITY, U.S.A.

THE BRADSTREET COMPANY gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

CORRESPONDENCE INVITED

OFFICES IN CANADA:

Halifax, N.S.	Hamilton, Ont.	London, Ont.
Montreal, Que.	Ottawa, Ont.	Quebec, Que.
St. John, N.B.	Toronto, Ont.	Vancouver, B.C.
Calgary, Alta.		Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

Province of Quebec Marine.

The Shipping Federation of Canada has established a branch office at Quebec.

A press report states that two fire boats are to be provided for Montreal harbor. The local shipping interests have been pressing for such for several years.

The Sincennes McNaughton Line, Ltd., has been granted supplementary letters patent increasing its capital stock from $250,000 to $750,000, in shares of $50 each.

F. St. Louis, one of the oldest captains on the St. Lawrence River, died at Montreal recently, aged 89. He was in the R. & O.N. Co.'s employ for 58 years, and latterly had charge of the steamboat Three Rivers.

The amount distributed by the shipping companies operating at Montreal, to the longshoremen, as bonus in accordance with the agreements for service for the last season, was about $50,000. The average bonus paid was $30.

The city of Quebec has given notice of an application to the Provincial Legislature for amendments to its charter of incorporation, providing authority to operate a ferry system across the St. Lawrence River between Quebec and Levis, to borrow money for that object and for other purposes.

The list of coast, lake and river officers for the current year, given on another page, contains the s.s. Restigouche, owned by Bouchard Bros., Quebec. We are advised that the name of this vessel is to be changed to either Lady of Gaspe or Prince Edward, prior to the opening of navigation.

An order-in-council was passed Mar. 6, amending the Montreal Pilotage District by-law 44, by adding the following paragraph: "Provided, however, that vessels coming into the harbor of Montreal by way of the Lachine Rapids shall be exempt from pilotage dues on entering the harbor."

The Department of Marine has given instructions to the operators of the various wireless telegraph systems under its control that they will communicate to passing vessels equipped with wireless apparatus any information, not already published, respecting changes in aids to navigation on the routes such vessels are taking, and also, if requested, information as to the weather conditions prevailing during the previous 24 hours.

The Yale Shipping Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $33,000 and office at Montreal, to own and operate steam and other vessels, and to carry on the business of common carriers, within and without the Dominion. The provisional directors are: C. A. McCollough, New York, N.Y.; N. M. Ward, Orange, N.J.; W. A. Taft, Arlington, Mass.; G. I. Dewar, Ottawa.

Ship Pass of Balmaha Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $36,000 and office at Montreal, to own and operate steam and other vessels, and to carry on the business of ship owners and common carriers within and without the Dominion. The provisional directors are: C. A. McCollough, New York; N. M. Ward, Orange, N.J.; W. A. Taft, Arlington, Mass.; G. I. Dewar, Ottawa.

The Dominion Barging Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $75,000 and office at Lachine, Que., to build, purchase or otherwise acquire, and to operate tugs, barges and other vessels for the towage and conveyance of merchandise by water, and to carry on a general forwarding, warehousing and wharfinger business. The provisional directors are: P. Johnson, A. J. Brown, F. G. Bush, Montreal; W. Beadie and J. McLaughlin, Lachine, Que.

The Pacific Pass Coal Fields, Ltd., has been incorporated under the Dominion Companies Act, with a capital of $5,000,000 and office at Montreal, to acquire interest in coal and other mines, and mining rights, etc., and in connection therewith to own and operate steam and other vessels, wharves, docks, etc. The provisional directors are: A. H. Cook, J. G. Scott, V. Boswell, G. E. Amyot, J. T. Ross, A. E. Doucet, Quebec, Que.; E. B. Greenshields, Montreal; A. de Bernis and R. Brutinel, Edmonton, Alta.

The question of constructing a dry dock at Quebec has received a fresh impetus by the recent receipt of a letter from Sir Thos. G. Shaughnessy, President C.P.R., by J. G. Scott, and which was read at a recent meeting of the Quebec Board of Trade, in which he said: "I quite agree with your views about a suitable graving dock either at Quebec or Montreal. No doubt Quebec would be the better place, beeause I imagine that the large passenger ships of the future will wish to make Quebec their terminus."

In connection with the Richelieu River improvements the Department of Public Works has opened an office at St. John's, Que. The work to be done consists of dredging, blasting and the construction of a movable dam, and there has been expended to date on the work $18,918.97. P. Paradis was engineer in charge. Tenders were asked, Feb. 8, for the construction of two centre hopper dumping scows, for the purpose of replacing worn-out scows as tenders for the dredge Richelieu. The contract for their construction has not been awarded.

The National Navigation Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $300,000 and office at Quebec, Que., to build, repair, purchase, sell and navigate vessels of all descriptions; to float and raise sunken or wrecked vessels; to enter into contracts for the towing and salvage of vessels, and generally to engage in the business of common carriers on land and water. The provisional directors are: I. Montreuil, S. Martel, N. Mercier, J. A. Guerard, T. Gagnon, J. A. Fafard, and J. Cote, all of Quebec.

C. C. Ballantyne and L. E. Geoffrion, of the Montreal Harbor Commission, were in consultation with the Minister of Marine, Mar. 9, in relation to the proposed improvements to the harbor for the current year. Four sheds on the Jacques Cartier pier will be equipped with grain conveyors, and another marine leg will be added to the grain elevator. Electric transporters, designed by the Chief Engineer for handling cargo from ship to shed, or to vehicles, will be installed for the upper storeys of sheds 2 and 7, on trial; and in the meantime the upper storeys of all the other sheds are being equipped with wooden chutes. The plan of improvements, which is intended to be spread over the next 25 years, is under consideration, and it is expected that the Chief Engineer's specifications, etc., will be ready by May 1.

Ontario and the Great Lakes.

J. P. Healy has been appointed Government wharfinger at Rossport, Ont.

The Railways and Canals Department received, Mar. 23, tenders for stone protection on Summit Level, on the Welland Canal.

Burnet and Simpson, Birdsall, are having built a steamboat on Rice Lake. The machinery is being built at the Doty Engine Works, Goderich.

The Great Lakes Steamship Co., Ltd., of Toronto, is reported to be in negotiation for the construction of one or more steamers for delivery next spring.

The Lehigh Portland Cement Co., of Belleville, which operated the s.s. Salaberry last year, will not have any vessels in service during the current year.

F. Mills, Beaumaris, is building a steamboat for operation during this season, the machinery for which is being supplied by the Doty Engine Works Co., Goderich.

The C.P.R. is reported to be arranging for a canoe service to the Gowganda mining district, from Biscop, near Sudbury, to start as soon as river navigation is open.

The Lemcke Tug Co., Ltd., Lion's Head, Ont., owners of the tug W. E. Gladstone, which was wrecked in the fall, will not replace her for the forthcoming season.

The Minister of Public Works, in response to a question in the House of Commons, Mar. 11, said that the question of taking over Whitby harbor was under consideration.

The contract for the new boilers to be supplied to the Dominion Public Works Department's dredge Assiniboine has been awarded to the Doty Engine Works Co., Goderich.

The Inland Revenue Department received tenders, Mar. 29, for the privilege of ferrying across Lake Temiskaming, between Old Mission, Que., and Old Fort Temiskaming, Ont.

Smith and Howe, Port Stanley, are building a steam fishing tug, which will have a compound engine, 75 n.h.p., and boiler, which are being constructed at the Doty Engine Works, Goderich.

The Niagara Navigation Co., and the Richelieu and Ontario Navigation Co., are reported to be considering the question of equipping their vessels with a system of wireless telegraphy.

J. Walsh, one of the three men who were sentenced to life imprisonment in 1900, in connection with the attempted blowing up of lock 24 on the Welland Canal, died at the Kingston penitentiary Mar. 4.

W. Hanna & Co., Port Carling, are building a steamboat for service on the Muskoka lakes. She will be 85 ft. long over all, by 16 ft. beam. The engine and boiler are being supplied by the Doty Engine Works Co., Goderich.

The larger of the two steamboats which the Temagami Hotel and Steamboat Co. is building, as mentioned in our last issue, will be equipped with a triple-expansion engine and water tube boiler by the Doty Engine Works Co., Goderich.

The G.T.R. car ferry Ontario No. 1 was recently taken in hand at Cobourg for some slight alterations in her accommodation. It is said that the dining and sitting rooms are to be enlarged and the plumbing and steam heating equipment overhauled.

The Merchants Steamship Co.'s new vessel, which was mentioned in our last issue, and which is expected to arrive at Toronto from England, early in July, will be named Mapleton. She will be operated under the management of J. & J. T. Mathews, Toronto.

E. A. Turner, accountant Montreal Transportation Co. at Montreal, has been appointed Manager at Kingston, in succession to L. Henderson, whose appointment as General Manager has already been announced. Mr. Turner has been with the company for 20 years.

The Western Navigation Co's s.s. Kaministiquia, was launched at Newcastle-on-Tyne, Eng., Mar. 9. She is of full canal size and is expected to be in service on the lakes soon after the opening of navigation, under command of E. L. Stephen. The company's headquarters are at Fort William.

The Collingwood, Ont., council is considering the request of R. Morrill, for a lease of certain land at the eastern end of Harbor St., 400 ft. each way from the present water line, for the installation of a marine railway for hauling out steamboats for repairs in connection with his yards.

The Conger Coal Co. is reported to have bought the Tonawanda, N.Y., steamboat A. Weston for operation between Toronto and

Charlotte, Oswego and other U.S. ports, in the coal trade. She was built in 1882, her dimensions being: Length, 163 ft., breadth, 31 ft.; tonnage, 511 gross, 269 net.

The Ministers of Railways and Canals and Public Works received a deputation representing Goderich, Guelph and Stratford, Mar. 2, who urged the necessity for the proper protection of the entrance to Goderich harbor. It was agreed that the work was necessary, and attention was promised as early as possible.

T. C. Sims, Little Current, Ont., operating the Eastern Manitoulin Royal Mail Steamship Line between Cutler and Manitoulin, has bought the steamboat Bon Ami to replace the Iroquois, destroyed by fire last year. The Bon Ami was built in 1894, her dimensions being: Length, 108 ft.; breadth, 21 ft.; tonnage, 226 gross, 149 register.

Revillon Bros., Montreal, have placed an order for the construction of a steam barge for carrying freight and passengers on Lake Nipigon, and for carrying supplies in connection with the National Transcontinental Ry. construction work in that district. The machinery, consisting of a twin-screw outfit, is being supplied by the Doty Engine Works Co., Goderich, Ont.

At the Huntsville, Lake of Bays and Lake Simcoe Navigation Co.'s annual meeting at Toronto recently, the directors' report showed an increase in gross earnings over those of 1907, but on account of the increased boat service in 1908, the net earnings were somewhat less than in the previous year. Following are the officers for the current year: President, C. O. Shaw; Vice-President, H. Foster Chaffee; Secretary, W. J. Moore; Treasurer, J. W. McKee.

The reports as to ice conditions on the Great Lakes indicate an early opening of navigation this season. There is considerably less ice in all the lakes and channels than at this time last year. The ice fields in Superior were reported recently to be small in the central and eastern parts; in Michigan, small and broken up; in Huron, none in the southern portion; Erie, neither large nor heavy; while in Ontario there were practically no fields formed during the winter.

The Hamilton and Fort William Navigation Co. recently obtained an order declaring it to be entitled to any material in the Canadian Shipbuilding Co.'s yard at Toronto, subject to the return of any of it found not to belong to the Navigation Co. The material claimed was to be used in the construction of a steam vessel, at a cost of $297,000, of which $30,000 had been paid. The Navigation Co. has deposited security to the extent of $40,000. The Shipbuilding Co. is in liquidation.

The Gowganda Transport Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of $100,000 and office at Toronto, to carry on the business of common carriers; to construct or acquire wagon roads, tramways, etc.; to construct or otherwise acquire steam and other vessels, wharves, docks, etc., and to carry on a general navigation business. The provisional directors are: A. C. McKenzie, Beaverton; R. B. Henderson and A. H. Royce, Toronto.

The reports of the U.S. Lake Survey give the Feb. levels of the great lakes, in feet above tide water, as follows: Superior, 601.48; Michigan and Huron, 579.94; Erie, 571.40; Ontario, 245.28. It is estimated that during March, Superior will be 1½ ins. lower; Michigan and Huron, 1½ ins. higher; Erie, 2½ ins. higher, and Ontario 2¾ ins. higher. Compared with the Feb. averages for 10 years, Superior is 8¼ ins., Michigan and Huron 1¾ ins., Erie 9½ ins., and Ontario 20½ ins. lower.

The Haileybury Navigation Co., Ltd., Haileybury, the incorporation of which company

The important saving in the power bill of the railroad shop effected by individual motor drive

YOU are naturally interested in the problem of increasing the efficiency of your shops.

You want to get more and better work out of your shops and you want to get it at the lowest possible cost.

You realize that a saving of 25% in your power bill is a considerable item and one worth investigating.

Then you will be interested in the Western Electric Individual Motor Drive for the Railroad Shop.

Let us give you some facts—

First, with Western Electric Individual Motor Drive you pay only for the power used in actual production. There is no power wasted in turning idle pulleys, shafting, and slipping belts. From actual tests, this waste power amounts to from 25 to 50% of the total power delivered by the engine.

You know how important it is to perform every operation at the greatest possible speed. Now, on a belt driven lathe, the cone steps give speed variations of about 50% each. If the first speed is too high for the operation, the next choice of speed is 50% lower than necessary. With the Western Electric variable speed motor any desired speed can be maintained without inconvenience to the operator. Consequently the speed of the operation is greatly increased and the machine becomes much more productive.

The portable machine, an absolute necessity in operation on very large work, is made reliable and practical by means of the electric motor drive.

The saving in floor space and the ease and quickness with which any machine may be moved at any time are points which alone should recommend the direct motor drive system to you.

If you are interested—if you want to know more about this system just write us and we will gladly give you full information.

Write to-day for our Bulletin No. 714.

THE NORTHERN ELECTRIC AND MANUFACTURING CO. LIMITED

MONTREAL TORONTO WINNIPEG VANCOUVER

Manufacturers and suppliers of all apparatus and equipment used in the construction, operation and maintenance of Telephone and Power Plants.

Coaches
All Classes
Parlor
Combination
Baggage
Mail
Express
Private
Show Cars
For Sale

HOPKINS, BLUE & CO.
RAILWAY EQUIPMENT
241 RAILWAY EXCHANGE
CHICAGO

RE-BUILT AND SPECIAL CARS TO MEET ANY REQUIREMENTS

Locomotives
Steam
Shovels
Freight
Box
Flat
Gondola
Dump
Refrigerator
Cars
For Sale

was announced in our last issue, has placed an order with the Doty Engine Works Co., Goderich, for the construction of a steel passenger steamer for service on Lake Temiskaming. She will be equipped with fore and aft compound engine and Fitzgibbon boiler, and will be capable of a speed of 14 miles an hour. Her dimensions will be: Length, 85 ft.; beam, 17 ft. It is expected that she will be completed in June.

The steamboat Aletha, owned by Mrs. A. Roys, Kingston, has been sold to the Quinte Navigation Co., Picton. The price stated to have been paid is about $8,000. The vessel is being overhauled and put into good condition for the season. She is under charter to the Lake Ontario and Bay of Quinte Navigation Co., Kingston, for the spring and fall, on the Kingston-Belleville run, and will probably be operated on the bay route during the summer, relieving the Quinte Navigation Co.'s steamboat Brockville.

The Brockville Transportation Co., Brockville, Ont., has purchased the steamboat Bermuda from J. Davidson, Bay City, Mich., and will operate her under the U.S. flag, anywhere between Quebec and Duluth, Minn. She is a wooden vessel, and is said to be probably the only one operating on the lakes rated 100 at Lloyd's. She was built by Capt. Davidson in 1907, her dimensions being: Length, 220 ft.; breadth, 41 ft.; draft, 14 ft.; tonnage, 1,312 gross, 1,079 net, and has capacity for 60,000 bush. of grain.

The Richelieu and Ontario Navigation Co.'s s.s. Brockville has been thoroughly overhauled and lengthened by 17.6 ft., making her total length 197.6 ft. The stateroom accommodation has been increased to 60 rooms, and a large observation cabin on the hurricane deck, as well as a large promenade space, have been added. She has also had new engines and boilers installed. The name of the vessel is to be changed to Rapids Queen, and she will be operated during the season in conjunction with the Rapids King.

The Richelieu and Ontario Navigation Co. has placed an order in Detroit, Mich., for the construction of a twin-screw steamer. The contract provides that the vessel shall be modern in every respect, with 150 staterooms, supplied with running water; 10 parlor rooms, fitted with shower baths, etc.; dining, smoking, library, and music rooms, with observation deck, to all of which special attention is to be paid. When completed, the vessel will be operated between Lake Ontario ports and the Thousand Islands.

The Huntsville, Lake of Bays and Lake Simcoe Navigation Co., during the past year, made considerable additions and improvements to its property. Docks have been erected and telephone connections made between the important resorts in the district. The retiring directors were re-elected at the recent annual meeting. Following are the officers for the current year: President, C. O. Shaw; Vice-President, H. F. Chaffee, Toronto; General Manager, S. H. Jacobs; Secretary and Assistant General Manager, W. J. Moore; Treasurer, J. McKee.

The Western Dry Dock and Shipbuilding Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of $1,000,000, and office at Toronto, to carry on the business of a dry dock company, and in connection therewith to construct or otherwise acquire graving and other docks, etc., for the building, repairing and docking of vessels; to carry on a general shipbuilding business, and to build and operate vessels of all kinds. The provisional directors are: J. H. Spence, C. E. H. Freeman, A. Singer, Toronto. It is reported that the company intends to construct a dry dock at Port Arthur.

Replying to questions in the House of Commons, Mar. 3, the Minister of Railways and Canals stated that the expenditure on the Newmarket canal, on the Holland River, to Mar. 31, 1908, amounted to $31,444.26; and that from April 1 to Dec. 31, 1908, there had been expended $156,873.65. The following contracts had been let for the work now in progress: For construction of sec. 2, let to J. Riley and assigned to the York Construction Co., $652,009.50; for cement, two contracts to the Lakefield Cement Co., at $26,000; and to the Hamilton Bridge Co., for three bridges, amount of contract $17,792. The contracts for section one had not been let.

An order-in-council has been passed, making regulations for the governance of a ferry across the narrows of Lake Temiskaming, to be known as the Old Fort Temiskaming Ferry. These provide that the limits of the ferry shall extend, on the Ontario side, one mile above and one mile below a point near the old Fort Temiskaming, and on the Quebec side, one mile above and one mile below the Old Mission. Suitable landing stages must be provided, subject to the approval of the Inland Revenue Department. The licensee shall provide a suitable vessel for the conveyance of passengers, cattle and ordinary vehicles, and during the season of navigation shall run as often as may be found necessary for the public convenience, daily from 6 a.m., the number of such crossings to be determined from time to time by the Inland Revenue Department. The boat shall be placed on the route on or before May 1, and the license shall be granted for 5 years from May 1, 1909.

Manitoba, Saskatchewan, Alberta, Etc.

The Pioneer Navigation and Sand Co. is reported to be arranging to build large docks at the foot of Grove St., Winnipeg.

The Northern Dredging Co., Ltd., with headquarters at Chicago, Ill., has been registered under the Northwest Territories Ordinance respecting foreign companies, to carry on business in Alberta.

A contract for the machinery for a steamboat, now under construction for the Fisheries Department, to be utilized on Lake Winnipegosis, has been placed with the Doty Engine Works Co., Goderich, Ont.

In connection with the recent failure of A. Booth & Co., Chicago, Ill., who were intimately connected with several fishing companies in Canada, W. V. Booth, President, and F. B. Robbins, Assistant Treasurer, have been indicted for conspiracy to defraud the Continental Bank of Chicago of $300,000.

It is announced that a new steamboat will be in operation on the Red River this season. John Hyland is having built, at St. Boniface, Man., a vessel 185 ft. long, 44 ft. beam, with a draught of 4½ ft., and equipped with engines capable of developing a speed of 18 miles an hour. Cabin accommodation is being provided for 50 passengers, while for excursions, etc., there is to be ample accommodation for a large number. The first trip will be made about May 1.

A press report states that a company is being formed in Calgary, Alta., to operate a steamboat on the Bow River. It is said that a vessel is to be built with a flat bottom and arrow stern wheel, and to be specially adapted for use on the rapid and shallow waters of the river. Power will only be required when running against the current, and in a contrary direction a brake will be utilized. The boat will be run between Calgary and St. George's Island, with afternoon trips to other points.

The concrete work in connection with the works at St. Andrew's Rapids, near Winnipeg, is reported to be nearly completed, the work having been carried on throughout the winter. The steel for the superstructure has not arrived, and the wood for the lock gates has also been delayed, so that the gates will not be completed until after the spring floods. A. Dufresne, Resident Engineer, is reported to have said recently that the locks would be opened for light draught vessels as soon as the ice breaks.

B.C. and Pacific Coast Marine.

A steamboat is reported to be under construction at Victoria for excursion passenger service on the Victoria Arm.

Capt. T. Whelan, formerly of Foley, Welsh & Stewart's steamboat Caledonia, and later of that firm's steam tug Lottie N., was drowned in Burrard Inlet recently.

The British ship Lord Shaftesbury, while proceeding down the Fraser River for Sidney, in tow, with lumber, recently, grounded on a sandbar, and was subsequently laid up at New Westminster for examination.

Foley, Welsh and Stewart, G.T.P.R. contractors, are constructing a stern-wheel steamboat at Victoria, similar in design to their steamboat Skeena, for operation on the Skeena River in supplying their construction camps.

Application has been made to the Governor-General in Council, by E. Mener, New Westminster, B.C., for approval of a site for the construction of a wharf and marine slip on the north shore of Lulu Island, on the north arm of the Fraser River.

The Dominion Fish Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $75,000 and office at Vancouver, to carry on a general fishing business, and in connection therewith to own and operate boats, vessels, wharves, etc.

The Vancouver Industrial and Development Co., Ltd., has been incorporated, with a capital of $250,000 and office at Vancouver, to carry on a mining and quarrying business, and for the purposes of the business, to own and operate steam and other vessels.

The Canadian and Foreign Commission and Export Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $20,000, to carry on a general commission business, and in connection therewith to own and operate steam and other vessels for carrying passengers and merchandise.

MacKay, Smith, Blair & Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $300,000 and office at Vancouver, to carry on a general mercantile business, to own and operate steam and other vessels, and to receive goods as wharfingers, warehousemen and carriers.

The Puget Sound Navigation Co. is considering plans for the construction of a fast turbine steamboat for service between Seattle, Wash., and British Columbia. The plans show a vessel 250 ft. long, with accommodation for 1,500 passengers, and capable of a speed of 21 knots an hour. It is proposed to have the vessel in operation by 1910.

The C.P.R. has, we are officially advised, decided to install wireless telegraph apparatus on all its B.C. coast steamships, but no decision has been arrived at as to which system will be utilized. Preparations are now being made for installing a system on the s.s. Princess May, and the Princess Royal will probably be dealt with immediately afterward.

The Banfield Creek motor lifeboat, which was built last year at Bayonne, N.J., for the Dominion Government, at a cost of about $15,000, was recently taken to Victoria, almost a total wreck. It appears that she was left near the life saving station, improperly moored, and, during a slight storm, broke loose and was driven on the rocks at Robbers Island.

Steamboats are under construction for B. T. Brynalson, Vancouver; T. Marion, Quesnel; and N. S. Clark, Ashcroft. Those for the latter two are stern-wheelers. The machinery for each is being supplied by the Doty Engine Works Co., Goderich, Ont.; that for the first-mentioned vessel being a compound surface condensing engine of 100 n.h.p., with Scotch boiler.

The number of sea-going vessels arriving at Vancouver during 1908 was 3,558, with an aggregate tonnage of 3,116,225 tons, an increase of over 50% since 1903. There was an increase also in the coasting trade of 2,706 vessels and 1,059,526 tons in the same period. The figures quoted for 1908 are stated to exceed the combined tonnage of all the Puget Sound ports, and to compare favorably with those of San Francisco.

The Vancouver Pilotage Authority Report for 1908 shows receipts of $22,191 and disbursements of $21,227.56, leaving a balance at bank of $963.44. The arrivals were: 5 British and 14 foreign sailing, and 88 British and 208 foreign steamers; departures, 5 British and 13 foreign sailing, and 86 British and 208 foreign steamers. There were 5 pilots in service during the year, 4 holding first-class licenses, and one a second-class license.

The G.T.P. Ry. has placed orders with the Polson Iron Works, Toronto, for the neces-

E. L. DREWRY

REDWOOD BREWERY

WINNIPEG, MANITOBA.

MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE, EXTRA STOUT AND REDWOOD LAGER.

ALSO THE.. **GOLDEN KEY BRAND**

ÆRATED WATERS.

The Grand Trunk Railway Company of Canada.

Notice is hereby given that the Ordinary General half-yearly meeting of the Grand Trunk Railway Company of Canada will be held at the City Terminus Hotel, Cannon Street, London, E.C., on Wednesday the 21st day of April, 1909, at twelve o'clock noon precisely, for the purpose of receiving a report from the Directors, for the election of Directors and Auditors, and for the transaction of other business of the Company.

Notice is also given that a resolution will be submitted to the meeting to assent to and accept an Act of the Parliament of Canada entitled "The Grand Trunk Act, 1909," and to authorize the Directors to exercise the powers conferred by the said Act.

Notice is also given that the Transfer Books of the Company in London and Canada will be closed from Saturday, the 20th day of March, to the day of meeting, both days inclusive.

By Order,

C. RIVERS WILSON, President.
H. H. NORMAN, Secretary.

Dashwood House, 9 New Broad Street, London, E.C., 12th March, 1909.

FENCE TALK No. 3

Page "High Carbon" Wire Fences only seem to cost a cent or two more a rod than "hard drawn" wire fence. They really cost fully three cents a rod less—and then some. Figure it for yourself:

Page "High Carbon" horizontal wires—the wires that have to stand the pulling strain, are made of a grade of steel wire containing 0.30 carbon. Other fences' horizontals are "hard steel," or hard drawn wire, at best containing 0.10 carbon.

High Carbon Page wire will stand a strain of 2,400 pounds.

The other kind breaks at 1,800 at best.

That explains why a "High Carbon" Fence will stretch tighter and stand up longer.

That accounts for Page "High Carbon" Fences needing but two fence-posts to the other fence's three.

See now what that figures in a mile of fencing:

Two cents a rod more for Page Fence in the first place, or $6.40.

100 fewer posts for the Page Fence—because the tougher wire lets it stretch tighter and stay tighter. Are the 100 posts worth 12c. apiece? Call it that—tho' it's nearer 20c. a post, most places. But call it $12.00 saved in posts—which balances the 2c. a rod more first cost and leaves $5.60 to the good.

What does it cost your company to dig 100 post holes? To deliver 100 posts? To set and tamp 100 posts? To staple the fencing 100 times oftener than you need to with a "High Carbon" Fence?

Doesn't ten dollars look small for all that extra work?

Well that is only a part of the saving you make on every mile of "High Carbon" Fence you put up, as compared with "Hard Drawn" wire fence.

Our book, sent from the nearest Page place for your asking, tells the rest—and tells you how to prove "High Carbon" betterness beforehand.

The Page Wire Fence Co., Ltd., Walkerville, Toronto, Montreal, St John, Vancouver, Victoria.

"PAGE FENCES WEAR BEST"

C.P.R. LANDS

THE CANADIAN PACIFIC RAILWAY COMPANY have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally)	8.00 to per acre.
Map No. 5—South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta—Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre.

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160 Acres at	$ 8.00	per acre,	cash payment	$191.70	first year's interest	$65.28	and nine instalments of	$160.00
"	"	9.00	"	"	213.70	"	"	"	73.46	"	"	180.00
"	"	10.00	"	"	239.70	"	"	"	81.62	"	"	200.00
"	"	11.00	"	"	263.60	"	"	"	89.78	"	"	220.00
"	"	12.00	"	"	287.60	"	"	"	97.96	"	"	240.00
"	"	13.00	"	"	311.55	"	"	"	106.10	"	"	260.00
"	"	14.00	"	"	335.60	"	"	"	114.32	"	"	280.00
"	"	15.00	"	"	359.50	"	"	"	122.44	"	"	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum.

Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-settled districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

sary machinery for two steamboats which the company is to construct at Victoria, B.C., by day labor during the current year. The vessels will be similar to the company's s.s. Distributor, built by A. Watson, at Victoria, last year, the machinery for which was also supplied by the Polson Iron Works, and they will also be operated on the Skeena River.

The Corinthian-Malin Head Collision.

Following is the full text of Justice Bargrave Deane's judgment, concurred in by Admiral Stewart and Capt. Acton Blake, Elder Brethren of Trinity House, delivered in the Admiralty Division of the High Court of Justice, London, Eng., in the case arising out of the collision between the Allan Line s.s. Corinthian and the Ulster Steamship Co.'s s.s. Malin Head, Sept. 13, 1908, near Grosse Isle, St. Lawrence River. In our Jan. issue, we published Commander Spain's judgment in the same case, and it will be seen that the English Court judgment is in entire agreement with that.

Justice Bargrave Deane, in his judgment, said: "I have to ask myself whether, in my opinion, the non-blowing by the Malin Head of a whistle when she hard-aported caused the possibility of this collision; in other words, was the non-blowing of the whistle a possible cause of this collision? I wish to put myself within the wording of the Lord Chief Justice in the case of the Anselm. That is a very difficult case for me to deal with; for this reason, that on looking at the Anselm case, which was a decision overruling this Court, I find this: The case is reported in 1907 P.D., at pg. 156, and in my judgment I said this: 'That was a case not of alteration of helm, but of reversing engines—no signal was sounded when those engines were reversed, although the rules say that when the engines are reversed three blasts shall be given on the whistle, denoting that fact. Here again was a definite breach of that rule, and a breach which I think it is my duty to say was a serious breach. It cannot be too strongly impressed upon officers in charge of ships that they must obey the regulations. If they do not obey the regulations, they run a very serious risk. Here again I have to ask myself the question—and I have the advantage of the Elder Brethren's advice. In our opinion his not obeying the regulations did not in this case contribute to the collision.' This is a definite finding of fact. I turn to the decision of the Court of Appeal, and in the judgment of the Lord Chief Justice I find this: 'Then there is the non-signalling that she was reversing. We are advised by our nautical assessors, who have also advised us with regard to the port helm signal, that the non-indicating to this vessel which was rapidly approaching, that the Anselm was reversing her engines, was abstaining from giving her information which might be useful, if only for the purpose of calling her marked attention to what was going on in front of her. That seems to me the essence and pith and marrow of the rule which indicates that these signals are to be given.' Then later on I find this: 'I therefore come to the conclusion that the Anselm was to blame in these three respects, and that as regards two of them, namely, neglect to give sound signals when porting and when reversing, it is quite impossible to come to the conclusion that they had no effect upon the collision.' Later still he says this: 'When persons are attacked, and it is proved against them that there is a serious breach of statutory rules, I have very grave doubt whether they can be said to fulfil the obligations upon them if they do not satisfy the Court by affirmative evidence that the breach of the rules has no possible effect.' That is distinctly a question of fact. I had the advantage of seeing the witnesses in the case of the Anselm, the Court of Appeal had not. The Elder Brethren who sat with me also had an opportunity of seeing the witnesses, and they advised me in that particular case the non-giving of the signal had no possible effect upon the collision. The Court of Appeal, advised by two different gentlemen who did not see the witnesses, said that as a matter of fact I was wrong. It is a very awkward position which this Court is put into when it, being advised by two nautical gentlemen so competent as our Elder Brethren always are, should be overruled on a question of fact by two gentlemen of whom we know nothing, and who have not seen the witnesses. The Lord Chief Justice said this Court has to be satisfied that in fact the non-giving of the signal had no possible effect. I am advised in this case by the Elder Brethren, and I agree with them, that in this particular case the non-blowing of the signal when the hard-aporting took place had no effect, because it is distinctly proved by the Corinthian's witnesses that they saw the vessel hard-aporting for a considerable time before the collision. They put it at five minutes, and if that be so, who can say that the fact that a blast was not blown had any effect upon the knowledge of those who were navigating the Corinthian? I feel, as I have said, that I am in an awkward position with regard to the Court of Appeal, but I have to take my own line, and, as a matter of fact, I am advised and I find that the non-blowing of the signal by the Malin Head did not affect the collision, and that therefore she is not to blame for that. I start again with this, that I find these two vessels were approaching each other end on, or so nearly end on that it was the duty of each, under the rules, to port. The Corinthian starboarded, and I think that she was breaking the rule under the circumstances. If they were end on, or nearly end on, and the rule is clear, why did she starboard? I think it is clear from the evidence of the Corinthian. They say they wanted to make the Margaret Tail buoy, and they say it is not a narrow channel, and therefore they could go where they liked. They say they wanted to make the Margaret Tail buoy because the weather was sufficiently thick for them to anchor upon the north side of the channel if they did not find the buoy. They could not anchor in the middle of the river, but out of the channel on the north side, and it is perfectly clear that when the Corinthian saw the Malin Head, the pilot and master determined to go well to the north, and turned to go up to the north, and persevered in that, and then, seeing the other vessel was porting, there was nothing for them to do but to reverse the engines, and they reversed them, but it was too late, because it was then impossible to avoid the collision. The fact that this vessel meant to go to the north, emphasizes rather the fact of her starboarding than that she was on the starboard bow of the plaintiffs' vessel. Something has been said about the Malin Head being beached improperly. I think that the whole matter depends upon whether or not there was at that time a state of atmosphere which enabled her to proceed safely on up the river. It is true she went on and got as far as a place called Indian Cove, not far from Quebec, when she was overtaken by fog. If that is so, and I believe it is, then she did her best to get herself and her cargo up to Quebec, and she probably would have arrived at Quebec, or got into some safe place, before she sank. As it was, having to anchor before she got to Quebec, she was overtaken by circumstances as to which no blame attaches to her, and she was beached at the best place she could be beached at. I do not think any blame can be attributed to her for that, and I think she would have been wrong if she tried to beach herself at the other place which was suggested. As far as I know I have dealt with all the points, and I think the fact that the Malin Head kept on at full speed to try and avoid the collision was the right course for her to take. If she had reversed, she would probably have been struck further forward. I do not think any blame can be attached to her for any other matter, and therefore I must find the Corinthian alone to blame."

Georgian Bay Ship Canal.

The final report of the board of engineers appointed by the Dominion Government to ascertain the feasibility of construction and probable cost of a ship canal from Montreal to the Georgian Bay by the Ottawa River valley, Lake Nipissing and the French River, has been laid before Parliament. It states that a 22-ft. waterway, capable of carrying the largest lake freight vessels, 600 ft. in length, 60 ft. wide, and having a draught of 20 ft., can be established for about $100,000,000 within a period of 10 years, and that the annual maintenance of the same would be, approximately, $900,000, which includes the operation of storage reservoirs for the better distribution of the flood waters of the Ottawa River. The distance from Montreal to the mouth of the French River, on Georgian Bay, is 440 miles, and upon this waterway there would have to be constructed 27 locks, 18 main dams, 28 miles of canal excavation, and 66 miles of channel dredging. The remaining mileage consists of long stretches of deep-water navigation on the Ottawa and French Rivers and across Lake Nipissing. The report states that to make Lake Nipissing the summit level, and not the divide between the Mattawa River and Lake Nipissing, would cost an additional $10,000,000, and involve an additional 10 miles of rock cutting.

It is stated that the current in the Ottawa River would not exceed three miles an hour, and practically slack water would obtain over a large part of the waterway.

It is estimated that the probable time taken by a lake freight steamboat, 12-mile maximum speed, from French River to Montreal, would be 70 hours, and that the season of navigation will average 210 days, from May to Nov. The engineers say that with a storage system as planned, and the tributary basins thereto, required for the navigation project, a reliable supply can be secured at various dams amounting to 1,000,000 h.p., which can be developed for about $50 per h.p.

The report recommends that an understanding be arrived at between the Dominion, Quebec and Ontario Governments, governing the disposal and control of all water powers, water lots and islands on the proposed route, in view of the possible canalization of the rivers utilized. Recommendations are also made in regard to the conservation of forests in relation to water supply and for the appointment of a special commission to examine the great canals of the world before any further plans of construction are made. These great canals include the Suez Canal, between the Mediterranean and Red seas; the Corinth canal, which is a sea level canal cut for some miles through solid rock, in Greece; the Baltic ship canal in Germany; the Manchester ship canal in England; the Forth and Clyde ship canal in Scotland, and the canal under construction across the Isthmus of Panama.

The only question which is not fully treated of in the report, is that relating to the storage of the flood waters of the Ottawa River. "The study of this question," A. H. Laurent, the engineer in charge of the work, states, in a report to the Minister of Public Works, dated Jan. 9, "has to be continued, and supplementary reports will be issued as the collection of the necessary data progresses."

KERR'S GLOBE AND GATE VALVES

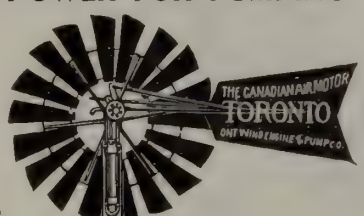
STRICTLY HIGH GRADE. TESTED & PACKED

THE KERR ENGINE CO. LIMITED

VALVE AND HYDRANT MANUFACTURERS

WALKERVILLE, ONT.

POWER FOR PUMPING



THE CANADIAN AIRMOTOR IS THE MOST ECONOMICAL POWER

HALLADAY TANK FIXTURES
CURTIS PUMPS
OUTLET VALVES

Gasoline Engines ("The Stickney")
Wood and Steel Tanks
Tank Sub-Structures, etc.

ONTARIO WIND ENGINE AND PUMP CO., Limited
TORONTO

REAMERS ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

OCEAN STEAMSHIP OFFICES

AMERICAN LINE
Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.
Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE
New York—London
Sailing from New York Saturdays.

WHITE STAR—DOMINION LINE
Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Dock
(Bristol and Antwerp)

RED STAR LINE
New York—Antwerp—Paris
Sailing from New York Wednesdays.

WHITE STAR LINE
New York—Liverpool—Queenstown—
Sailing from New York Saturdays.
N.Y.—Plymouth—Cherbourg—Southampton
Sailing from New York Wednesdays.
Boston—Queenstown—Liverpool
Regular Departures

NEW YORK AND BOSTON MEDITERRANEAN SERVICE
Azores—Gibraltar—Naples—Genoa

Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured.

H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO,
41 KING ST. EAST, TORONTO.

New and Relaying
RAILS

FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.

LOCOMOTIVES, CARS, AND OTHER EQUIPMENT.

John J. Gartshore
83 Front Street West - TORONTO

WOOD PATTERNS
— ALL KINDS —
High Grade. Right Prices. Prompt Delivery.
THE HAMILTON PATTERN WORKS
HAMILTON, ONT.

Coast, Lake and River Officers for 1909.

The following appointments have been made by the principal navigation companies engaged in the coast, lake and river routes for their various steam vessels, tugs and barges, for the current year. In the first column is given the name of the vessel, in the second that of the captain, and in the third that of the chief engineer:

ALGOMA CENTRAL STEAMSHIP LINE, SAULT STE. MARIE, ONT.

Agawa	W. C. Jordan	J. L. Smith
King Edward	W. Bemrose	G. Sylvester
Leafield	F. J. Davis	J. Cameron
Paliki	R. H. Boyle	W. Harman

ARROW LAKES LUMBER CO., ARROWHEAD, B.C.

Blonde	D. McKillop	R. Gill

BOUCHARD BROS., QUEBEC, QUE.

Gaspesian	Ph. Blorien	N. Protomastro
Restigouche	E. Bouchard	R. Casey

BRAS D'OR STEAMBOAT CO., NORTH SYDNEY, N.S.

Marion	L. A. Moore	W. R. Coleman
Weymouth	R. E. Burke	J. Macdonald

J. F. BRIDGES TUGBOAT CO., GAGETOWN, N.B.

Clayton	B. Dykeman	A. Weldon
Fannie	G. B. Springer	S. White
Eldred	J. H. Gunter	W. Hurden
Montello	M. Dykeman	O. McAlany

CALVIN CO., LTD., GARDEN ISLAND, ONT.

Burma (bge.)	J. Ferguson	
Ceylon (bge.)	C. Beaupre	
Chieftain (tug)	C. E. Felix	T. Gray
Frontenac (tug)	J. Harris	B. Lappen
India	C. Coons	T. Smith
Parthia (tug)	D. Lefavre	G. Sauvé
Prince Rupert	A. H. Malone	R. Veech
Simla	P. Sullivan	R. Mullen
W. Johnston (tug)	W. Phelix	E. Compeau

CANADIAN FISHING CO., VANCOUVER, B.C.

Celestial Empire	P. Rorvik	J. Dick
Flamingo	A. Freeman	W. Britton

CANADIAN LAKE AND OCEAN NAVIGATION CO., LTD., TORONTO.

A. E. Ames	A. McIntyre	S. Gillespie
H. M. Pellatt	W. H. Anderson	W. H. Durham
J. H. Plummer	W. McLean	R. Chalmers
Scottish Hero	P. McIntyre	R. R. Foote
Turret Cape	R. D. Simpson	P. Bonham
Turret Chief	H. Boult	A. E. Kennedy
Turret Court	R. McIntyre	L. McMillan

CANADIAN LAKE TRANSPORTATION CO., LTD., TORONTO.

Arabian	J. E. Mann	W. H. Taylor
Corunna	D. C. McLachlan	H. McDonald
Kenora	W. Brian	W. Byers
Nevada	J. Cavanagh	W. Linton
Regina	P. McKay	C. J. McSorley
Seguin	J. Wilson	R. G. Marshall
Tagona	J. S. Moore	R. W. Ross

CANADIAN NORTHWEST STEAMSHIP CO., LTD., PORT ARTHUR, ONT.

Neebing	J. Ewart	A. F. Foote

CANADIAN PACIFIC CAR AND PASSENGER TRANSFER CO., PRESCOTT, ONT.

Charles Lyon	W. Henry	G. M. Hazlett
City of Belleville	A. Black	T. Murphy

C.P.R. DETROIT RIVER CAR FERRIES, WINDSOR, ONT.

Michigan	C. Jenking	F. Merrill
Ontario	J. Carney	A. McDonald

H. CANN & SONS, MULGRAVE, N.S.

John L. Cann	W. E. Morris	R. P. Harvie
La Tour	A. L. McKinnon	J. Cummins
Malcolm Cann	J. R. Durkee	D. E. Read
Percy Cann	E. Smith	W. Whyte

CAPE BRETON ELECTRIC CO., SYDNEY, N.S.

Hygeia	A. McLeod	
Pawnee	J. Brown	A. Campbell
Peerless	J. H. Lewis	J. McDonald

CENTRAL CANADA COAL CO., BROCKVILLE, ONT.

Samuel Marshall	J. Martin	W. McCabe

CHARLOTTETOWN STEAM NAVIGATION CO., CHARLOTTETOWN, P.E.I.

Empress	A. Cameron	J. A. Rowe
Northumberland	A. McLean	C. Cuming

COAST STEAMSHIP CO., VANCOUVER, B.C.

Celtic	G. Foellmer	W. McLaren
Clansman	N. S. Nilson	H. Nissen
Fingal	G. Gray	J. Nelson
Ivanhoe (tug)	J. H. McLennan	A. W. Wright
Noname (tug)	E. T. McLennan	H. Purser

DETROIT, WINDSOR AND BELLE ISLE FERRY CO., DETROIT, MICH.

Britannia	R. Ferguson	H. McAlpine
Columbia	J. Wilkinson	H. Free
Excelsior	W. Firby	S. G. Merrill
Garland	T. Ellis	J. Foster
Pappoose	J. H. Halero	W. Hyde
Pleasure	J. Demsteadt	T. Merriman
Promise	D. Jaques	A. Garland
Sappho	G. Cruikshank	W. Wilkie
Victoria	P. Williams	W. Merrill

DOMINION ATLANTIC RY., YARMOUTH, N.S.

Boston	A. Simms	N. A. Currie
Prince Albert	A. W. Holmes	A. McInnes
Prince Arthur	E. J. Kinney	D. Campbell
Prince George	A. W. MacKinnon	D. Ferguson
Prince Rupert	A. G. Potter	J. Pendrigh
Yarmouth	G. Haines	J. Ross

DOMINION TRANSPORTATION CO., OWEN SOUND, ONT.

Caribou	A. Batten	R. Grierson
Manitou	H. McCoy	W. McLaren

EASTERN MANITOULIN ROYAL MAIL STEAMSHIP LINE, LITTLE CURRENT, ONT.

Bon Ami	E. Mackie	W. Terry

EMPRESS TRANSPORTATION CO., MIDLAND, ONT.

Emp. of Midland	J. Woolner	A. Abbey
Mount Stephen	W. Cunningham	W. Pickard

FARRAR TRANSPORTATION CO., COLLINGWOOD, ONT.

Collingwood	F. A. Bassett	D. McLeod
Meaford	F. Scott	J. Smith

FOLEY, WELSH AND STEWART, VANCOUVER, B.C.

Skeena	G. Magar	R. Ryder

G.T.R. DETROIT RIVER CAR FERRIES, WINDSOR, ONT.

Great Western	M. Bausette	W. Jamieson
Huron	A. Baillargeon	J. Ladds
Lansdowne	J. Jackson	W. Belsom

HALIFAX AND CANSO STEAMSHIP CO., HALIFAX, N.S.

Scotia	A. Reid	J. G. Clark

HALIFAX AND INVERNESS STEAMSHIP CO., HALIFAX, N.S.

Strathlorne	W. Dickson	J. W. Gillie

F. E. HALL & CO., MONTREAL.

Carleton	J. A. Smith	N. Lazure
G. H. Warmington (bge.)	S. Lebœuf	
Iona	B. Bowen	J. Guenard
Ralph T. Holcomb	E. Groulx	E. Scott

HAMILTON STEAMBOAT CO., HAMILTON, ONT.

Macassa	J. Henderson	O. Flumerfelt
Modieska	P. Walsh	W. Noonan

ISLAND TUG CO., CHARLOTTETOWN, P.E.I.

Fred.M.Batt (tug)	J. McIsaac	W.A.McEachern
Harland	J. Ryan	R.A.McPherson
Islander	D. A. Sangster	G. E. Batt

KENNEBECASIS STEAMSHIP CO., HAMPTON, N.B.

Hampton	A. T. Mabee	F. Bourne

KILKEEL CO., TORONTO.

Kilkeel	J. T. Ellworthy	

LAKE ERIE NAVIGATION CO., WALKERVILLE, ONT.

Marquette and Bessemer No. 1	M. M. Rowan	R. Leitch

LAKE ONTARIO AND BAY OF QUINTE NAVIGATION CO., LTD., KINGSTON, ONT.

Caspian	W. Bloomfield	D. J. Leslie
North King	J. Jarrell	

MACKENZIE STEAMSHIP CO., VANCOUVER, B.C.

Escort	W. Mackenzie	J. H. Grisdall
Henriette	W. L. Butler	H. J. Ferguson
Mystery	R. Barron	S. Bloor
Rupert City	D. Mackenzie	J. S. Tait
Transit	D. L. Danielson	O. Hanson

MAJESTIC STEAMSHIP CO., ST. JOHN, N.B.

Champlain	C. J. Wasson	B. C. Estabr'ks

MATHEWS STEAMSHIP CO. TORONTO.

Edmonton	H. Maitland	J. G. Fisher
Haddington	G. J. Motley	R.J.Mutchmore

MERCHANTS STEAMSHIP CO., TORONTO.

Beaverton	J. Delaney	H. R. Welch

M.C. RD., DETROIT RIVER CAR FERRIES, DETROIT, MICH.

Detroit	A. J. Huntoon	D. A. Black
Michigan Central	R. Aiken	A. Pirie
Transfer	G. D. Horn	A. O. Barton
Transport	W. King	J. Cockburn

MIDLAND TOWING AND WRECKING CO., MIDLAND, ONT.

Magnolia	A. Cuff	G. Wilson
Reliance	B. Warling	J. Kennie
Traveler (tug)	R. Burke	J. Murphy

MIDLAND TRANSPORTATION CO., LTD., MIDLAND, ONT.

Midland King	J. Tindall	G. Smith
Midland Prince	G. W. Pearson	E. Abbey
Midland Queen	W. Leveighe	J. McGregor

MONTREAL AND GREAT LAKES STEAMSHIP CO., MONTREAL.

Bickerdike	O. Palmante	E. Hamelin

MONTREAL AND LAKE ERIE STEAMSHIP CO., MONTREAL.

City of Montreal	H. Lefebvre	F. Hamelin
City of Ottawa	J. V. Trowell	J. Kennedy

MONTREAL TRANSPORTATION CO., MONTREAL.

Advance	M. Olsen	R. Hepburn
Bartlett	L. Mallan	G. Fleming
Bothnia	A. Monpetit	T. Hazlett
D. G. Thomson	T. O'Connor	G. Boyd
Fairmount	P. C. Telfer	J. W. Taylor
Glenmount	J. Wood	T. G. Bishop
Glide	M. Murphy	G. Sauvé
H. F. Bronson	J. B. Desgroseillier	M. Dorey
Hamilton (bge.)	G. Davy	
Kinmount	A. Milligan	D. McMillan
Mary	A. Lepine	G. P. Fitzpatr'k
Mary P. Hall	W. J. Murphy	G. Sherman
Quebec (bge.)	R. Siddell	
Rosemount	J. Reoch	R. Taylor
Stormount	H. N. McMaster	H. McClymount
Ungava (bge.)	C. Sauvé	
Westmount	C. Milligan	W. S. Greenhill
Windsor	J. Doyle	W. Spencer

NIAGARA NAVIGATION CO., TORONTO.

Cayuga	J. McGiffin	G. M. Arnold
Chicora	H. W. King	J. A. Findlay
Chippewa	C. J. Smith	H. Parker
Corona	W. Malcolm	A. J. Woodward
Ongiara	H. J. McIntyre	

NIAGARA, ST. CATHARINES AND TORONTO NAVIGATION CO., ST. CATHARINES, ONT.

Garden City	J. W. Maddick	J. H. Brown
Lakeside	T. Runciman	A. McMaugh

NIQUET ET FRÈRE, PIERREVILLE, QUE.

Florida	F. X. Manseau	J. Guilbault
Pierreville	L. Allie	G. Lippé

NORTHERN NAVIGATION CO., COLLINGWOOD, ONT.

City of Midland	M. Livingston	S. Burgess
Doric	S. Hill	S. Beatty
Germanic	F. G. Moles	J. Asten
Hamonic	R. D. Foote	S. Brisbin
Huronic	A. L. Campbell	J. Wilson
Ionic	M. Ironsides	H. Myler
Majestic	W. G. Cox	
Saronic	A. M. Wright	W. Whipps
Waubic	A. A. Bellrose	W. A. Black

ONTARIO AND QUEBEC NAVIGATION CO., PICTON, ONT.

Aberdeen	W. Dalmage	G. Gerow
Alexandria	J. Rinfeet	T. Milne
Lloyd S. Porter	W. Heffernan	L. Smith
Reliance	N. Palmatier	C. McWilliams
Water Lily		E. R. Cote

ONTARIO CAR FERRY CO., MONTREAL

Ontario, No. 1	F. D. Forrest	J. Smeaton

OTTAWA FORWARDING CO., OTTAWA.

Hall	W. J. Hall	E. Bedard
Hebron	P. Eligh	N. Contois
Ottawan	G. Depencier	A. Shaver
Scotsman	A. G. Clark	H. Desjardins
Welshman	T. Ranger	W. Drury

OTTAWA RIVER NAVIGATION CO., MONTREAL.

Duchess of York	E. P. Shepherd	W. Marchand
Empress	F. Elliott	J. Lunan
Princess	W. F. Halero	F. Piché
Victoria	J. C. Barclay	F. Toutant

PARRY SOUND TRANSPORTATION CO., TORONTO.

Seguin	J. Wilson	R. G. Marshall

PENINSULA TUG AND TOWING CO., WIARTON, ONT.

Crawford	W. M. Tyson	J. G. Simpson
Thos. R. Scott	F. Wood	W. C. Fox

PENNSYLVANIA AND ONTARIO TRANSPORTATION CO., CLEVELAND, O.

Ashtabula	B. T. Haagenson	S. M. Sylvester

PICKFORD AND BLACK, HALIFAX, N.S.

Amanda	—. Gjereldsen	
Boston	—. Holstad	
City of Ghent	—. Hare	
Dahomey	—. Gorst	
Harlan	—. Hickman	
Ocamo	—. Coffin	
Oruro	—. Bale	
Sobo	—. Bridges	

QUEBEC AND LEVIS FERRY CO., QUEBEC, QUE.

North	E. Betie	O. Croteau
Pilot	N. Thivierge	F. Costin
Polaris	J. Kielly	L. Beaudoin
Queen	G. Chamberland	A. St. Laurent
South	O. Fortin	E. Beaudoin

QUINTE NAVIGATION CO., PICTON, ONT.

Aletha	M. Palmatier	J. McFaul
Brockville	D. B. Christie	M. J. McFaul

RENWICK CO., TORONTO.

Renwick	J. Chapman	J. N. Hunter

RIDEAU LAKES NAVIGATION CO., KINGSTON, ONT.

Rideau King	W. Scott	G. Thomson
Rideau Queen	E. Fleming	T. Simmons

ST. JOHN RIVER STEAMSHIP CO., ST. JOHN, N.B.

Elaine	A. L. Peatman	W. F. Lewis
Hampstead	H. Peatman	

ST. LAWRENCE AND CHICAGO STEAM NAVIGATION CO., LTD., TORONTO.

Algonquin	F. R. Johnson	R. Tait
E. B. Osler	W. H. Wright	E. J. O'Dell
G. R. Crowe	P. J. Shaw	W. Robertson
Iroquois	C. E. Robinson	W. Harwood
W. D. Matthews	J. Williams	C. Robertson

SPARROW LAKE STEAMER LINE, SPARROW LAKE, ONT.

Glympse		A. F. Stanton
Lakefield	F. Stanton	

SYLVESTER BROS., TORONTO.

St. Louis (schr.)	G. Williamson	

TEMISKAMING NAVIGATION CO., TEMISKAMING, QUE.

Blanche	M. H. Kerman	D. Latour
City of Haileybury	D. Binns	A. Morrissette
Jubilee	McC. Burns	J. S. Russell
Meteor	A. J. Gaul	J. B. Seguin
Temiskaming	M. E. Jones	A. McLaren
Ville Marie	W. White	A. Morin

TURBINE STEAMSHIP CO., TORONTO.

Turbinia	B. W. Bongard	J. Blair

TURRET CROWN, LTD., TORONTO.

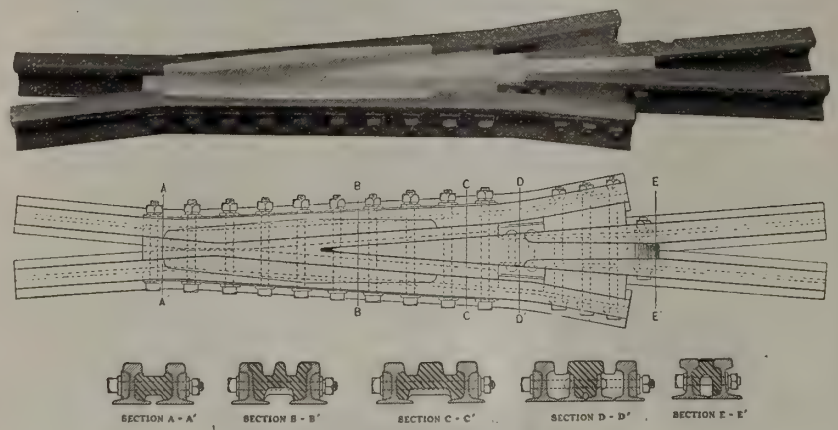
Turret Crown	J. N. Foote	L. E. Spencer

UNITED STATES AND DOMINION TRANSPORTATION CO., CHICAGO, ILL.

America	J. F. Hector	F. McMillan
Caribou	A. Batten	R. Grierson
Easton	E. S. Smith	J. E. Evans
Manitou	N. McCoy	W. A. McLaren

I shall remain ordered by Capt. Fairgrieve & Agent ordered by Mary Ann

FOR HARD SERVICE, USE



RAMAPO MANGANESE HARD CENTER FROG.—DESIGN NO. 1.

CORRESPONDENCE SOLICITED

MANUFACTURED BY

CANADIAN RAMAPO IRON WORKS, Limited

NIAGARA FALLS, ONT.

SHERIFFS

MANUFACTURING CO.

MILWAUKEE, WIS., U.S.A.

ESTABLISHED 1854

THE CLIFTON HOTEL

NIAGARA FALLS, CANADA.

Rates $4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

THE ONLY HOTEL THAT COMMANDS AN UNRIVALLED VIEW OF BOTH FALLS

HOW TO REACH THE CLIFTON HOTEL

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes.

Arriving on Michigan Central Rd, Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make CANADA plain in the address.

CAR FITTINGS

For Electric and Steam Railway Equipment

Door Fixtures, Steel Steps, Couplers, Anti-Rattlers, Steel Gongs, Sash Springs, Fenders, Car Trimmings,

—Etc.—

Wallace Supply Company

CHICAGO—NEW YORK

NOVO

HIGH SPEED STEEL

INTRA

A TOOL STEEL

Between High Speed Steels and the Best Grades of Carbon Tool Steels

NOVO and INTRA

Milling Cutters, Twist Drills, etc.

Hermann Boker & Co.

332 ST. JAMES ST., MONTREAL

CRUCIBLE SAW AND SHEET STEEL

MADE BY

JESSOP STEEL CO.

Washington, Pa., U.S.A.

TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools

JESSOP'S "ARK" HIGH SPEED AIR HARDENING STEEL

is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings

WILLIAM JESSOP & SONS, LTD., SHEFFIELD, ENG.

Chas. L. Bailey, Agent, 80 Bay Street, Toronto, Ontario

THE PARRY SOUND LUMBER CO.

Limited

13-15 TRADERS BANK BLDG., TORONTO

MANUFACTURERS OF

PINE, HEMLOCK, LUMBER, BRIDGE TIMBER RAILWAY TIES, TELEGRAPH POLES, LATH, SHINGLES, BOX SHOOKS

UPPER OTTAWA IMPROVEMENT CO., OTTAWA.

Albert	L. Noel	
Alert	A. Stewart	J. Andrejeck
Alexandra	Octave Blondin	L. Boisvert
Alex. Fraser	T. Draper	D. McKay
Castor	J. H. Farquharson	N. Daoust
C. B. Powell	J. C. Ellis	J. Razeau
E. H. Bronson	J. C. Merchant	J. Trottier
G. B. Greene	J. Chartier	G. Noel
G. B. Pattee II	A. D. Smith	C. C. Berling'te.
Hamilton	J. Toner	R. Spooner
J. L. Murphy	J. Ricard	F. Paquin
Lady Minto	J. Tierney	M. E. Lloyd
Pembroke	Ovide Blondin	H. Latour
Pollux	J. Snowden	C. Legoniere

VICTORIA STEAMSHIP CO., NORTH SYDNEY, N.S.

Blue Hill	D. MacRae	J. Blesdale

R. WEDDELL & CO., TRENTON, ONT.

A. B. Cook	O. Cotoure	J. Walker
Aurelia	J. McGrath	L. Houghton
Minitaga	F. A. Cook	H. A. Durand
Mohawk Queen	J. Dickson	W. J. Turner
Quinte Chief	E. Hanley	G. Bonter
Robt. G. Weddell	N. Miron	A. House

WELLAND CANAL TUG CO., PORT COLBORNE, ONT.

Alert	F. C. Mahaffy
Escort	G. Irwin

WESTERN NAVIGATION CO., FORT WILLIAM, ONT.

Kaministiquia	E. L. Stephen

WESTERN STEAMSHIP CO., TORONTO.

J. A. McKee	W. J. Bassett	A. M. MacInnis
Wexford	G. H. Playter	J. G. McHattie

WESTMINSTER TOWING AND FISH CO., NEW WESTMINSTER, B.C.

Dauntless	R. Jones	G. Mann
Faultless	W. Somerville	E. Read
Peerless	W. Ballagh	W. Muir

W. J. WILLOUGHBY, WINDSOR, ONT.

Iron Age	W. J. Willoughby R. Batten

WINNIPEG NAVIGATION CO., WINNIPEG. MAN.

Alberta	L. Bellefeuille	G. Neal.

Enlargement of the Welland Canal.

L. Henderson, General Manager Montreal Transportation Co., in an interview recently, presented his views on the proposed deepening of the Welland canal to allow vessels of large tonnage carrying grain cargoes to pass through, as against the proposed construction of the Georgian Bay canal. The main points raised by him were that the Canadian route offered the natural geographical advantages for carrying grain from the far west, but that this route needed to be given the best possible facilities in order to meet the competition offering from the U.S. routes by the improvements to the Erie Canal, now under way, on which over $100,000,000 is to be spent. Given a reasonable improvement of the Canadian trade route, he considered that not only would the Canadian carriers hold their own trade, and ship Canadian grain by Canadian routes to the markets in Europe, but they would secure a large slice of the trade offering from the U.S. Northwest, by the simple process of offering better service and lower rates.

He was very glad to see by reports of the proceedings of Parliament that the Minister of Railways and Canals, when asked as to the construction of the Georgian Bay canal and the enlarging of the Welland canal, said they would become national necessities within a few years, and that the enlargement of the Welland canal would enable the St. Lawrence route to retain its trade despite the immense expenditures which the State of New York is making for the enlargement of the Erie canal. Those acquainted with trade conditions on the Great Lakes and the St. Lawrence will heartily endorse the Minister's position. They know very well that if the larger steamers now trading on the Upper Lakes could go through to Lake Ontario with their big cargoes, that grain could be carried to the foot of lake navigation for half a cent a bushel over the rate to Buffalo. The only charge to add to this to put grain f.o.b. ocean steamers is the river rate, which at present is 1⅞c. a bushel, including the Montreal terminal charges. This makes 2⅜c. a bushel, as against the rate from Buffalo to f.o.b. steamers at New York, which at present is over 6c. a bushel, and rarely falls below 4½c., which would give a big margin to work upon to keep business coming this way.

The enlargement of the Welland canal, he considered, was a much more feasible scheme than the construction of the Georgian Bay canal, which, according to all latest Government surveys, could hardly cost less than $150,000,000, while long before it could be built, the Erie canal improvements would be finished, and trade diverted to that channel. On the other hand, the enlargement of the Welland canal could be done for about one-sixth of this cost, and within one-sixth of the time, and it will suit the trade quite as well or better.

One of the largest factors in lake transportation was the securing of return cargoes, which greatly affected the situation. While vessels using the proposed Georgian Bay canal would be entirely dependent for return cargoes on what freight they could get out of Montreal, which is comparatively limited, those using the St. Lawrence and Great Lakes route would not only have the Montreal trade, but also the enormous amount of coal which is annually shipped from Lake Ontario and Erie ports to Fort William and Port Arthur, which amounts to over 1,000,000 tons a year now.

On this account the saving to Manitoba and the West on hard coal alone would be very large in case the new Welland canal were built, as hard coal is about 40c. a ton cheaper on Lake Ontario and Erie ports, owing to proximity to the mines in Pennsylvania, and with the new canal low freights could be secured, which are not now possible, owing to the shallow draught of the present Welland canal. At present, although the distance is some 300 miles farther from Fort William to Buffalo than to Georgian Bay ports, vessels would rather go to Buffalo at the same rate of freight, on account of the return freights they can get.

What Canada needs, and what Montreal should earnestly work for, is to cheapen this transportation as much as possible, so as to keep our own trade for our own trade routes, and the best way to do this is to improve our waterways along practical, sensible lines, where the quickest and greatest benefit can be obtained at a minimum cost. Our waterways have always been the great regulators of freight rates, and every reasonable effort should be made to keep them so. It looks as though the Government was anxious to push through the Welland canal improvement project, and he believed that it will ultimately do so, but Montreal should give it some encouragement, and not lie down and take too much for granted.

The scheme he suggested is to deepen the Welland canal from 14 to 22 ft., with a widening of the channel and locks to permit of accommodating vessels up to 10,000 tons, instead of the present accommodation for 2,000 ton boats; to make the channel so large as to be of identical accommodation to the foot of the lakes with the canals and locks at Sault Ste. Marie, while at the foot of the lakes the cargo could be transhipped to barges for transportation to ocean vessels at Montreal, thus securing the longest possible haul for the largest possible cargoes.

The result of such an improvement of the Welland canal would be that the through trip to the foot of lake navigation could be made by 10,000 ton steamers, instead of by 2,000 ton boats as at present. This would mean a saving of a full 2c. a bush. on wheat, which would mean a saving of $2,000,000 on a crop of 100,000,000 bush., and would probably draw a great deal of trade from U.S. sources, as well as holding the Canadian trade.

The result of this improvement, put in tabulated form, would be as follows:

U.S. ROUTE.

Fort William to Buffalo	1.5c.
Buffalo to New York	3.5c.
f.o.b. charges, New York	.90c.
	5.90c.

CANADIAN ROUTE.

Fort William to Kingston or Prescott	2.00 c.
Kingston to f.o.b. ocean steamer, Montreal	1.875c.
	3.875c.

This shows a difference in favor of the Canadian route of over 2c. a bush. with the enlarged Welland canal, which, with the increased trade which would undoubtedly come this way both from the Canadian Northwest and the northwestern states under such economical charges, would undoubtedly cause an improvement in the shipping facilities, and which would lead to further reductions in the rates, and thus to further advantages of the Canadian route over those offered even by the improved Erie canal.—Montreal Gazette.

Notices to Mariners.

The Dominion Department of Marine has issued the following notices:

No. 14. Feb. 25.—28. New Brunswick, south coast, Bay of Fundy, Passamaquoddy Bay, St. Andrews, aids to navigation.

No. 15. Feb. 26.—29. Ontario, Lake Ontario, Wicked Point, color of light. 30. Ontario, Georgian Bay, Western Islands, Double Top rock, intended change in character of light. 31. Ontario, Lake Superior, Thunder Cape, change in character of light. 32. United States of America, Lake Erie, Buffalo harbor entrance, Horseshoe reef light, characteristic to be changed.

No. 16. Mar. 2.—33. British Columbia. Fraser River, New Westminster, railway swing bridge, alteration of lights. 34, British Columbia, Boundary Bay, Mud Bay, Serpentine and Nicomekl Rivers, railway swing bridges, lights. 35. British Columbia, Strait of Georgia, Mary Island, Sharkspit, buoy established.

No. 17. Mar. 15.—36. Ontario, Lake Ontario, Bay of Quinte, Trenton, position of gas buoy changed. 37. Ontario, Detroit River, construction of tunnel between Detroit and Windsor, caution.

No. 18. Mar. 15.—38. Nova Scotia, Bay of Fundy, Chignecto channel, Eatonville, lighthouse established. 39. Ireland, east coast, Dundrum Bay, St. John's Point light, character altered. 40. Ireland, east coast, Skulmartin, light vessel, character of light altered.

No. 19. Mar. 17.—41. Quebec, River St. Lawrence, English Bay, St. Pancras Point, lighthouse established. 42. Quebec, River St. Lawrence, Goose Island, Hospital Rock back range light, red stripe painted on tower.

No. 20. Mar. 22.—43. British Columbia, Vancouver Island, west coast, Carmanah, change in character of light, intended change in fog signal. 44. British Columbia, Vancouver Island, Victoria harbor, Laurel Point, change in position of light.

Considerable activity has prevailed recently at lake ports where vessels were berthed for the winter. Most of the steamboats are being overhauled and wharves are being put in order in preparation for an early opening of navigation. It is reported that the Niagara, St. Catharines and Toronto Navigation Co.'s vessels will be in operation between Toronto and Port Dalhousie early in April. The Canadian route for ocean-going vessels will apparently be utilized to a greater extent this year than last, as according to reports a scheme is on foot, by a U.S. syndicate, to operate a line of steamboats in the grain traffic between U.S. ports and Montreal.

TURNBUCKLES

FORGINGS
OF ALL KINDS

CLEVIS NUTS

CLEVELAND CITY FORGE & IRON CO.
Cleveland, Ohio, U.S.A.

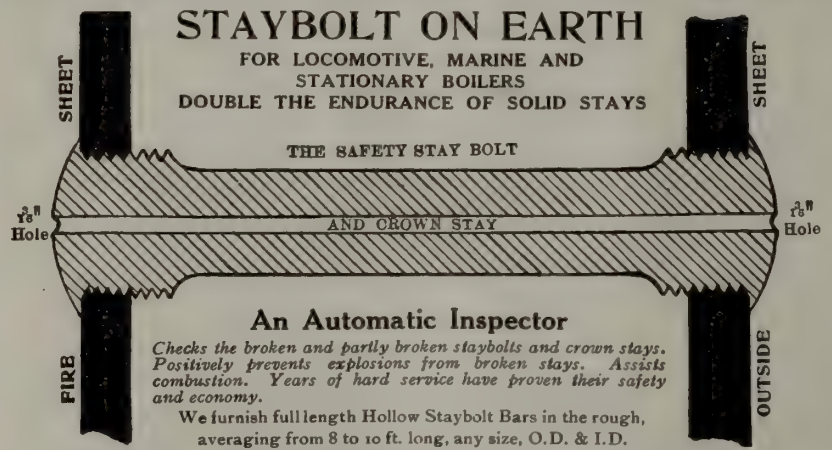
THE CANADIAN BRIDGE CO., LIMITED
WALKERVILLE, ONTARIO
MANUFACTURERS OF

LOCOMOTIVE
TURNTABLES
ROOFS
STEEL BUILDINGS

Railway and Highway
BRIDGES

STRUCTURAL
IRON WORK
OF ALL
DESCRIPTIONS

THE MOST ECONOMICAL AND SAFEST
STAYBOLT ON EARTH
FOR LOCOMOTIVE, MARINE AND
STATIONARY BOILERS
DOUBLE THE ENDURANCE OF SOLID STAYS



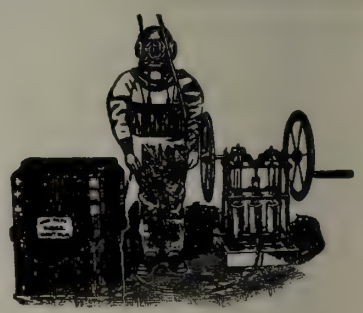
An Automatic Inspector

Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

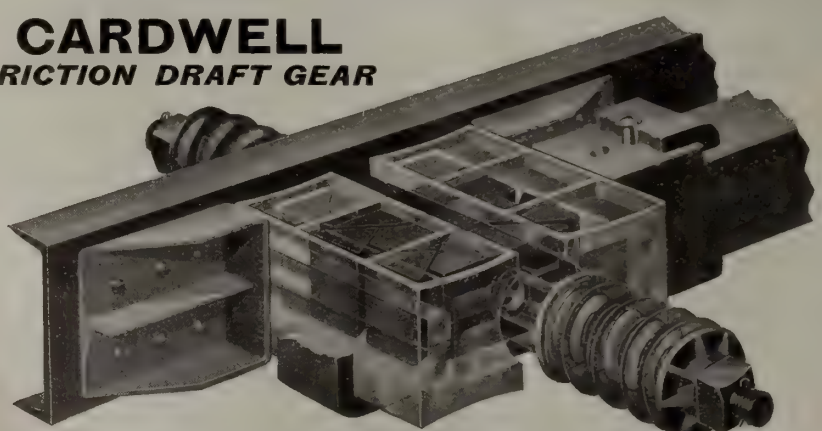
We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO



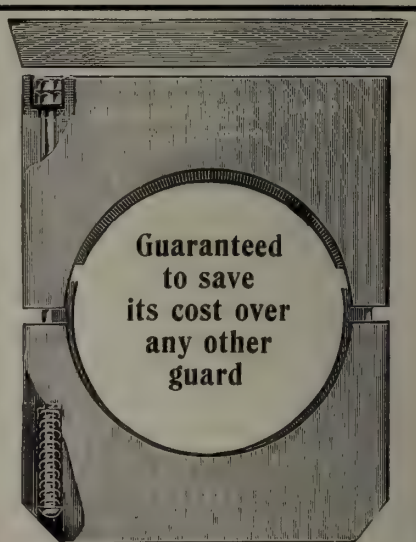
JOHN DATE
MANUFACTURER OF
DIVING APPARATUS
FOR SALE OR HIRE
BRASS FOUNDER & COPPERSMITH
152 Craig St. West, MONTREAL

CARDWELL
FRICTION DRAFT GEAR



Furnishes greatest protection to cars and locomotives.

CARDWELL MFG. COMPANY, CHICAGO, ILL.
Manufacturers of CARDWELL ROCKER SIDE BEARINGS.



Trade and Navigation Statistics.

In addition to the statements of customs revenue collected at the various ports of entry throughout the Dominion, together with tables showing the quantities of goods imported, and the duties paid thereon, with the countries of origin, as well as tables showing the quantities of goods exported, with the countries to which they were sent, the report of the Minister of Customs, for the year ended Mar. 31, 1908, contains a series of tables showing the number of vessels arriving and departing at and from the various ports classified under several headings.

The first of the tables deals with the sea-going vessels entered and cleared at each port during the fiscal year. The tables show that sea-going vessels were entered or cleared at 119 ports distributed as follows: Prince Edward Island, nine ports; Nova Scotia 63, New Brunswick 23, Quebec 11, and British Columbia 12. In all there were 15,087 vessels of 10,189,275 tons entered, bearing the flags of 14 different nations. The leading nations were: Great Britain, 8,474 vessels of 6,931,577 tons; United States, 5,504 of 1,789,532 tons; Norway and Sweden, 789 of 1,036,118 tons. Of vessels declaring outwards there were 14,717 of 9,301,996 tons, bearing the flags of 16 different countries, the leading nations being: Great Britain, 8,444 vessels of 6,004,598 tons; United States, 5,120 of 1,759,739 tons; Norway and Sweden, 816 of 1,100,427 tons. A classification of the vessels shows that of the British vessels entered inwards 4,254 of 6,434,744 tons were steamers, and 4,220 of 496,833 tons were sailing vessels, and of those sailing from Canada, 3,865 of 5,421,029 tons were steamers, and 4,579 of 583,569 tons were sailing vessels; while of the foreign vessels entered inwards, 3,625 of 2,787,444 tons were steamers, and 2,988 of 470,254 tons were sailing vessels; and of those leaving Canada 3,332 of 2,857,620 tons were steamers, and 2,941 of 439,778 tons were sailing vessels. Of the vessels credited to Great Britain 4,969 vessels of 1,213,027 tons entered inwards, and 5,593 vessels of 1,393,633 tons were registered in Canada. The freight carried and the number of the crews were as follows:

INWARDS.

	Tons Weight.	Tons Measurement.	Crew.
British	1,306,822	254,373	193,852
Canadian	202,939	1,449,054	68,317
Foreign	887,154	36,618	140,763
Total	2,396,915	1,740,045	402,932

OUTWARDS.

	Tons Weight.	Tons Measurement.	Crew.
British	2,706,334	714,085	154,071
Canadian	616,248	291,480	75,613
Foreign	1,454,787	538,499	143,040
Total	4,777,369	1,544,064	372,724

Following is the number of vessels with their tonnage arriving at or clearing from the principal ports in the Dominion, in the sea-going trade:

	Entered		Cleared	
	Vessels	Tonnage	Vessels	Tonnage
Halifax, N.S.	1,065	1,076,424	1,045	978,482
Sydney, N.S.	264	368,775	453	439,024
NorthSydney,N.S.	792	250,414	644	243,002
Louisburg, N.S.	297	358,396	315	373,263
Yarmouth, N.S.	736	200,554	721	207,995
St. John, N.B.	1,333	1,083,616	1,236	775,521
St. Andrews, N.B.	527	36,627	506	34,374
Quebec, Que.	333	1,248,958	168	539,914
Montreal, Que.	399	1,363,972	377	1,325,199
Vancouver, B.C.	1,336	994,830	1,434	1,050,413
Victoria, B.C.	1,181	1,377,808	1,161	1,318,179
Nanaimo, B.C.	288	309,476	500	378,674

The second series of tables show the description, number and tonnage of Canadian and U.S. vessels trading on the rivers and lakes between Canada and the U.S. (exclusive of ferriage). The tables cover the arrivals and departures at 90 ports distributed as follows: New Brunswick, 2 ports; Quebec 11, Ontario 71, Saskatchewan 1, British Columbia 2, Yukon 3. The total number of vessels entered inwards was 22,322 of 9,712,052 tons register, and carrying 336,581 as crews, divided as follows:

	Vessels.	Tons Register.	Crew.
Canadian, steam	7,956	4,203,542	183,356
" sail	1,079	249,764	5,401
U.S. steam	8,459	4,188,702	132,874
" sail	4,828	1,070,044	14,950

A further description of the vessels shows:

	Number of Vessels.	Tons Register.
Screw steamers	13,167	5,764,029
Paddle steamers	3,178	2,601,595
Stern-wheel steamers	70	26,620
Schooners	1,789	574,978
Sloops	499	52,833
Barges	3,619	699,997

The total number of vessels entered outwards was 23,486 of 10,371,708 tons register, and carrying crews totalling 358,092, divided as follows:

	Vessels.	Tons Register.	Crew.
Canadian, steam	7,986	4,355,872	201,497
" sailing	1,212	302,008	5,928
U.S., steam	8,450	4,572,384	134,264
" sailing	5,838	1,141,444	16,403

A further description of the vessels shows:

	Number of Vessels.	Tons Register.
Screw steamers	13,208	6,550,436
Paddle steamers	3,153	2,349,612
Stern-wheel steamers	75	28,208
Schooners	1,845	588,900
Sloops	173	2,331
Barges	5,032	852,221

The third set of tables shows the number of British and foreign vessels engaged in the Canadian coasting trade. These returns were collected from 193 ports distributed as follows: Prince Edward Island, 10 ports; Nova Scotia 62, New Brunswick 22, Quebec 14, Ontario 68, British Columbia 14, Yukon Territory 3. The total number of vessels engaging in this trade was 81,012, distributed as follows:

INWARDS.

	No.	Tonnage.	Crew.
British	79,213	25,096,442	1,148,669
Foreign	1,799	1,638,304	28,297
Total	81,012	26,734,746	1,176,966

OUTWARDS.

	No.	Tonnage.	Crew.
British	72,660	22,259,971	1,017,253
Foreign	1,565	1,535,118	26,486
Total	74,225	23,795,089	1,043,739

Of the vessels arriving, 54,368 of 21,314,515 tons were steamers, and 24,845 of 3,781,927 tons were sailing, and of the vessels departing, 47,846 of 18,549,764 tons were steamers, and 24,814 of 3,710,207 tons were sailing, flying the British flag. A further classification shows the following:

	Vessels.	Tonnage.
Screw steamers	81,531	30,377,035
Paddle	15,786	9,322,972
Stern-wheel steamers	7,210	3,156,723
Total	104,527	42,856,730
Ships	17	29,224
Barques	82	73,514
Barquentines	45	12,908
Brigs	367	32,834
Brigantines	23	4,580
Schooners	36,484	2,479,188
Sloops	2,446	98,163
Barges, canal boats	11,246	4,924,694
Total sailing	50,710	7,673,105
Grand total	155,273	50,529,835

During Jan., two navigation employes were killed and 5 injured in the course of their work. The deaths were caused, one by drowning, and one by being caught between a boat and a wharf. Of the other accidents, 2 each were due to falling material and to explosions, and one to a fall.

The question of dividing the Marine and Fisheries Department into two separate departments, is under consideration by a parliamentary committee. The opinion has been expressed that it is impossible for one deputy minister to perform satisfactorily the executive duties relating to both marine and fisheries matters.

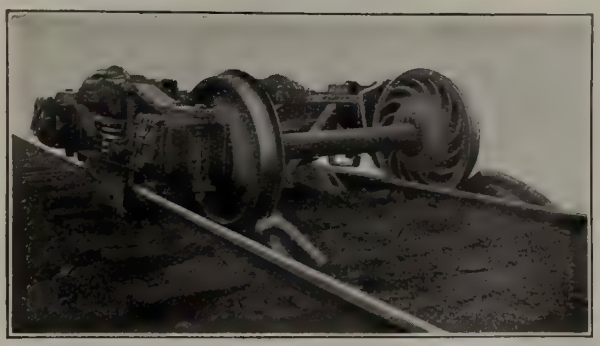
Northumberland Straits Icebreaking Steamship.

The icebreaking steamship which is being constructed for the Dominion Government by Vickers, Sons and Maxim, Ltd., London, England, for the winter navigation of Northumberland Strait between Prince Edward Island and the mainland, is to be delivered May 11. The contract price is £103,000, and there has been paid to date on account of construction $125,316.66.

The specifications provide for a twin-screw mail and passenger steamship having the following principal dimensions: Length between perpendiculars, 250 ft.; length over all, 279 ft. 6 in.; breadth, moulded, 46 ft.; depth to upper deck, 27 ft.; depth to main deck, 19 ft.; upper deck to promenade deck, 7 ft. 9 in.; load draught, mean, 18 ft.; indicated h.p., 6,000; dead weight on 18 ft. draught, 600 tons; dead weight on trial, 500 tons. The vessel is being built and engined under Lloyd's special survey, is to be classed 100A1 at Lloyd's, two deck rule, with water ballast and double bottom, fore and aft, and will comply with all the Board of Trade requirements for passenger service. The hull is of steel, with special strengthening to fit her for the service for which she is designed. She has a cut water stem, elliptical stern, and is fitted with nine watertight bulkheads, two steel masts, and a short bowsprit. She will be provided with a short bridge deck, promenade deck, forecastle deck, upper deck, main deck, and a steel lower deck. The wheel house, captain's and officers' quarters are placed on the bridge deck; the deck saloon and entrance, smoke room and an official suite are on the promenade deck; the first-class dining saloon is forward, the first-class staterooms amidships, and the mail room and store room aft on the upper deck; the main deck is generally to be used for cargo, while the accommodation for the second-class passengers and engineers are placed aft, and for the firemen and trimmers forward. The main cargo hold is forward of the coal bunkers and boiler room, and a deep tank and trimming bank are placed aft of the engine room. Steam steering gear is fitted, with an emergency hand steering gear. Three lifeboats, a cutter, gig and dinghy are provided with all necessary appliances, and in every other department the appliances are of the latest and most approved pattern. The vessel is to be heated throughout with steam and lighted with electricity, a searchlight 24 inches in diameter and of 25,000 candle power being placed on the foremast. The first-class dining saloon has seating accommodation for 60 persons, and the staterooms are fitted with berths for one, two, three or four persons. The second-class accommodation is fitted with sofa seats and folding backs forming 20 beds. Ample bath and lavatory accommodation is provided.

The vessel is to be propelled by twin screws set well clear of the ship's side, not to overlap, and to turn outwards in going ahead. The screws are to be driven by two sets of inverted, direct-acting, triple-expansion, surface-condensing engines, each set having three cylinders working on separate cranks, placed at an angle of 120 degrees to each other in sequence of high, low and intermediate, when the engines are going ahead. The engines are to be capable of developing 6,000 collective indicated horse power. The battery of boilers is to consist of two double-ended boilers, 14 ft. 10 in. by 21 ft.; and two single-ended boilers, 14 ft. 10 in by 11 ft.; the double-enders to be fitted with six, and the single-enders with three withdrawable furnaces, the mean inside diameter of the furnaces being 3 ft. 10 in., each fitted with fire grates 5 ft. 9 in. long. The boiler tubes

The Alexander Car Replacer



60,000 PAIRS IN USE.

Manufactured at

Montreal, Que., and

Scranton, Pa.,

of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY

F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

JAMES T. GARDNER

RAILWAY EQUIPMENT

615 Railway Exchange

CHICAGO, ILL.

Has on Hand at all times

First-Class Freight and Passenger Locomotives

Also

Contractor's Locomotives Cars, Rails, Etc.

Specifications with Prices on Application

JAMES THOMSON, Pres. and Mang. Director. J. G. ALLAN, Vice-President. JAMES A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED

MANUFACTURERS OF

CAST IRON PIPE

3 inches to 60 inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER

HAMILTON, ONT.

Ticket Agts. Please Note

ILLINOIS CENTRAL RAILROAD — CENTRAL MISSISSIPPI VALLEY ROUTE

Where **ILLINOIS CENTRAL RAILROAD COMPANY** has through car service both Coach and Sleeper and Free Chair Cars,

Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California,

New Orleans Route to the Pacific Coast Mardi Gras, Feb. 22-23

Tourist rates to Arizona, Mexico, and California, liberal stopover privileges. Rates via New Orleans as low as via any other route.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Passenger Agent
305 ELLICOTT SQUARE, BUFFALO, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

OUR RAILROAD FENCES

We can furnish Light or Heavy Fencing, Hinge or Straight Stay, to meet all conditions.

We are adding to and improving our plant each year, and our customers can depend on securing something better than we had previously furnished.

We are prepared to furnish all material and labor, and turn out to the Railroad a complete job, as we have a number of experienced fence builders always in our service.

Send us your Specifications and we shall be pleased to furnish prices either by mail or otherwise.

Steel and Wood Frame Gates for Railroads at special prices.

New Brunswick Wire Fence Company, Limited

Moncton, New Brunswick

1909

ONTARIO JOCKEY CLUB

TORONTO - - CANADA

SPRING MEETING

MAY 22ND TO JUNE 5TH

The King's Plate will be run on Saturday, May 22nd

J. E. Seagram, President

W. P. Fraser, Sec'y-Treas.

JAMES PLAYFAIR, Pres. & Gen'l Mgr. D. L. WHITE, Vice-President. J. W. BENSON, Sec'y-Treas.

MIDLAND TOWING & WRECKING CO., LIMITED, MIDLAND, ONT., CANADA

FIRST-CLASS TUGS FOR WRECKING, RAFT TOWING, ETC.
STEAM PUMPS, DIVERS, JACKS, HAWSERS AND LIGHTERS

are 2½ in. outside diameter. The boilers have to stand a water test pressure of 360 lbs. to the square inch, and are designed for a working pressure of 180 lbs. to the square inch. The total heating surface of the boilers is not to be less than 14,600 sq. ft., and the total fire grate surface not to be less than 395 sq. ft. A system of forced draught is to be fitted.

The contractors have to give a guarantee that the vessel is sufficiently strong and capable of dealing with drift ice fields 15 ft. in thickness. The vessel will be named Earl Grey.

Grounding of Lightship Anticosti.

The following decision has been given by Capt. L. A. Demers, Chief Examiner of Masters and Mates, re the grounding of the Dominion lightship Anticosti on White Island Reef, N.S., the same being concurred in by J. Bain and P. Lachance:

"The evidence adduced at this investigation shows that the vessel was supplied with an efficient compass and necessary instruments for the purpose of navigation; that the captain, and first and second officers, possess foreign-going certificates as masters, and the evidence has brought out the fact that the compass errors had been occasionally determined by the captain whilst the vessel was on the station, but no record has been entered in the log book of such observations.

"Taken as a departure for the purpose of this investigation, the navigation from the easternmost cape of Cape Breton, the court finds that the navigation of the vessel to the time of the grounding was carried on in a haphazard way, no cross bearings of lights or points of land being taken ot ascertain the position of the ship; that the distances were judged by the eye approximately, and were kept as guides for each succeeding course; that an element of uncertainty existed in the captain's mind as to the amount and nature of the deviation of his compass, and no steps were taken to obtain positive evidence that the vessel's distance from the land was correct, and whether courses steered were proper by either means of observation, cross bearings or soundings. The engagement of a pilot (irresponsible) seems to have led to a wrong impression, which, however, is inexcusable. In this court's point of view it was the duty of the captain to advise his officers that they were solely responsible for the safe navigation of the ship when on deck, and not the pilot. The evidence in connection with the frequent changes of courses after 4 p.m. till the ship grounded is conflicting. All seem to lay the responsibility on the pilot, and no attempt was made on the part of the captain to ascertain the strength and direction of the current and the stage of the tide. The fact that the ship floated off without the help of the engines shortly after touching, indicates clearly that the tide was flood, which was the cause of the vessel being brought in shore and out of her course, a matter which was easy to find by referring to the Almanac or sailing directions. If either a cross bearing or a four-point bearing had been taken off Cranberry light, the mishap would have been evaded. The evidence of Boudreau, the helmsman, goes to show that the lights ashore were visible before the course was altered to the southward, and demonstrates conclusively that the vessel was farther in from the position which the report on the log and the testimony of the captain show. When breakers were seen there was no attempt to stop the engines, but they were kept full speed, the course being altered to starboard, but too late. It appears that the moment the ship struck, the order to man the boats was given and performed effectively, and that the mate was the first to go down in one of them, and the second mate in the other, leaving the captain to direct operations.

"After reviewing carefully the evidence given on the above stated facts, the court can arrive at no other conclusion than that the navigation of the lightship Anticosti was performed in a careless way, utter disregard to the most elementary procedure of coast navigation being evident on the part of the captain and the first officers, and therefore, in view of which, the court, however, wishing to be lenient in view of it being a first mishap, suspends Capt. Alfred Couillard's certificate 2607 for three months, from Feb. 9 to May 9, 1909, and severely censures the chief officer, C. Bernier, for not ascertaining the position of the vessel when he came on watch at 4 o'clock. As to the second officer, owing to the fact that he was required to be at the helm at times, the court simply warns him to be careful in future."

Canal Expenditures and Traffic.

The total amount expended upon the Canadian canal systems for the year ended Mar. 31, 1908, by the Department of Railways and Canals, aggregated $3,221,984.73, of which $1,723,156.07 was on capital account, $508,010.19 on income account, $556,902.83 for staff, and $433,915.64 on repairs. These last two items are charged to revenue. There is also $45,155.99 for miscellaneous expenditures common to both the railway and canal branches of the Department. The revenue produced from the canal works amounted to $144,882.13, the amount received from hydraulic rents being $126,873.70. The total revenue derived from canals from July 1, 1867, to Mar. 31, 1908, was $13,763,468.60.

The total traffic through the several canals for the season of navigation of 1907 was 20,543,639 tons, an increase of 10,020,454 over 1907. The number of passengers carried was 279,199, an increase of 22,699.

On Mar. 3, a deputation from the Dominion Marine Association waited on the Ontario Attorney-General, to ask the assistance of the province in procuring an amendment to the Canada Shipping Act, to bring about the inclusion of Ontario in the list of provinces exempt from the compulsory payment of pilotage dues. It is hoped that Ontario will take up the matter and protest against what is claimed to be an unjust discrimination. This matter has previously been represented to the Federal authorities, but without effect.

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING JAN. AND FEB., 1909.

Name.	No.	Where and When Built.	Engines, etc.	Length	B'dth.	Depth.	Gross tons.	Reg. tons.	Port of Registry.	Owners.
Alcedo	122,650	Ballard, Wash., 1905	Screw 16 N.H.P.	69.7	16.8	7.6	70	47	Ottawa	Department of Marine.
Andover	126,331	Kamloops, B.C., 1908	Paddle 6 "	91.3	19.9	4.0	177	111	Vancouver, B.C.	G. B. and E. Ward, Kamloops, B.C.
Christine	86,714	Glasgow, Scotland, 1881	Screw 40 "	126.0	17.2	9.9	140	95	Ottawa	Customs Department.
D. and G.	126,096	Port Maitland, Ont., 1909	" 10 "	58.2	14.1	7.4	41	28	St. Catharines, Ont.	G. Jones, Port Maitland, Ont.
Elgin E.	121,957	Collingwood, Ont., 1908	" 20 "	75.0	16.0	8.2	66	45	Port Stanley, Ont.	C. Thorne, M.O., Port Stanley, Ont.
Elola	126,329	Vancouver, B.C., 1907	" 3 "	45.4	10.1	4.3	19	13	Vancouver, B.C.	F. R. Begg, Vancouver, B.C.
John Hancock	126,013	Granville Ferry, N.S., 1908	" 3½ "	53.0	16.2	5.2	43	29	Annapolis Royal, N.S.	B. Dolan, Granville Ferry, N.S.
Keremeous	122,583	Yarmouth, N.S., 1908	" 2 "	34.0	9.6	4.0	8	4	Yarmouth, N.S.	J. S. Gray, Yarmouth, N.S.
Longboat	126,266	Simcoe, Ont., 1901	" 2 "	37.0	10.0	4.0	23	15	Toronto	Turner Lumber Co., Toronto.
Mayfl'r no. 1	126,137	Dartmouth, N.S., 1909	" 6 "	60.5	17.3	7.0	50	45	Halifax, N.S.	Imperial Oil Co., Sarnia, Ont.
Prin.Charlotte	126,236	Govan, Scotland, 1908	" 795 "	330.0	46.7	23.7	3844	1999	Victoria, B.C.	C.P.R., Montreal.
Reliever	122,417	West Bay City, U.S., 1888 / Midland, Ont., 1908	" 80 "	226.0	36.4	10.5	810	366	Midland, Ont.	M. Chew, Midland, Ont.
*Roddick	122,606	Fort Frances, Ont., 1908	" 3 "	66.0	12.0	4.4	52	31	Kenora, Ont.	W. J. Wilson, Fort Frances, Ont.
Shuswap	126,330	Astoria, Ore., 1888	" 7 "	46.5	13.3	5.0	33	22	Vancouver, B.C.	B.C. Land and Works Department.
Slippery Jack	116,686	Richibucto, N.B., 1897	" 1 "	32.0	11.4	5.0	12	11	Richibucto, N.B.	J. Legoof, Richibucto, N.B.
Tyrian	60,459	Glasgow, Scotland, 1869	" 96 "	237.5	30.2	19.9	1039	667	Halifax, N.S.	Public Works Department.
W. E. Rooney	116,487	Toledo, O., 1873	" —	49.0	12.8	4.2	12	6	Wallaceburg, Ont.	J. Lee, Wallaceburg, Ont.

* Formerly Germannic.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING JAN. AND FEB., 1909.

Name.	No.	Where and When Built.	Rig.	Length	B'dth.	Depth.	Reg. tons.	Port of Registry	Owners.
Elva Blanche	126,116	Mahone Bay, N.S., 1908	Schr.	93.8	25.0	9.3	79	Lunenburg, N.S.	A. Ernst, M.O., Mahone Bay, N.S.
Jessie Ashley	116,557	Maitland, N.S., 1908	"	95.7	26.0	8.6	122	Maitland, N.S.	W. Anthony, Maitland, N.S.
Kennaquhair	126,095	Welland, Ont., 1908	Dred.	100.0	40.0	9.5	462	St. Catharines, Ont.	W. E. Phin, Welland, Ont.
La Trinité	126,381	St. Joachim, Que., 1891-1906	Schr.	72.7	23.0	6.6	47	Quebec, Que.	J. Gagné, Baie St. Paul, Que.,
Loyal	111,634	Mahone Bay, N.S., 1900	"	94.4	25.0	9.6	99	Lunenburg, N.S.	A. B. Carson, M.O., Rexton, N.B.
Minnie F. Crosby	126,103	La Have, N.S., 1908	"	97.6	27.2	10.0	119	Halifax, N.S.	A. B. Crosby, Halifax, N.S.
*Myrtle Mack	116,687	Bath, Me., 1865	"	46.4	14.2	5.2	20	Richibucto, N.B.	J. D. McLeod, Tidnish, N.S.
Sea Duck	126,054	Bathurst, N.B., 1908	"	38.0	12.6	5.6	16	Chatham, N.B.	E. P. Roy, Bathurst, N.B.

* Formerly Peerbastah.

The "DILLON"

is a Hinge-Stay fence made of extra quality wire, either all No. 9, or lighter if required.

"MONARCH"

fence is made of No. 9 Hard wire throughout, and is of the regular straight-stay style.

ENQUIRY SOLICITED

The Owen Sound Wire Fence Co. LIMITED

OWEN SOUND, ONTARIO

DOMINION BUREAU

ROBERT W. HUNT & CO.

ENGINEERS

BUREAU OF INSPECTION TESTS AND CONSULTATION

CHEMICAL AND CEMENT LABORATORIES, MONTREAL

NORFOLK HOUSE, CANNON ST., LONDON

CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

JOHN S. METCALF CO.

ENGINEERS AND CONTRACTORS FOR

GRAIN ELEVATORS ONLY

CONCRETE——STEEL——WOOD

Plans and Specifications our Specialty

MIDLAND, ONTARIO CHICAGO, ILL.

SECOND-HAND EQUIPMENT

ALL CLASSES REBUILT

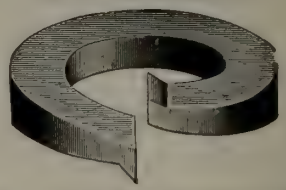
FREIGHT AND PASSENGER

CAR REPAIRS

AMERICAN CAR & EQUIPMENT CO., 1538 Monadnock, Chicago, Ill.

THE POSITIVE LOCK WASHER

Is the BEST Nut LOCK for all purposes



WE ALSO MAKE PLAIN COILS AND TAIL NUT LOCKS

The Positive Lock Washer Co.

Sole Mfrs., Newark, N.J.

F. H. HOPKINS & CO., Agents, MONTREAL

IMPERIAL BANK OF CANADA

CAPITAL AUTHORIZED - -	$10,000,000.00.
CAPITAL PAID UP - -	5,000,000.00.
REST - - - -	5,000,000.00.

HEAD OFFICE - - TORONTO

AGENTS—London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.

Sterling exchange bought and sold. Letters of credit issued available in any part of the world.

SAVINGS DEPARTMENT—Interest allowed on deposits at current rate from date of deposit.

A general Banking business transacted.

Branches throughout the Dominion of Canada

Anti-Rail Creepers

Made under Laas & Sponenburg, Canadian patents Nos. 97586, 97268, 97269. Shipments made from Walkerville, Ontario.

Belle City Malleable Iron Co.

RACINE, WIS.

RAILWAY AND STEAMSHIP PRINTING

SOUTHAM PRESS TORONTO

SUCCESSORS TO

THE MAIL JOB PRINTING CO.

FOR STREET PAVING MATERIAL

SCORIA BLOCKS are the cleanest, most noiseless and, durability considered, the cheapest yet discovered. And the supply is unlimited.

FOR ALL INFORMATION ADDRESS

W. H. KNOWLTON

Aberdeen Building, Toronto, or Merchants Bank Building, Montreal

The Kilkeel-Scotia Collision.

Commander O. G. V. Spain, R.N., Dominion Wreck Commissioner, has given the following judgment respecting the collision which occurred in the Strait of Canso, off Port Mulgrave, April 28, 1908, between the Dominion Government ferry steamer Scotia and the Inverness Railway and Coal Co.'s s.s. Kilkeel:

"The accident was caused by the Scotia striking the port side of the Kilkeel close to the stem. The Scotia was carrying out her ordinary work, running from Port Tupper to Port Mulgrave, as a ferry boat. The Kilkeel was proceeding from Port Hastings to Port Mulgrave, in order to enable her to fill up with water. At the time of the collision the weather was fairly clear, and lights could be seen at considerable distance if a proper lookout had been kept. As a matter of fact, there was no proper lookout man kept on board the Scotia, as the second mate, J. McDonald, who was supposed to be keeping a lookout, was, at the time of the accident, in the after part of the ship. From the evidence adduced, it appears that the red light of the Kilkeel was first seen about three points on the starboard bow of the Scotia some three minutes before the accident. Under these circumstances it was the duty of the Scotia to keep clear of the Kilkeel, and the Master of the Scotia had to use his own judgment, which was the best way to carry this out.

"The court considers that the accident was caused by the Master of the Scotia using bad judgment in not reversing his engines soon enough. He apparently had time to carry out this manœuvre before he considered it proper to do so. Captain L. R. Maguire, of the Scotia, who holds a Master's certificate of competency in the inland waters, is censured and warned to be more careful in future. The court takes this lenient view of the accident for the reason that the fact of the Scotia being an unwieldy vessel to manœuvre, is thoroughly appreciated, but the two vessels were crossing, which is the position of greatest danger, and under those circumstances there was nothing for it but judgment, good lookout and caution. Captain Elworthy, of the Kilkeel, is exonerated, but his attention is called to the fact of there being no communication with his whistle, the cord being disconnected, and the court considers that it is part of a master's duty to attend to details of this description before getting under way. The court, however, does not consider that, in this case, the above fact contributed to the accident."

Vessels Removed from the Register.

The following vessels were removed from the Canadian register during Jan. and Feb., for the reasons assigned: Steam—Calluna, Richibucto, N.B., 15 tons, wrecked; Carlton, Hamilton, Ont., 6 tons, out of existence; Gertrude, Toronto, 51 tons, out of existence; Mascotte, Toronto, 33 tons, out of existence; Telegram, Collingwood, Ont., 134 tons, wrecked; Thistle, Toronto, 68 tons, out of existence; Wiarton Belle, Owen Sound, 59 tons, broken up. Sailing—Acacia, Kingston, Ont., 188 tons, foundered; Atalaya, Lunenburg, N.S., 79 tons, transferred to Newfoundland; Bee, Chatham, N.B., 11 tons, broken up; Bessie A., Parrsboro, N.S., 96 tons, wrecked; Bonnie Lin, Barrington, N.S., 10 tons, foundered; Carrie L. Smith, St. John, N.B., 600 tons, wrecked; Carrie May, Yarmouth, N.S., 25 tons, broken up; Eliza M., Chatham, N.B., 18 tons, broken up; France and Russie, Charlottetown, P.E.I., 27 tons, broken up; Freddie G., Digby, N.S., 18 tons, broken up; Hornet, Windsor, N.S., 26 tons, wrecked; Idle Wild, Kingston, Ont., 19 tons, broken up; Lark, Barrington, N.S., 13 tons, condemned; Lolita A., Liverpool, N.S., 159 tons, abandoned at sea; Maggie Smith, Port Hawkesbury, N.S., 83 tons, wrecked; Monkland, Chatham, N.B., broken up; Murdock Finlayson, Arichat, N.S., 80 tons, wrecked; Osberga, Maitland, N.S., 1,116 tons, foundered; Prudent, St. John, N.B., 117 tons, wrecked; Regina B., Port Hawkesbury, N.S., 81 tons, sunk in collision; Robert S. Besnard, Parrsboro, N.S., 1,142 tons, sold to foreigners; Savona, Maitland, N.S., 1,584 tons, stranded; Sea Gull, Maitland, N.S., 25 tons, broken up; Strathisla, Maitland, N.S., 1,280 tons, sold to foreigners; Willie M., Barrington, N.S., 24 tons, wrecked; Wood Bros., Parrsboro, N.S., 68 tons, wrecked.

Among the Express Companies.

L. R. Hight has been appointed Agent Canadian Northern Ex. Co., vice H. E. Baker, resigned.

The Board of Railway Commissioners issued order 6366, Feb. 22, on the application of the Dominion and Canadian Ex. companies, postponing from Mar. 1 to May 1 the effective date of order 6167, Feb. 4, ordering express companies subject to the Board's jurisdiction to carry acetylene gas under certain rules and regulations therein quoted.

Five express companies doing business in Ontario paid by way of taxation into the provincial treasury, $6,375 during the financial year ended Dec. 31, 1908. The amount paid by the several companies is shown by the public accounts just presented to the Legislature to have been: American Ex. Co., $925; Canadian Ex. Co., $1,800; Canadian Northern Ex. Co., $925; Dominion Ex. Co., $1,925; United States Ex. Co., $800.

Telegraph and Cable Matters.

The annual meeting of the Association of Railway Telegraph Superintendents will be held at Detroit, Mich., June 23, 24 and 25.

The Old Time Telegraphers' and Historical Association will meet this year at Atlantic City, N.J. The date has not yet been fixed.

W. C. Furness, manager G.N.W. Telegraph Co.'s office, London, Ont., who had been confined to his home by illness, was moved to the hospital there recently.

The Northern Commercial Telegraph Co. is reported to have awarded a contract to M. Connolly, Montreal, for the erection of about 1,000 miles of telegraph line from Point Levis, Que., to Windsor, Ont.

An unconfirmed report stated, recently, that wireless telegraph messages have been exchanged between the Marconi stations at Glace Bay, N.S., and the Eiffel Tower, Paris, France, thus creating a new record.

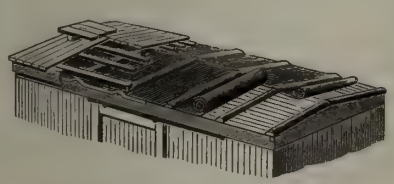
The Ontario Government collected $1,292.24 from telegraph companies doing business in the province during 1908, the amount paid being: North American Telegraph Co., $100; Dominion Telegraph Co., $475; Montreal and G.N.W. Telegraph Co., $717.24.

The death was recently announced of M. Laberge, at Chateauguay, Que., aged 68. He was one of the party who, under C. Buckley, Chief Engineer, explored the Yukon Territory in 1865, in connection with the Western Union Telegraph Co.'s proposed telegraph line to Europe, by way of British Columbia, Alaska and Siberia.

Lyman Dwight, who died at Detroit, Mich., Mar. 4, aged 72, was a brother of H. P. Dwight, President G.N.W. Telegraph Co., Toronto. He was a telegraph operator in Toronto over 50 years ago, and was transferred to Buffalo, N.Y., where he had charge of the Montreal Telegraph Co.'s office until 1868, being, subsequently, moved to Detroit, Mich., in a similar capacity, where he remained until his retirement from active work a few years ago.

John Murray, one of the veteran telegraphers of Canada, died at Montreal, Mar. 9, aged 72, after a long illness. He came to Canada in 1854, and was responsible for the erection of the first telephone lines in Montreal in 1879, this being the first circuit to be operated in

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited
MONTREAL, CANADA.
BARE AND INSULATED ELECTRIC WIRE
Electric Light Line Wire, Incandescent and Flexible Cords,
RAILWAY FEEDER AND TROLLEY WIRE
Americanite, Magnet, Office and Annunciator Wires,
Cables for Aerial and Underground Use.


CHEAPER AND MORE DURABLE THAN STEEL

ASPHALT CAR ROOFING
WILL LAST THE LIFE OF ANY CAR WITHOUT REPAIRS OR ATTENTION
2 AND 3-PLY PLASTIC CAR ROOFS
THE DRAKE & WIERS CO. = CLEVELAND, O.

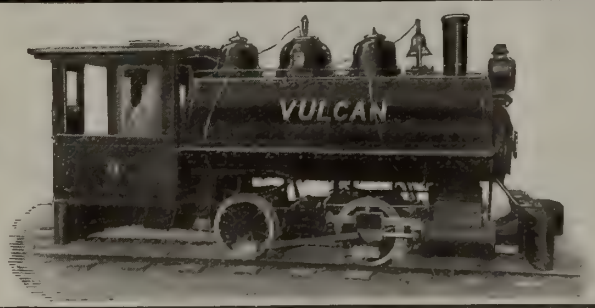
the Dominion. He was at one time manager of the old City and District Telegraph Co., Montreal. One of his sons, R. Murray, is assistant to J. Kent, manager C.P.R. Telegraphs.

The Minister of Marine and Fisheries stated in the House of Commons recently, that the U.S. Government asked permission to lay a cable through Hecate strait and Dixon channel—Canadian waters—and that the permission had been granted. This cable duplicated a part of the outside cable already established between Seattle and Alaska. No request had been made for permission to lay a cable between Vancouver Island and the mainland.

G. Burnett, who died at Buffalo, N.Y., Mar. 4, aged 71, was employed as a telegraph operator in Toronto in 1857, and was subsequently engaged as an operator in the Western States. He succeeded L. Dwight, whose death on the same day is mentioned elsewhere, in charge of the old Montreal Telegraph Co.'s office at Buffalo, N.Y., in 1868,

PROVINCIAL STEEL CO., LTD.

COBOURG, ONT.



Now is the time to place your order for Contractors' Locomotives. Why not buy the best?

VULCAN IRON WORKS

WILKES-BARRE, PA., U.S.A.

Canadian Representatives, MUSSENS LIMITED, MONTREAL

E. B. LEICH,
Pres. & Gen. Mgr.

General Offices:
46th, ROBEY AND LINCOLN STS.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.

Manufacturers of

DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

Canadian Office:
22 St. John Street
MONTREAL, - QUEBEC

I. A. YOUNG,
AGENT

RAILWAY SPRINGS

Locomotive, Tender and Passenger Car Springs of every description

Equalizing, Draw-bar, Buffer and Spiral Springs of all kinds

Street Railway Springs from the largest to the smallest

Manufactured by

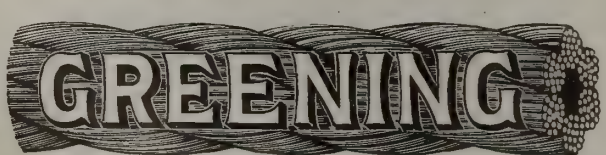
B. J. COGHLIN & CO., 432 St. Paul St., Montreal, Can.

UNIFORM CAPS

For officials and employes of Railway, Steamship, Express, Telegraph and other companies, Yacht Clubs, Etc.
Helmets and Uniform Caps for Police, Firemen, Bands, Societies, Etc.
Embroidery in Gold and Silver Bullion.

W. H. CODDINGTON
HAMILTON - - ONTARIO

WIRE ROPE



All Kinds and Sizes and for All Purposes.
Standard and Lang's Patent Lay.
Rope Fittings.
Rope Grease.
Prices Right.
Prompt Shipments.

THE B. GREENING WIRE CO., Limited,
HAMILTON, ONT. MONTREAL, QUE.

STEEL, PEECH & TOZER,
LIMITED,
SHEFFIELD, ENGLAND.
STEEL AXLES, TYRES, AND SPRING STEEL.

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada.

SOLE AGENTS:
James Hutton & Co., Montreal.

and retained that position until his death. At the time of the war he joined the U.S. Military Telegraph Corps, but returned to the north before the war closed.

Owing to the illness of P. W. Snider, C.P.R. Telegraph Superintendent, St. John, N.B., which has since resulted fatally, F. G. Mahon, Inspector of the Eastern Division, Montreal, was recently temporarily appointed in his place; and the following temporary appointments were made as a consequence: F. N. Caisse, head of the Montreal office, to be Inspector there; J. Mitchell, head of the night service, to be head of the Montreal office; A. M. Bennie to be head of the night service, and A. E. Jarvis to be head of the traffic department, assisted by J. Fortier.

The Newfoundland Premier recently announced that his Government had agreed upon a contract with the Commercial Cable Co., for the extension of one of its cables into the colony and thence to New York, to be completed by Aug. 1. The President of the company, when questioned on the subject, said that the company had agreed to cut one of its cables at Flemish Cap, about 300 miles east of Newfoundland, and attach to the European end a new cable extending to St. John's, Nfld., and thence to New York. He claimed that this was the ideal route for a European-U.S. cable, as it divided the distance between Ireland and New York more equally than any other route. This work would have been undertaken before, but that the Anglo-American Telegraph Co. had the sole landing right in Newfoundland. This right, which was for 50 years, has just expired. The new cable to be laid will be about 1,700 miles, the section to be put out of operation between Flemish Cap and Canso, N.S., being about 900 miles, which will be recovered if possible, and utilized elsewhere.

The board of conciliation, consisting of Judge McGibbon, Chairman; J. F. MacKay, for the company, and J. G. O'Donoghue for the men, which has been enquiring into the complaints of the M. C. Rd. telegraph operators against the Great North Western Telegraph Co., concluded its sittings recently. The operators claimed that up to Sept. 12, 1907, they had been in receipt of certain commissions from the G.N.W. Co. for work done, and this had been discontinued without notice. The Industrial Disputes Investigation Act provides that 30 days' notice is required of such alteration, and until that notice the relation of employer and employe shall continue. Notice of discontinuance of the payment by the Telegraph Co. was given Sept. 12, 1907, to date from Sept. 1 of the same year. The company claimed that the notice severed the relations between it and the operators, after which the M.C. Rd. was compelled to furnish operators for the work, and if anyone was liable, the M.C. Rd. was. The board found that as the Telegraph Co. admitted the operators were employed by it to Sept. 12, 1907, it was liable for the difference between the amount of the commissions received on the 10% basis from the M.C. Rd. from Sept., 1907, to Nov., 1908, and for what should have been received on the old basis, and for all commissions from Nov., 1908, to the present time.

Grand Trunk Pacific Ry. Telegraphs.

The G.T.P.R. Telegraph Department during 1908 erected and completed pole lines carrying two wires from Winnipeg, Man., to Battle River, Sask., 675 miles, and from Fort William West, Ont., to Lake Superior Jct., 200 miles. During the current year, the following work will be undertaken: Erection of one no. 8 galvanized wire and one 210 hard-drawn copper wire, from Winnipeg, Man., to Edmonton, Alta., 800 miles; erection of pole carrying two wires from Battle River, Sask., to Edmonton, Alta., 120 miles, and from Edmonton to Wolf Creek, 123 miles; erection of pole lines and wires from Melville to Yorkton, Sask., 40 miles; from Melville to Regina, Sask., 110 miles; from Wainwright to Calgary, Alta., 175 miles, and from the main line to Brandon, Man., 25 miles.

It is expected that construction of the telegraph line on the National Transcontinental Ry., between Winnipeg and Lake Superior Jct., will be completed in July, when direct communication will be established between Winnipeg, Man., and Fort William, Ont., over National Transcontinental-G.T.P. wires.

The construction of telegraph lines on several sections east of Lake Superior Jct. is proceeding rapidly, and also along several sections in New Brunswick and Quebec.

The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Supplies, &c.

Accident Insurance
Canadian Ry. Accident Ins. Co.....Ottawa, Ont.

Aerated Waters
E. L. Drewry.....Winnipeg.

Air Brakes and Fittings
Canada Foundry Co.....Toronto.
Canadian Westinghouse Co.....Hamilton, Ont.

Ales
E. L. Drewry.....Winnipeg.

Alloys
Goldschmidt Thermit Co.....Toronto.

Anchors, Ground
Ground Anchor Co.....Montreal.

Angle Bars
Hamilton Steel & Iron Co.....Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.

Anti-Friction Metal
W. Abbott.....Montreal.

Anti Rail Creepers
Belle City Malleable Iron Co.....Racine, Wis.
The Holden Co., Ltd.....Montreal.

Automobiles
Polson Iron Works, Ltd.....Toronto.

Axes
James Smart Mfg. Co.....Brockville, Ont.

Axe Steel
Montreal Steel Works.....Montreal.

Axles
James Hutton & Co.....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Beacons
International Marine Signal Co.....Ottawa.

Bearings, Side
Cardwell Mfg. Co.....Chicago, Ill.
Chicago Railway Equipment Co.....Chicago, Ill.
Dominion Car and Foundry Co.....Montreal.

Blankets and Bedding
The Hudson's Bay Co.....

Blasting Powder
Standard Explosives Limited.....Montreal.

Boilers
Babcock & Wilcox (Ltd.).....Montreal.
Polson Iron Works.....Toronto.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Portable
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Stationary and Marine
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd.....Amherst N.S.

Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.

Boilers, Steam
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Water Tube
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd.....Amherst, N.S.

Boilers, Tubes
Jas. W. Pyke & Co.....Montreal.

Bolsters
Dominion Car and Foundry Co.....Montreal.

Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.

Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Box Car Loaders
Mussens Limited.....Montreal.

Brake Beams
Chicago Railway Equipment Co.....Chicago, Ill.
Dominion Car and Foundry Co.....Montreal.

Brake Shoes
American Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.
The Holden Co., Ltd.....Montreal.

Brass and Copper Cloth
The B. Greening Co.....Hamilton, Ont.

Bridge Numbers
Acton Burrows Limited.....Toronto.

Bridges
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Buckets, Coal, Ore and Concrete
Brown Hoisting Machinery Co.....Cleveland, O.
Canadian Fairbanks Co. Ltd.....Montreal.

Bumping Posts
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Buoy Lighting
Safety Car Heating and Lighting Co..New York.

Buoys
International Marine Signal Co.....Ottawa.

Cables, Electric and Feeder
E. F. Phillips Electrical Works, Ltd.....Montreal.
The Wire and Cable Co.....Montreal.

Caps
W. H. Coddington.....Hamilton, Ont.

Car Castings
American Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.

Car Cleaner
Modoc Soap Co.....Philadelphia, Pa.

Car Closets
Duner Co.....Chicago, Ill.

Car Curtains and Fixtures
The Holden Co., Ltd.....Montreal.

Car Fittings
Wallace Supply Co.....Chicago, Ill.

Car Heating
Canadian Gold Car Heating & Light'g Co.Montreal.
Safety Car Heating and Lighting Co..New York.

Car Lighting
Canadian Cold Car Heating & Light'g Co.Montreal.
Safety Car Heating and Lighting Co..New York.

Car Movers
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Car Replacers
Alexander Car Replacer Mfg. Co....Scranton, Pa.
The Holden Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.

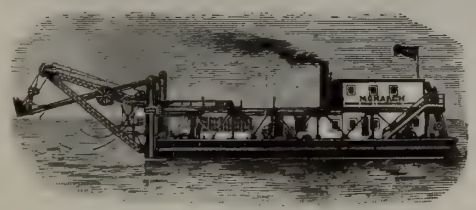
Cars
American Car and Equipment Co....Chicago, Ill.
Canada Car Co. (Ltd.).....Montreal.
Canadian Fairbanks Co. Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Dominion Car and Foundry Co.....Montreal.
J. T. Gardner.....Chicago, Ill.
Hart-Otis Car Co. (Ltd.).....Montreal.
Hotchkiss, Blue & Co.....Chicago, Ill.
Ottawa Car Co., Ltd.....Ottawa.
Preston Car and Coach Co., Ltd...Preston, Ont.
Rhodes, Curry & Co.....Amherst, N.S.
Silliker Car Co., Ltd.....Halifax, N.S.

Sessions-Standard Friction Draft Gear
Simplest and Best

Both Made by
Standard Coupler Co.
2 RECTOR STREET NEW YORK

Standard Steel Platforms
Used by all Canadian Railways

M. BEATTY & SONS, LIMITED WELLAND ONTARIO



DREDGES, DITCHERS
DERRICKS
STEAM SHOVELS
SUBMARINE ROCK DRILLING MACHINERY

HOISTING ENGINES, CENTRIFUGAL PUMPS FOR WATER AND SAND, STONE DERRICKS, CLAM-SHELL BUCKETS, STEEL SKIPS, COAL AND CONCRETE TUBS AND OTHER CONTRACTORS' MACHINERY.

HEADLIGHTS—WE MAKE THEM

For OIL, for Pyle ELECTRIC equipment or SPECIAL to Blue Print, and carry a large stock of standard headlight reflectors, burners, burner parts, felt wicks, and chimneys.

The HIRAM L. PIPER CO., Limited
17 to 23 Normand Street, Montreal
GET OUR No. 30 CATALOGUE (Between St. Peter and McGill Streets)

MALLEABLE IRON CASTINGS
of Superior Quality
GALT MALLEABLE IRON CO., LIMITED GALT, ONT.

NICKEL
THE CANADIAN COPPER COMPANY
NICKEL FOR NICKEL STEEL
THE ORFORD COPPER COMPANY
WRITE US FOR PARTICULARS AND PRICES
General Offices: 43 Exchange Place, NEW YORK

"PERFECTOL" Sold By The *Perfect* CAR CLEANER
THE MODOC SOAP CO. OF OHIO
HENRY ROEVER, President and Manager. Philadelphia Office—226 North Fourth Street, Philadelphia, Pa.

THE CANADIAN BRONZE COMPANY, LTD.
BRASS WEARING PARTS FOR LOCOMOTIVES.
JOURNAL BEARINGS FOR FREIGHT AND PASSENGER SERVICE.
BABBITTS MISCELLANEOUS BRASS CASTINGS FOR RAILROADS.
Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

DUNER CAR CLOSET
ENAMELED IRON WET OR DRY CLOSET
DUNER CO. 116 SO. CLINTON ST., CHICAGO

Delaware & Hudson
RAIL AND STEAMER LINES
Shortest, Quickest and Best Rail Line between
MONTREAL AND NEW YORK

Trains leave Montreal 8.45, 10.55 a.m., and 7.40 p.m. Steamers through Lake Champlain the Magnificent and Lake George the Beautiful, which connect with trains to Albany via Saratoga Springs.

D. I. ROBERTS, Gen. Can. Pass. Agent.
W. H. HENRY, Can. Pass. Agent, 286 St. James Street, Montreal, P.Q.
A. A. HEARD, Gen. Pass. Agent, Albany, New York.

LEHIGH VALLEY RAILROAD
BEST LINE FROM TORONTO AND ONTARIO POINTS
— TO —
NEW YORK, PHILADELPHIA AND SOUTH
For particulars, write to or call on
MR. ROBERT S. LEWIS
Canadian Passenger Agent
54 King St. East - - - Toronto

THE PRESTON CAR & COACH CO.
PRESTON, ONT. Limited
— MANUFACTURERS OF —
Steam and Electric Railway Cars

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS' MACHINERY, address
THE ROBERTSON MACHINERY CO.
WELLAND, ONT. Limited

For Neatness and Quality in
PRINTING
— WE HEAD THE LIST —
THE HUNTER ROSE CO., Limited
12-14 Sheppard St. - - - - - Toronto

FOR TICKET CASES AND COMMERCIAL FURNITURE
Of all descriptions to stock or special design, Apply to
The Canadian Office and School Furniture Co.
Preston, Ontario Limited

Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
Standard Steel Works Co.....Philadelphia, Pa

Castings, Brass
Canadian Bronze Co.....Montreal.
Canada Iron Corporation, Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont

Castings, Iron
Canada Car Co., Ltd.....Montreal.
Canada Iron Corporation, Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Castings, Iron and Steel
American Brake Shoe & F'dry Co—Mahwah, N.J.

Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.

Castings, Steel
Canada Iron Corporation, Ltd.....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry & Co.....Amherst N.S.

Cast-Steel Hammers
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cast Steel Track Tools
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cast Steel Wrenches
American Brake Shoe & F'dry Co..Mahwah, N.J.

Cement Machinery
Jas. W. Pyke & Co.....Montreal.

Chains
B. J. Coghlin & Co.....Montreal.

Charcoal Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.

Clevis Nuts
Cleveland City Forge & Iron Co....Cleveland, O.

Coal Haulage Ropes
The B. Greening Co.....Hamilton, Ont.

Compressors, Air
Canadian Rand Co.....Montreal.

Concrete Mixers and Rock Crushers
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Contractors' Machinery and Plant
American Car and Equipment Co....Chicago, Ill.
American Hoist and Derrick Co...St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Canadian Fairbanks Co., Ltd.....Montreal.
J. T. Gardner.....Chicago, Ill
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Toronto Pressed Steel Co.....Toronto.

Contractors' Supplies
F. H. Hopkins & Co.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Conveyors, Coal and Ash
Babcock & Wilcox (Ltd.).....Montreal.

Copying Presses
James Smart Mfg. Co.....Brockville, Ont.

Corrugated Furnaces
Continental Iron Works.....Brooklyn, N.Y.

Couplers, Car and Locomotive
Acme Railway Equipment Co..Philadelphia, Pa.
Dominion Car and Foundry Co.....Montreal.
McConway & Torley Co.....Pittsburg, Pa.
National Malleable Castings Co..Cleveland, Ohio.
Taylor & Arnold.....Montreal.
Washburn Steel Castings & Coupler Co.,
.....Minneapolis, Minn.

Cranes
Brown Hoisting Machinery Co.....Cleveland, O.
Canadian Fairbanks Co., Ltd.....Montreal.

Cranes, Electric
Babcock & Wilcox.....Montreal.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.

Cranes, Locomotive
American Hoist and Derrick Co....St. Paul, Minn.

Cross Arm Braces
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Crossing Gates
The N. L. Piper Railway Supply Co.....Toronto.

Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Culvert Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co..Hamilton.

Cuts
Acton Burrows Limited.....Toronto.

Derailing Devices
Hayes Track Appliance Co.....Geneva, N.Y.

Derrick Ropes
Dominion Wire Rope Co.....Montreal.
The B. Greening Co.....Hamilton, Ont.

Derricks
American Hoist and Derrick Co....St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Miller Bros. & Toms.....Montreal.
Mussens Limited.....Montreal

Dies
Butterfield & Co.....Rock Island Que.

Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.

Door Signs
Acton Burrows Limited.....Toronto.

Draft Gear
Cardwell Mfg. Co.....Chicago, Ill.
Farlow Draft Gear Co.....Baltimore, Md.
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.
Waugh Draft Gear Co.....Chicago, Ill.

Dredges
M. Beatty & Sons.....Welland, Ont.

Drills, Air
Canadian Rand Co.....Montreal.

Dry Goods
The Hudson's Bay Co.....

Dump Cars (Contractors')
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Dust Guards
Harrison Dust Guard Co.....Toledo, O.

Dynamos
Northern Electric and Manfg. Co., Ltd., Montreal.

Dynamo and Electric Castings
American Brake Shoe & F'dry Co..Mahwah, N.J.

Economizers
Babcock & Wilcox (Ltd.).....Montreal.

Electric Car Route Signs
Acton Burrows Limited.....Toronto.

Electric Ry. Brake Shoes
American Brake Shoe & F'dry Co..Mahwah, N.J.

Electrical Fuses
Standard Explosives Limited.....Montreal.

Enameled Iron Signs
Acton Burrows Limited.....Toronto.

Engines, Automatic
Robb Engineering Co., Limited....Amherst, N.S.

Engines, Corliss
Robb Engineering Co., Limited....Amherst, N.S.

Engines, Gasolene
Canadian Fairbanks Co.....Montreal.
Ontario Wind Engine and Pump Co.....Toronto.

Engines, Hoisting
American Hoist and Derrick Co...St. Paul, Minn.
M. Beatty & Sons.....Welland, Ont.
Canadian Fairbanks Co. Ltd.....Montreal.
Robertson Mfg. Co.....Welland, Ont.

Engines, Stationary and Marine
Polson Iron Works.....Toronto.
Robb Engineering Co., Limited....Amherst, N.S.

Explosives
Standard Explosives Limited.....Montreal.

Express Office Signs
Acton Burrows Limited.....Toronto.

Feedwater Heaters
Robb Engineering Co., Limited....Amherst, N.S

Fencing
McGregor Banwell Fence Co....Walkerville, Ont
New Brunswick Wire Fence Co....Moncton, N.B.
Owen Sound Wire Fence Co..Owen Sound, Ont.
Page Wire Fence Co.....Walkerville, Ont.

Fire Brick
Mussens Limited.....Montreal.

Flags
The Hudson's Bay Co.....

Flour
The Hudson's Bay Co.....

Fog Signals
International Marine Signal Co.....Ottawa.

Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co....Cleveland, O.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton, Ont.
Standard Steel Works Co.....Philadelphia, Pa.

Foundry Appliances
Goldschmidt Thermit Co.....Toronto.

Frogs
Canadian Ramapo Iron Wks, Ltd..Niagara Fs, Ont.

Fuse Batteries
Standard Explosives Limited.....Montreal.

Fuse Detonators
Standard Explosives Limited.....Montreal.

Gaskets
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Gas Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co..Hamilton.

Gates
McGregor Banwell Fence Co....Walkerville, Ont.
New Brunswick Wire Fence Co....Moncton, N.B.
Page Wire Fence Co.....Walkerville, Ont.
Owen Sound Wire Fence Co..Owen Sound, Ont.

Generators, Electric
Northern Electric and Manfg. Co., Ltd., Montreal.

Grain Elevators
John S. Metcalfe Co.....Chicago, Ill.

Groceries
The Hudson's Bay Company.....

Hammers
James Smart Mfg. Co.....Brockville, Ont.

Handcars
Canadian Fairbanks Co., Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel C.....Toronto.

Hardware
The Hudson's Bay Co.....
Rice Lewis & Son.....Toronto.

Hats
W. H. Coddington.....Hamilton, Ont.

Headlights
The N. L. Piper Railway Supply Co....Toronto.
Pyle National Electric Headlight Co..Chicago, Ill.

Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.

Hoisting Machinery
American Hoist and Derrick Co..St. Paul, Minn.
Brown Hoisting Machinery Co..Cleveland, Ohio.
Canadian Fairbanks Co., Ltd.....Montreal.

Hoists, Electric
American Hoist and Derrick Co....St. Paul, Minn.

Hoists (Pneumatic)
Taylor & Arnold.....Montreal.

Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.

Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.

Hydrants
Canadian Fairbanks Co., Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Illustrations
Acton Burrows Limited.....Toronto.

Inspections
R. W. Hunt & Co.....Montreal.

Interlocking Plant and Signals
Montreal Steel Works.....Montreal.
Saxby and Farmer Ltd.....Montreal.

Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton Ont.

Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton, Ont.

Iron Signs
Acton Burrows Limited.....Toronto.

Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.

Jacks
Canadian Fairbanks Co., Ltd.....Montreal.
H and E Lifting Jack Co.....Waterville, Que.
F. H. Hopkins & Co., Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg Co.....Brockville, Ont.

Japans
McCaskill, Dougall & Co.....Montreal.

Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.

Journal Boxes
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Lager Beer, &c.
E. L. Drewry.....Winnipeg.

Lamps, Incandescent
Canadian Westinghouse Co.....Hamilton, Ont.

Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Railway Supply Co....Toronto.

Launches
Polson Iron Works.....Toronto.

Lights, Contractors' and Wrecking
Canadian Fairbanks Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Locomotive Cranes
American Hoist and Derrick Co...St. Paul, Minn.

Locomotive Driver Brake Shoe
American Brake & Shoe F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.

Locomotive Gauges
Taylor & Arnold.....Montreal.

Locomotive Lagging and Covering
Taylor & Arnold.....Montreal.

Locomotive Pop Valves
Taylor & Arnold.....Montreal.

Locomotives (Compressed Air)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.
Montreal Locomotive Works (Ltd.)....Montreal.

Locomotives (Electric)
Burnham, Williams & Co.....Philadelphia, Pa.
Montreal Locomotive Works (Ltd.).....Montreal.

Locomotives (Logging)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.

Locomotives (Rack)
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Locomotive Co.....Kingston, Ont.
Montreal Locomotive Works (Ltd.).....Montreal.

Locomotives (Steam)
American Car and Equipment Co.....Chicago, Ill.
Burnham, Williams & Co.....Philadelphia, Pa.
Canadian Fairbanks Co., Ltd.....Montreal.
Canadian Locomotive Co.....Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hotchkiss, Blue & Co.....Chicago, Ill.
Montreal Locomotive Works (Ltd.).....Montreal.
Vulcan Iron Works.....Wilkesbarre, Pa.

Locomotive Staybolts
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.
Flannery Bolt Co.....Pittsburg, Pa.

Lubricators
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.

Lumber
Parry Sound Lumber Co.....Toronto.

Machinery, Marine
Sheriffs Mfg. Co.....Milwaukee, Wis.

Machinery Special
Miller Bros. & Toms.....Montreal.

Machinery, Transmission
Miller Bros. & Toms.....Montreal.

Machinery, Wood and Iron Working
Canadian Fairbanks Co., Ltd.....Montreal.

Manganese Steel Castings
Montreal Steel Works.....Montreal.

Manhole Frames and Covers
American Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd.....Montreal.

Marine Repairs
Goldschmidt Thermit Co.....Toronto.

Marine Supplies
Rice Lewis & Son.....Toronto.

Measuring Tapes
Lufkin Rule Co.....Saginaw, Mich.

Metals
Goldschmidt Thermit Co.....Toronto.

Milepost Numbers
Acton Burrows Limited.....Toronto.

Motors
Canadian Fairbanks Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Motors, Electric
Northern Electric and Manfg. Co., Ltd., Montreal.

Nickel
The Orford Copper Co.....New York.

Nickel for Nickel Steel
The Orford Copper Co.....New York.

Numbers
Acton Burrows Limited.....Toronto.

Nut Locks
Positive Lock Washer Co.....Newark, N.J.

Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Oakum
The Hudson's Bay Company.....

Office Fittings
Canadian Office & School Furniture Co. Preston, Ont.

Office Signs
Acton Burrows Limited.....Toronto.

Oil Tanks
S. F. Bowser & Co., Limited.....Toronto.

Oils
Galena Signal Oil Co..Franklin, Pa., and Toronto.

Packing
Canadian Fairbanks Co., Ltd.....Montreal.
The N. L. Piper Railway Supply Co.....Toronto.

Patterns
Hamilton Pattern Works.....Hamilton, Ont.

Pinch Bars
The N. L. Piper Railway Supply Co.....Toronto.

Pipe Stocks
Butterfield & Co.....Rock Island, Que.

Platforms, Steel
Standard Coupler Co.....New York City.

Ploughs, Contractors'
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Pneumatic Tools
The Holden Co., Ltd.....Montreal.

Porter
E. L. Drewry.....Winnipeg.

Portable Boilers
Babcock & Wilcox (Ltd.).....Montreal.

Printing
The Hunter-Rose Co.....Toronto.
The Mail Job Printing Company.....Toronto.

Propeller Wheels
Sheriffs Mfg. Co.....Milwaukee, Wis.

Pumps
S. F. Bowser & Co., Limited.....Toronto.
Canadian Fairbanks Co.....Montreal.
Ontario Wind Engine and Pump Co....Toronto.
James Smart Mfg. Co.....Brockville, Ont.

Pumps (Centrifugal)
M. Beatty & Sons.....Welland, Ont.

Rail Benders, Roller
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

Rails (new)
Dominion Iron & Steel Co.....Sydney, N.S.
Drummond, McCall & Co.....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co.....Montreal.

Rails (for relaying)
F. H. Hopkins & Co.....Montreal.
J. J. Gartshore.....Toronto.
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.

Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada.....Montreal.

Railway Pile Drivers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Railway Supplies
Canadian Fairbanks Co.....Montreal.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Railway Supply Co....Toronto.
Rice Lewis & Son.....Toronto.

Ranges
Stearnes Steel Range Co.....Chicago, Ill.

Reamers
Butterfield & Co.....Rock Island, Que.

Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Rolled Wheels
Standard Steel Works Co.....Philadelphia, Pa.

Roof Trusses
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Co.....

Rotary Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.

Saw Steel
Montreal Steel Works.....Montreal.

Scales
Canadian Fairbanks Co., Ltd.....Montreal.

Scoria Blocks
W. H. Knowlton.....Toronto.

Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

BABCOCK & WILCOX
LIMITED

PATENT WATER-TUBE BOILERS
(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes, MONTREAL

BRANCH—TRADERS BANK BUILDING, TORONTO

The Purchasing Agents' Guide—Continued.

Screw Plates
Butterfield & Co. ..... Rock Island, Que.

Screws, Coach and Lag
Montreal Rolling Mills Co. ..... Montreal.
Toronto Bolt and Forging Co. ..... Toronto.

Semaphore Arms
Acton Burrows Limited ..... Toronto.

Semaphores
The N. L. Piper Railway Supply Co. ..... Toronto.
Saxby and Farmer Ltd. ..... Montreal.

Sewer Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co. . Hamilton.

Shafting, Hollow
Falls Hollow Staybolt Co. . Cuyahoga Falls, Ohio.

Shaking Grates
Babcock & Wilcox (Ltd.). ..... Montreal.

Ship Lamps
The Hiram L. Piper Co. ..... Montreal.
The N. L. Piper Railway Supply Co. ..... Toronto.

Ships
Polson Iron Works ..... Toronto.

Shops
The Hudson's Bay Co. .....

Signal House Numbers
Acton Burrows Limited ..... Toronto.

Signals
The Hiram L. Piper Co. ..... Montreal.
N. L. Piper Railway Supply Co. ..... Toronto.
Saxby and Farmer, Limited ..... Montreal.

Signs
Acton Burrows Limited ..... Toronto.

Skylights
A. Edgcumbe Rendle ..... Montreal.

Slack Adjusters
Chicago Railway Equipment Co. ..... Chicago, Ill.

Sledges
James Smart Mfg. Co. ..... Brockville, Ont.

Snow Ploughs
Crossen Car Mfg. Co. ..... Cobourg, Ont.
Rhodes, Curry & Co. ..... Amherst, N.S.

Speedicut High Speed Steel
Montreal Steel Works ..... Montreal.

Spikes, Railway, Ship or Pressed
Hamilton Steel and Iron Co., Ltd. . Hamilton, Ont.
F. H. Hopkins & Co. ..... Montreal.
Montreal Rolling Mills Co. ..... Montreal.
Toronto Bolt and Forging Co. ..... Toronto.

Spreader Cars
F. H. Hopkins & Co. ..... Montreal.

Spring Dampeners
McCord & Co. ..... Chicago, Ill.

Springs
B. J. Coghlin ..... Montreal.
F. H. Hopkins & Co. ..... Montreal.
Montreal Steel Works ..... Montreal.
Standard Steel Works Co. ..... Philadelphia, Pa.

Station Name Signs
Acton Burrows Limited ..... Toronto.

Station Seats
James Smart Mfg. Co. ..... Brockville, Ont.

Staybolts, Flexible
Flannery Bolt Co. ..... Pittsburg, Pa.

Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co. . Cuyahoga Falls, Ohio.

Staybolt Iron
Taylor & Arnold ..... Montreal.

Staybolt Taps
Butterfield & Co. ..... Rock Island, Que.

Steam Couplers
Safety Car Heating and Lighting Co. . . New York.

Steam Shovels
M. Beatty & Sons ..... Welland, Ont.
Canadian Fairbanks Co., Ltd. ..... Montreal.
F. H. Hopkins & Co. ..... Montreal.
Hotchkiss, Blue & Co. ..... Chicago, Ill.
Mussens Limited ..... Montreal.

Steamships
Polson Iron Works ..... Toronto.

Steamship Signs
Acton Burrows Limited ..... Toronto.

Steam Steering Engines for Tugs
Sheriffs Mfg. Co. ..... Milwaukee, Wis.

Steel
W. Abbott ..... Montreal.
Hermann Boker & Co. ..... Montreal.
Wm. Jessop & Sons ..... Sheffield, Eng.

Steel Buildings
Canadian Bridge Co. ..... Walkerville, Ont.
Dominion Bridge Co. ..... Montreal.

Steel, Fire Box
Taylor & Arnold ..... Montreal.

Steel for Springs
James Hutton & Co. ..... Montreal.

Steel, Nickel, for Nickel
The Orford Copper Co. ..... New York.

Steel Plates
Jas. W. Pyke & Co. ..... Montreal.

Steel Rolling Doors
Mussens Limited ..... Montreal.

Steel, Tool
W. Jessop & Sons ..... Sheffield, Eng.
Montreal Steel Works ..... Montreal.

Steel Tyres
James Hutton & Co. ..... Montreal.
Jas. W. Pyke & Co. ..... Montreal.

Stokers, Mechanical
Babcock & Wilcox (Ltd.). ..... Montreal.

Stoves
James Smart Mfg. Co. ..... Brockville, Ont.

Structural Metal Work
Canadian Bridge Co. ..... Walkerville, Ont.
Dominion Bridge Co. ..... Montreal.
Montreal Locomotive Works (Ltd.). ..... Montreal.
Jas. W. Pyke & Co. ..... Montreal.

Superheaters
Babcock & Wilcox (Ltd.). ..... Montreal.

Switches
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.
Hayes Track Appliance Co. ..... Geneva, N.Y.
Montreal Steel Works ..... Montreal.

Switch Lamps
The N. L. Piper Railway Supply Co. ..... Toronto.

Switch Ropes
The B. Greening Co. ..... Hamilton, Ont.
F. H. Hopkins & Co. ..... Montreal.

Switch Stands
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.
Hayes Track Appliance Co. ..... Geneva, N. Y.

Switch Targets
Acton Burrows Limited ..... Toronto.

Tanks and Tank Fixtures
Canadian Fairbanks Co. ..... Montreal.
Ontario Wind Engine and Pump Co. ..... Toronto.

Taps
Butterfield & Co. ..... Rock Island, Que.
A. B. Jardine & Co. ..... Hespeler, Ont.

Telegraph and Telephone
Northern Electric and Manfg. Co., Ltd., Montreal.

Telegraph and Telephone Office Signs
Acton Burrows Limited ..... Toronto.

Thermit
Goldschmidt Thermit Co. ..... Toronto.

Ticket Cases
Canadian Office and School Furniture Co. . Preston.

Tie Plates
B. J. Coghlin & Co. ..... Montreal.
Montreal Rolling Mills Co. ..... Montreal.

Ties
Parry Sound Lumber Co. ..... Toronto.

Tires
Standard Steel Works Co. ..... Philadelphia, Pa.

Tools and Supplies
Canadian Fairbanks Co., Ltd. ..... Montreal.
James Smart Mfg. Co. ..... Brockville, Ont.
A. B. Jardine & Co ..... Hespeler Ont.

Track Equipment
Canadian Ramapo Iron Wks, Ltd. . Niagara Fs, Ont.

Track Jacks
Canadian Fairbanks Co. ..... Montreal.
H. and E. Lifting Jack Co. ..... Waterville, Que.
F. H. Hopkins & Co. ..... Montreal.
Montreal Steel Works ..... Montreal.
Mussens Limited ..... Montreal.
A. O. Norton ..... Coaticook, Que.

Tracklaying Lorries
Crossen Car Mfg. Co. ..... Cobourg, Ont.
F. H. Hopkins & Co. ..... Montreal.

Tracklaying Machinery
F. H. Hopkins & Co. ..... Montreal.

Track Tools
B. J. Coghlin & Co. ..... Montreal.
F. H. Hopkins & Co. ..... Montreal.
Montreal Steel Works ..... Montreal.
Mussens Limited ..... Montreal.

Tramway Equipment
J. J. Gartshore ..... Toronto.

Trucks
James Smart Mfg. Co. ..... Brockville Ont.

Trucks (Electric Car)
Burnham, Williams & Co. ..... Philadelphia, Pa.
Montreal Steel Works ..... Montreal.

Trucks (Railroad and Warehouse)
Toronto Pressed Steel Co. ..... Toronto.

Turnbuckles
Cleveland City Forge and Iron Co. . Cleveland, O.
Montreal Steel Works ..... Montreal.

Turntables
Canadian Bridge Co. ..... Walkerville, Ont.
Dominion Bridge Co. ..... Montreal.

Turntable Motors
Taylor & Arnold ..... Montreal.

Uniform Caps
W. H. Coddington ..... Hamilton, Ont.

Valves, Brass Gate
Kerr Engine Co. ..... Walkerville, Ont.

Valves, Brass Globe
Kerr Engine Co. ..... Walkerville, Ont.

Valves, Iron and Brass
Canadian Fairbanks Co. ..... Montreal.

Valves, Iron Gate
Kerr Engine Co. ..... Walkerville, Ont.

Varnishes
McCaskill, Dougall & Co. ..... Montreal.

Vessels
Polson Iron Works ..... Toronto.

Washers
Montreal Rolling Mills Co. ..... Montreal.

Waste
B. J. Coghlin & Co. ..... Montreal.
N. L. Piper Railway Supply Co. ..... Toronto.

Water Pipe (Cast Iron)
Gartshore-Thompson Pipe & F'dry Co. . Hamilton.

Water Softeners
Babcock & Wilcox (Ltd.) ..... Montreal.

Welding
Goldschmidt Thermit Co. ..... Toronto.

Wheelbarrows
F. H. Hopkins & Co. ..... Montreal.
Toronto Pressed Steel Co. ..... Toronto.

Wheels, Car
Canada Car Co., Limited ..... Montreal.
Canada Iron Corporation, Ltd. ..... Montreal.
Jas. W. Pyke & Co. ..... Montreal.
Rhodes, Curry & Co. ..... Amherst, N.S.
Standard Steel Works Co. ..... Philadelphia, Pa.

Wheels, Locomotive
Canada Iron Corporation, Ltd. ..... Montreal.

Wheels, rolled, solid forged
Standard Steel Works Co. ..... Philadelphia, Pa.

Wheels, steel tired
Standard Steel Works Co. ..... Philadelphia, Pa.

Windmills
Ontario Wind Engine and Pump Co. ..... Toronto.

Windows, Fireproof
A. Edgcumbe Rendle ..... Montreal.

Wire and Wire Rope
Dominion Wire Rope Co. ..... Montreal.
The B. Greening Co. ..... Hamilton, Ont.
Mussens Limited ..... Montreal.
The Wire and Cable Co. ..... Montreal.

Wire Cloth
The B. Greening Co. ..... Hamilton, Ont.

Wire, Copper
E. F. Phillips Electrical Works Ltd. ..... Montreal.
The Wire and Cable Co. ..... Montreal.

Wire, Electric
E. F. Phillips Electrical Works, Ltd. ..... Montreal.
The Wire and Cable Co. ..... Montreal.

Wire, Insulated Copper
E. F. Phillips Electrical Works, Ltd. ..... Montreal.
The Wire and Cable Co. ..... Montreal.

Wire Rope Clips
American Hoist and Derrick Co. ..... St Paul, Minn.

Wire, Telegraph and Telephone
E. F. Phillips Electrical Works, Ltd. ..... Montreal.
The Wire and Cable Co. ..... Montreal.

Wire, Transmission and Trolley
The Wire and Cable Co. ..... Montreal.

Wrecking Cranes
Mussens Limited ..... Montreal.

Yachts
Polson Iron Works ..... Toronto.

DOMINION CAR & FOUNDRY CO.
LIMITED

FREIGHT CARS
(ALL-STEEL AND COMPOSITE)

CAR TRUCKS STEEL UNDERFRAMES
FORGINGS OF ALL KINDS

SIMPLEX
Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works — MONTREAL WEST

P.O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.

The Railway and Marine WORLD

With which are incorporated The Western World and
The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 217.
New Series, No. 135.

TORONTO, CANADA, MAY, 1909.

For Subscription Rates, See Page 351.

WIRES AND CABLES

FOR TELEPHONE, TELEGRAPH, ELECTRIC RAILWAY AND POWER PURPOSES

THE WIRE AND CABLE CO., MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL.

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

LUFKIN MEASURING TAPES
MADE IN CANADA AND THE BEST IN THE WORLD
SEND FOR CATALOG.
THE LUFKIN RULE CO. OF CANADA, LTD. WINDSOR, ONT.

STEARNES STEEL RANGE COMPANY
Our specialties are Dining, Private and Cafe Car Ranges and General Cooking Apparatus.
Fifth Ave. and Lake St., Chicago, Ill.

RENDLE'S GLAZING IMPROVED SKYLIGHT CONSTRUCTION
"Paradigm," "Duxbac" Brands. "Diablo" Asbestos Windows.
A. Edgcumbe Rendle, 260 St. James Street, Montreal. Works: LONDON, ONTARIO

THE OTTAWA CAR CO.
BUILDERS OF Limited
Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.
Office and Works: Slater St., OTTAWA

ENAMELLED IRON SIGNS
For Steam and Electric Railways, Steamship, Express, Telegraph, Telephone and General Advertising Purposes. For prices, etc., address
ACTON BURROWS, LIMITED - - 157 BAY ST., TORONTO

Additional safety and economy in
TRACK MAINTENANCE
has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after ten years' service, having a record of over 50,000 miles in use—the extent of which is evidence of their excellence.
THE RAIL JOINT CO. OF CANADA
See Page 336.

MUSSENS LIMITED
Railway, Mining and Contractors' Supplies
SEE ADVT. PAGE 318

WILLIAM ABBOTT
CHISHOLM & MOORE'S Chain Hoists and Trolleys
334 St. James St. - Montreal

THE HOLLENDEN
CLEVELAND
EUROPEAN PLAN
600 Rooms $1.50 to $5.00

The Canadian Casualty and Boiler Insurance Company
Head Office - TORONTO
ACCIDENT, SICKNESS AND BOILER CONTRACTS
Full particulars on application

TALLMAN Brass and Metal Co.
Hamilton Canada

THE WAUGH DRAFT GEAR
FRICTION SPRING CUSHION
200,000 lbs.—600,000 lbs. Capacity
MADE IN CANADA
Send for Catalog and Particulars
Waugh Draft Gear Co., Chicago, Ill.

The Dougall Varnish Co., Ltd.
Successors to McCASKILL, DOUGALL & COMPANY
Railway Varnishes, Japans and Enamels
MONTREAL.
Eight Medals Awarded.

Westinghouse

Type "K" Freight Triple Valve

Engineers require no special instructions to handle trains partially, or wholly, equipped with Type "K" Triple Valves.

They have all the advantages of the old type (H), with which they have many parts in common, besides having three additional features, namely: **Quick Service, Uniform Release, Uniform Recharge.** The old type (H) can be converted to the new type "K" with the loss of only a few parts.

See Instruction Pamphlet 5030.

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO
439 Pender Street
VANCOUVER

For particulars address nearest office
HAMILTON
922-923 Union Bank Bldg.
WINNIPEG

232 St. James Street
MONTREAL
158 Granville Street
HALIFAX

CANADA CAR COMPANY

MONTREAL, QUE. **LIMITED**

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS CASTINGS FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS:
BOX 2286, MONTREAL

Works: TURCOT

See Purchasing Agents' Guide on Page 385 :: :: :: ::

See Alphabetical Index to Advertisements on Page 351

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 217. New Series, No. 135. TORONTO, CANADA, MAY, 1909. For Subscription Rates, See page 351.

Entered as second-class matter March 5, 1907, at the Postoffice at Buffalo, N.Y., under the Act of Congress of March 3, 1879.

Shop Timekeeping and Labor Distribution.

By E. E. Lloyd, Chief Clerk Office of Auditor of Stores and Mechanical Accounts, C.P.R.

Before endeavoring to illustrate the methods necessary for the proper handling of shop timekeeping, it will be well to enquire briefly into the theory of the subject, and by so doing better fit ourselves to understand the matter in detail. The latest report of the Interstate Commerce Commission shows that in the year 1906 railways paid out in wages $950,000,000, and of this amount the shop pay rolls represented $220,000,000, or about 23%. These figures will, no doubt, impress you with the necessity for extreme accuracy in the matter of shop timekeeping, whether the work be paid for by the hour, day, month, or piece. Any carelessness or inaccuracy in the method of compilation will, necessarily, result in injustice, either to the employe or to the company, and, it might be noted, involves also something far beyond the amount a company may lose through particular errors or omissions. It means dissatisfaction with the company if an employe loses the just return for his labor. It means the building up of an improper spirit if he gains something that does not belong to him, and the question of method by which the recording of time may be kept is of secondary importance to the knowledge that accuracy and truthfulness are enforced and a fair and just return is made to the employes for services performed, coupled with a correct distribution to the company for the money expended. There can be no chance hazards in this matter any more than in the matter of a company's traffic or the care of its monies. It must be known that the men have worked as represented, and that the rate paid is correct, also that the amount of money shown on the pay roll is charged to the accounts upon which the labor has been expended. These are the vital features of shop timekeeping, and whether a company shall have an efficient or an inefficient shop management, whether there shall be economy or extravagance, responsibility or irresponsibility, largely depends upon these features being properly appreciated. It can be stated as a general proposition that shop timekeeping should be taken care of under the direction of an officer acting independently of the person who hires or the official who directs. The officer to whom is assigned the charge of the timekeeping and labor accounts should, by performing his duty faithfully, protect the interests of the employer and employe by preventing the introduction or growth of irregular or improper practices, and by affording the management accurate information of the extent and purpose of expenditures for labor and the measure of economy that has characterized such expenditures, and by formulating such a system as will insure the payment to employes every cent earned. To obtain these results calls for indefatigable watchfulness and the exercise of much skill and integrity, and he must be upheld in the exercise of the prerogatives of his office, allowed to go ahead untrammelled in the performance of his duty, and at the same time receive the most hearty co-operation of all with whom he comes in touch.

S. J. HUNGERFORD
Superintendent Shops, Canadian Pacific Railway, Winnipeg.

Various systems have been introduced with a view of bringing about these most desirable results. In days gone by, when shops were small, men reported directly to their leader or boss, and there was neither roll-call nor checking in or out, but as time progressed and shops grew, and the number of employes outstripped the immediate supervision of the boss, the necessity of some system of checking the employes on and off duty became evident. As stated, the systems devised varied considerably, each, no doubt, having its redeeming features, and one cannot overlook the fact that it is necessary to study the physical conditions of the immediate surroundings before the most suitable, efficient, and economical method can be decided upon. My first experience was with the metal check system, a system which, to-day, boasts many advocates. Each employe is designated by a number upon the staff record of the time office, and upon passing in to work through the check office is given a metal check number to correspond with his number upon the staff record. This check he retains until passing out from work, when it is deposited with the check clerk, and so on. This method, however, proved to have its weak spots. For instance, it was virtually impossible to detect an employe depositing more than one check, thereby leaving a loophole by which he might assist a co-employe residing in the opposite direction to the check office or defraud the company by depositing the check of an employe who had decamped. But the most serious objection arises from the fact that, in the case of a dispute regarding the allowance or disallowance of certain time, which disputes, as a rule, come up some little time after the occurrence, the evidence available, when boiled down, resolves itself into a deadlock of one man's word against another's.

As the shop buildings or repair yards became more dispersed and grew, the distance from the check office to the immediate location of the work also became greater, and, as a consequence, resulted in the loss of valuable time to both the employer and employe. Some measures were, therefore, necessary to overcome these weak spots. To establish a record of evidence by which to satisfactorily dispose of the question of disputes, and to overcome the loss of time between check office and work, or vice versa, by inaugurating some system of time registration right at the job. Hence the adoption of mechanical time registers or time clocks. These registers or clocks are of various capacities, i.e., 50, 100, 150, 200, and 250 numbers, but for big shops and large staffs the most convenient register is one of 150 capacity. Each register is designated by a number, although in some plants the registration numbers of the clocks run in sequence from one up. The system of registering, assembling, and accounting for the time recorded on the registers is as follows: A successful applicant for work is given an order by the shop superintendent upon the timekeeper for a number upon the

Galena-Signal Oil Company

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY

Galena Railway Safety Oil

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

Please write to home office for further particulars.

CHARLES MILLER,

PRESIDENT

register. This order is made out, giving the man's name in full, his occupation, and the name of the foreman under whose immediate jurisdiction he is to work. Upon presenting this order at the time office he is called upon to endorse it, so that there shall be no question as to the correct manner of spelling his name, and as a means of subsequent identification, if necessary. The order is taken up by the timekeeper and entered on the staff record and in the time-book of the register to which he is assigned. The timekeeper then gives the man a slip, carrying reference to the register number, and his number upon such register, and instructs him as to the correct methods of recording his time. The registration or punching of the clock on and off duty by the men at the regular starting and quitting hours is supervised by a clock watcher, an employe who is selected for integrity and satisfactory service, and his ability to identify each and every man recording upon his particular register. As each employe registers himself on duty at one of the regular starting hours, he is handed a day time-card (see exhibit A) by the clock watcher upon which to record a statement of the various jobs upon which he is engaged. The clock watcher checks up the clock record, commonly known as a clock slip, with the list of employes assigned to his register, immediately after starting time, morning and noon, and makes a list of the absentees or possible late arrivals for the foreman's information, thus enabling the foreman to lay out his work to meet such conditions. Immediately before the men punch off duty finally at the regular shop closing hour, they deposit their day time cards, carrying a full distribution of their time, into locked metal boxes placed immediately adjacent to each register and in the commanding view of the clock watcher. A late arrival wishing to start at an irregular hour must first report to his foreman, at whose discretion he will be allowed to start

[EXHIBIT A]

Form S. & M. A.

CANADIAN PACIFIC RAILWAY CO.....190

Daily Time Certificate } Name.....

Clock.....No.....Rate.....

DAY WORK

CHARGE TO	Commenced Work	Foreman's Initials	Finished Work	Total Hours Day Work	VALUE

NOTE—When employe's full time is on Day Work. Foreman signs here.....

PIECE WORK

CHARGE TO	Commenced Work	Foreman's Initials	Finished Work	Total Hours Day Work	VALUE

Piece work hours checked in time office by.....
Columns headed "Value" to be filled in by timekeeper

or otherwise. If allowed to start he punches the clock and receives from his foreman a time-card, upon which the foreman has entered the starting hour. Should an employe desire to quit work at an irregular hour, he must first obtain the permission of his foreman, who, in giving him permission, takes up the time-card and enters upon it the hour at which the man quits and instructs him to punch the clock, after which he gives him a pass-out order carrying reference to the permitted quitting hour, which order is delivered up to the

[EXHIBIT B.]

Form S. & M. A. 7

CANADIAN PACIFIC RAILWAY COMPANY

CERTIFICATE OF UNRECORDED SHOP TIME.

To
MASTER MECHANIC.
SUPT. LOCOMOTIVE SHOPS. STATION.....
SUPT. CAR SHOPS.
ASST. MASTER CAR BUILDER. DATE.....190
DIVISIONAL CAR FOREMAN.

I hereby certify that.....clock no.....check no.....reported to have omitted to register himself at.....was to my own personal knowledge on duty from.....to.....

.....

Foreman.....Shop

To.....

Dept. of the Aud. of Stores and Mech'l Acct's.

.....

I recommend that time be allowed to the above employe from.....to.....on.....190.. in compliance with the Dey Register Regulations now effective.

.....190

.....

Head of Department.

NOTE.—This Certificate must in all cases be signed personally by Head of Department and Foreman, otherwise time will not be allowed

gate watchman, who again records the time of delivery, and turns the order into the time office. By these methods the possibilities of an employe omitting to register himself on or off duty, at the regular shop hours or at an irregular hour, are practically eliminated. Should an omission occur, however, it is promptly detected in the time office, where the clock slips and the time-cards are compared, and any inconsistencies are immediately reported to the shop superintendent on a form specially provided for the purpose. The matter of the omission is then taken up by the shop superintendent with the foreman, and he in turn with the employe, for an explanation as to his violation of the regulations. If satisfactory, the foreman is then required to make a declaration (see exhibit B) that, to his personal knowledge, the said employe was on duty between stated hours; the allowance of the unrecorded time is recommended or disallowed at the discretion of the shop superintendent, based upon the facts and conditions of the case. Each omission, however, if allowed, calls for the application of shop discipline, and should an employe become a frequent offender, he is dismissed.

In the event of it being necessary to work any portion of the staff overtime, the respective foremen make requisition upon the shop superintendent for the required number of overtime cards, which, on receipt, are distributed to the men. The overtime card is printed in red ink in order that it can be readily distinguished from the day time-card, which is printed in black ink. The register is punched upon starting to work overtime and upon quitting, in the regular manner. The overtime card, upon which is recorded the distribution of the time to the work performed, instead of being deposited in the metal boxes, is handed in to the gate watchman, thereby serving the purpose of a pass-out order. The gate watchman records upon the card the time at which the man passes out and turns the cards over to the time office.

The clock slips upon which the time is recorded are changed at a specified hour each day by the timekeepers, who at the same time collect the time-cards deposited in the boxes. The hours recorded opposite each number on the clock slip are then extended into the right hand margin of the slip, and the hours on the day and overtime cards compared with the slip to see that a full distribution has been given, the timekeepers at the same time checking the wage rate as entered on the cards by the employes with the official list. Should there be any discrepancies in the distribution, the card is immediately returned to the foreman for an explanation and full report as to what correction is necessary. All the cards that check out correctly are then returned to the respective foremen for their signature as a verification of the accuracy of the time distribution as given. The overtime cards have to be further approved by the general foreman or shop superintendent. Should the foreman detect any disparity in the distribution, he must make a notation across the card, "Distribution Incorrect," and return the card unsigned to the time office. The matter is then taken up with the shop superintendent, and each case thoroughly investigated. Under no circumstances is a foreman allowed to change the distribution on a time card.

The clock slips are then turned over to the time checkers who, after checking the extensions, cut the slips into 50 number sections, each section dated, and paste them into the time-book, overlapping each other in such a manner as to leave the outside edge on which the total number of hours worked is shown, exposed, under the day of the month represented by the clock slip, so that at the close of the month the timebooks themselves show the complete record of each man's time as well as the total hours' labor performed. The old method of taking the clock slips and entering from these into the time book gave opportunity for errors in posting time to the wrong man, and when it came to the settling of any dispute with an employe, the clock slips had to be located and comparison made with the entries in the time book. Much loss of time is obviated by the method now adopted, and it is absolutely impossible for any time to be credited to the wrong employe or to those not properly entitled thereto as shown by the clock records.

The time of men working away from their home station or temporarily transferred to another station is taken care of on a specially prepared form, the handling of which is as follows: The foreman, on issuing this form, enters the time thereon and instructs the man to punch the clock, and to report at the time office of his home station in order to obtain the signature of the timekeeper. The timekeeper, after checking the time, signing the form, makes entry in the time book opposite the man's number of his transfer to the point stated on the form. This with the object of putting the timekeeper on the lookout for the man's time before closing the check book at the month end. Upon the man's arrival at the point to which he is temporarily transferred, he must immediately report himself to the timekeeper, but in the event of arriving after the timekeeper is off duty, he must report himself to the foreman in charge, who will take up the form, recording upon the same the hour of arrival, and turning the form over to the timekeeper at the first opportunity. On receipt of the form by the timekeeper, the hours of departure and arrival are checked up to see that no unnecessary time has been occupied on the journey, and after entering the travelling time on the form, the man is given a number on the local register and must record himself on and off duty and deposit time-cards, the same as the regular shop employes. Upon the completion of the work, and his return to his home station, the timekeeper will transfer from the time book to the form a daily record of the hours worked,

LOCOMOTIVES

Pacific Type Passenger Locomotive built for the Intercolonial Railway. Total weight of engine, 194,500 pounds. Weight on driving wheels, 132,000 pounds; diameter of driving wheels, 72 inches. Boiler pressure, 200 pounds. Maximum tractive power, 29,200 pounds.

STEAM SHOVELS

A high-class and powerful machine, absolutely reliable under all conditions of service.

MONTREAL LOCOMOTIVE WORKS LIMITED

BANK OF OTTAWA BUILDING, MONTREAL, CANADA

making notation in the time book, "Time transferred to (home station) on transfer form," at the same time instructing the employe to report himself to the home station timekeeper immediately on arrival. The timekeeper at home station takes up the form, checks up the departure and arrival hours, records the travelling time and transfers all the time from the form to the time book. The time-cards, representing a distribution of this time, are promptly forwarded to the home station time office and taken to account in the labor accounts of that office. This form permits of a proper supervision over an employe whilst travelling, eliminates the possibility of his time overlapping, and removes the necessity of reporting an employe more than once upon the same set of pay rolls, which is very desirable. All certificates, etc., covering time not recorded on the clocks are numbered in consecutive rotation and entered into the time voucher register before being credited to the employe affected in the time book, after which they are fyled away in numerical order.

From the foregoing the advantages of the mechanical register in the settlement of disputes arising in regard to the allowance or disallowance of time, are, I think, evident. Every employe becomes his own timekeeper; you have his registration upon the clock borne out by his signed declaration on his time-card, and the check of the clock watcher, which is verified by the timekeeper.

As in the case of time registration, there are various methods in vogue of taking up and distributing shop labor to the accounts upon which it is expended. The first method that I experienced was that of time distribution clerks making the rounds of the shops with the time distribution books once per day and taking up the distribution of the time worked the previous day; a page was assigned to each man, the description of the work performed and number of hours, etc., recorded in the column headed up for the purpose. By this method a competent distribution clerk could take up the distribution of, on an average, 250 men. Barring clerical errors and lapses of memory on the part of employes, this method should give a correct distribution of the pay roll, but to draw off the distribution and assemble it to the individual jobs entailed a great deal of clerical work at the close of the month or at any time when it might be required to know the cost of any specific job to date. By a reversal in the headings of the time distribution book, that of assigning a page or pages to the job instead of the man, the distribution clerks' capacity was increased about 100%, and the assembling operation decreased 50%, and the aforementioned difficulty regarding cost of any job to date was largely obviated. Still, these methods were not altogether satisfactory; whenever the question of apparent excessive shop costs came up, the opportunity to excuse the shop management at the expense of the distribution clerks was always open, and in some instances the excuse was probably well founded.

By the time-card system the responsibility cannot be conscientiously shifted. The approval by the foreman of the distribution given by the men upon their time-cards must be considered binding, also the capacity of the distribution clerks is increased so that they can handle the distribution cards of from 1,200 to 1,500 men. I have explained the method of collecting the time-cards from the boxes, how the hours and rates are checked, and how the verification as to the accuracy of the distribution is obtained. Upon the cards being returned to the time office, after receiving the signature of the foreman, they are handed over to the distribution clerks, who compute the value of the distributed hours by the wage rate on the card, transferring the distribution in dollars and cents into distribution sheets to the various jobs. This method removes the necessity of drawing off and assembling the distribution; as a matter of fact, a weekly progress report, or, in other words, a daily or weekly distribution of the pay roll, can be reported inside of 24 hours after the completion of the period, providing, of course, that there are no delays in the handling of the cards to and from the shops. Further, by following out the system in all its details, an absolute distribution can be obtained barring the possible value of cards delayed under investigation or the changing of an employe's rate during a broken period, and of which change the time office has not received the necessary approval. Periodical checks are made upon the distribution clerk's work by tabulating the value of the cards against the sum total of the entries upon the distribution sheet for any given period. At the large plants a check of the men at their work is taken care of by shop constables or watchmen, whilst at the smaller plants where the distribution clerk's time is not entirely occupied with the cards, he makes the rounds of the shops.

It is argued that the system of the workman writing up his own card is more costly than that of the distribution clerk making the rounds of the shops, and that too much time is lost. If time is never lost to a better advantage than in giving a company an accurate accounting for the wages paid, there might be grounds for the contention. From my own personal experience I question very much if any more time is taken up by the men in making up their cards than in giving their time verbally to a timekeeper, and the incidental delays thereto. For instance, in the machine shop it very often necessitates the stopping of a machine; in the blacksmith shop the smith will let his heat cool or fire die down, whilst in the boiler shop it often happens that a whole gang has to be silenced before a timekeeper can get a hearing, and so on. This, coupled with the discussion of various matters of mutual interest, causes a loss of time over which the shop management has little or no control.

The method by which employes doing contract work record themselves on and off duty, and that of reporting the distribution of their time, is the same as if working day work with the additional check of the contract timekeeper. Whilst it is very undesirable that an employe should work both day and contract work, it cannot always be avoided, and to meet this contingency the foreman is required to initial the time-card at the time the change is made from contract to day work, or vice versa.

The foregoing paper was read at a meeting of the Canadian Railway Club recently.

Recent British Columbia Legislation.

The B.C. Legislature at its current session has passed the following acts affecting railways:

Flathead Valley Ry.—Act of incorporation.

Meadow Creek Ry.—Act of incorporation.

South-east Kootenay Ry.—Extending the time for construction.

Victoria and Barclay Sound Ry.—Act of incorporation.

We are advised that the Temiskaming and Northern Ontario Ry. officials, though keeping in touch with the matter of dispatching trains by telephone, have not as yet decided to supersede the telegraph system.

Government Expenditures on Railways.

During the year ended Mar. 31, 1908, the total railway expenditure made by the Department of Railways and Canals was $35,495,196.37; of which $23,684,005.25 was charged to capital, $2,215,895.69 to income, and $9,595,295.43 to revenue. The expenditure on capital included $18,910,449.41 for the National Transcontinental Ry.; the expenditure on income included $2,037,629.30 paid as subsidies to railways other than Government roads, and $123,679.22 for the Board of Railway Commissioners. The expenditure on the Intercolonial Ry. was $13,597,491.55, of which $4,328,494.01 was on capital account, and $9,157,435.53 on revenue account. On the maintenance of the Windsor branch $37,912.11 was expended on revenue account. The expenditure on the Prince Edward Island Ry. aggregated $700,409.62, of which $390,461.83 was charged to capital, and $399,947.79 to revenue. The revenue from the Government railways was $9,534,569.04. The total Government expenditure on railways prior to and since Confederation up to Mar. 31, 1908, on capital account was $185,734,462.04, which includes $25,000,000 granted to the C.P.R. for its main line. In addition there has been expended from the consolidated fund $179,021,681.56, which includes $37,616,131.84 paid as subsidies to railways in addition to the above for the C.P.R., making a total expenditure of $364,756,143.00. Of this amount $13,881,460.55 was expended prior to Confederation on the construction of portions of what is now the Intercolonial Ry. system.

The total revenue derived from Government railways from July 1, 1867, to Mar. 31, 1908, was $128,614,808.72. The gross earnings of the Government railways for the year ended Mar. 31, 1908, was $9,534,569.04; and the working expenses $9,595,295.43, showing a loss of $60,726.39. The I.C.R. working expenses were $9,157,435.53, and earnings $9,173,558.80, showing a profit of $16,123.27. The Windsor branch maintenance expenditure was $37,912.11, and the Government earnings $56,430.41, leaving a profit of $18,518.30. The Prince Edward Island Ry. working expenditure was $399,947.79, and its earnings $304,579.83, the loss being $95,367.96.

The subsidies paid to railways on account of construction during the fiscal year were:

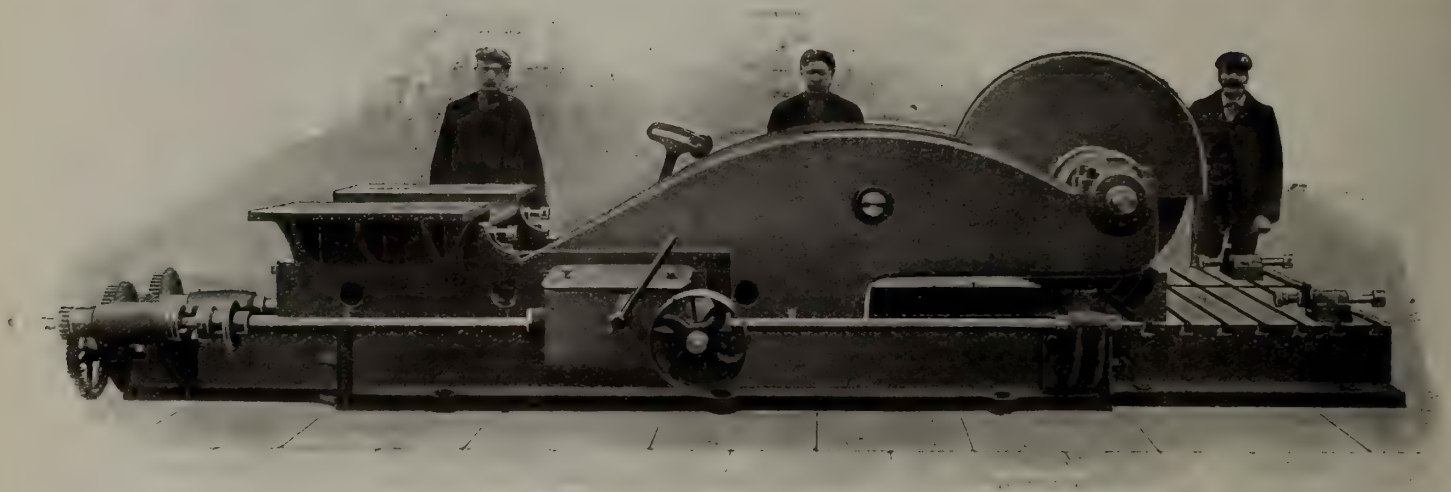
Atlantic and North West Ry.	$ 186,000 00
Atlantic, Quebec and Western Ry.	64,000.00
Canadian Northern Ontario Ry.	244,224.00
Canadian Northern Quebec Ry.	256,870.40
Canadian Pacific Ry.	3,424.00
Central Ontario Ry.	76,861.36
Colchester Coal and Ry. Co.	42,800 00
Edmonton, Yukon and Pacific Ry.	91,200.00
Halifax and Southwestern Ry.	316,567.73
Kettle River Valley Ry.	97,771.52
Klondike Mines Ry.	101,184.00
Midland Ry. (Ltd.)	31,892.40
Minudie Coal Co.	18,544.00
Napierville Junction Ry.	173,440.00
Nicola, Kamloops and Similkameen Ry.	190,208.00
Orford Mountain Ry.	24,128.00
Ottawa Northern and Western Ry.	4,243.20
Quebec Central Ry.	55,638.69
Quebec and Lake St. John Ry.	73,472.00
York and Carleton Ry.	14,560.00
	$2,037,629.30

The Pullman Co. paid $2,040.15 taxation to the Ontario Government for the year 1908.

R. G. Price, Car Foreman, Quebec Central Ry., Sherbrooke, Que., writes: "Find enclosed renewal subscription to your valuable paper, which I find very instructive."

A. E. Edwards, District Passenger Agent C.P.R., Detroit, Mich., wrote, Mar. 12, 1909: "I receive THE RAILWAY AND MARINE WORLD every month regularly, and find it very interesting."

HIGH SPEED COLD SAWS

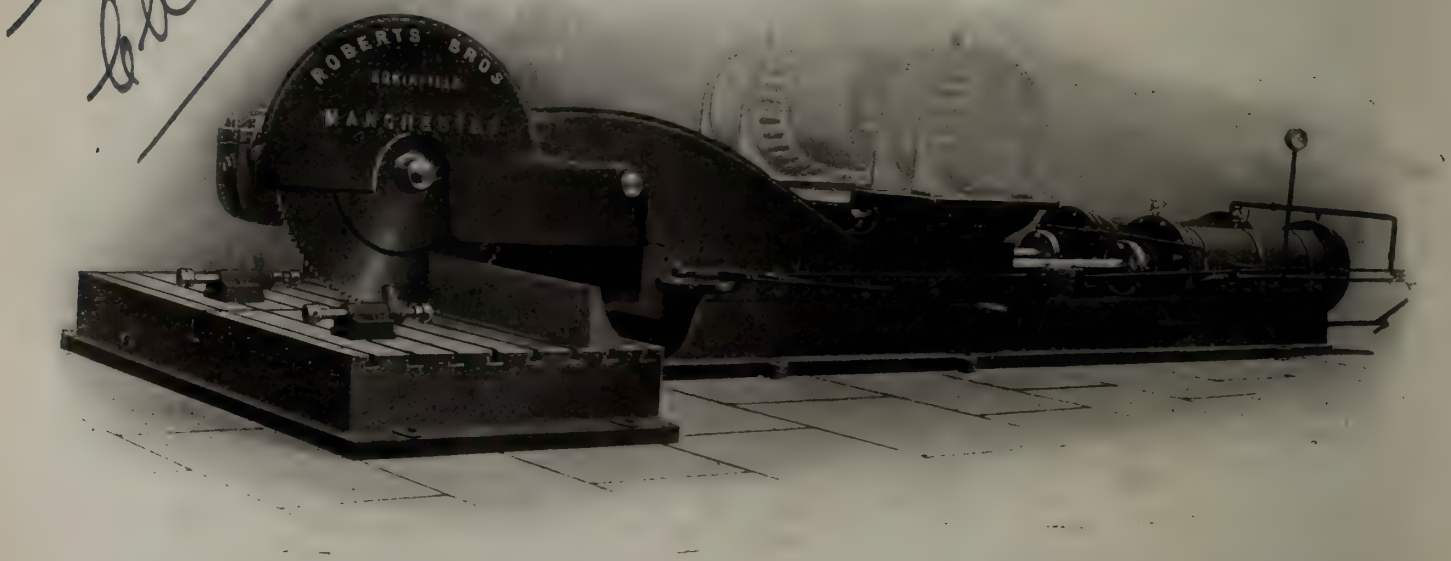


These Machines are Designed for Heavy Duty for

ROLLING MILLS, SHIPBUILDERS, FROG and SWITCH WORKS, LOCOMOTIVE, CARRIAGE and WAGON SHOPS, BRIDGE BUILDERS, ETC., ETC.

Arranged with Power or Pneumatic Feed

Send us your Enquiries



MUSSENS LIMITED

Head Office,
MONTREAL

Branches { ***Toronto, 73 Victoria St.***
Cobalt, Hunter Block
Winnipeg, 259-261 Stanley St.
Vancouver, 614 Hastings St., W.

The Intercolonial in Parliament.

The annual statement of the Minister of Railways with regard to the Government railways was made in the House of Commons Mar. 16. He said the I.C.R. gross revenue for the year ended Mar. 31, 1908, was $9,173,558.80, and working expenses $9,157,435.53, leaving a surplus of $16,123.27. The earnings from passenger traffic were $2,711,416.98; from freight, $6,054,493.55; and from mails and express, $407,648.37. The expenditure included the purchase of a considerable quantity of rolling stock, and increases of wages aggregating $205,989. The capital expenditure for the year was $4,382,494.01.

The gross revenue of the Prince Edward Island Ry. was $304,579.83, and working expenses $399,947.79, a deficit of $95,367.96. The earnings from passengers were $132,382.76; from freight, $146,280.99; and from mails and express, $25,916.08. The capital expenditure was $390,461.83, and the expenses included $11,322 on account of increased wages.

The Minister then proceeded to take up the question of cost of operation and argued that the I.C.R. was economically managed, the average cost of operation (wages and material) of the line for 1908 being 1.295, against 1.364, the average rate for all Canada; 1.493 for the C.P.R., 1.480 for the Canadian Northern Ry., and 1.154 for the G.T.R. The cost of the maintenance of rolling stock per mile run shows that while the I.C.R. kept up the standard well, it was not extravagantly run. In regard to maintenance of way and structures, the G.T.R. was the only line in the Dominion which showed less than the I.C.R. In regard to loaded and empty car mileage, the I.C.R. did not show to any disadvantage in comparison with other Canadian railways. In regard to earnings per train mile there was a marked difference, the I.C.R. having a smaller earning power than the other lines. His own opinion was that the railways covering practically the same territory as the I.C.R. had not made a dollar in the last ten years on their lines. The I.C.R. is a detached piece of line, a line covering part of a territory, a line without feeders from the west, simply a long railway feeding itself, though getting what traffic it can from other lines.

After having referred to certain difficulties in the way of the operation of the line, and the different method which had to be pursued in purchasing supplies, owing to the fact that all prices were published in the Auditor-General's report, and that many of them had to be purchased from firms which did not bring any freight to the road, the Minister proceeded to ask the question: What are we going to do with the road? A good deal of discussion, he said, has taken place as to what we are going to do with regard to its management. "My proposition is this: Not to establish a commission. I have studied that a good deal; and if I do not favor that solution, it is not at all because Mr. Borden advocates it. I have gone into the question of the management of Australian railways, and I came to the conclusion that, as a minister of the Crown, with a railway under government supervision and management, two conditions confronted me. In the first place, I was not prepared to admit that the Crown itself, through proper means, could not manage a government railway. In the second place, I did not think the country would be prepared to say that the government ought to divest itself of the responsibility which the people had entrusted to its hands. Having that view, I made up my mind to make this proposition and give it a fair trial. That proposition is to establish a board, not responsible to Parliament—that is, not directly responsible—but responsible to the government of the day, whatever government that may be—responsible to the government through a Minister of the Crown, because after all we may say about commissions, this fact remains that the people will hold whatever government is in power responsible for the management of the I.C.R. so long as it is owned by the government. There is no use in our trying to get away from the inevitable. Any government must retain the responsibility, and any Minister of Railways must accept full responsibility. On that board I propose to retain two of the officials, now on the I.C.R., in very high places. I propose also to allow the Deputy Minister of Railways to act on that board, and I would call it, not a commission, not an advisory board, but a board of management. I propose, as well, to appoint on that board a man, whom I have not selected, from one or the other of the great railways—not an over expensive man, but a man with a good, practical, level head, who would bring with him the knowledge and experience he had acquired on one of the great lines and add these to the knowledge and experience possessed by the officials on our line of railway. This board would have the management of the road and be responsible, as a general manager would be, to the government. My idea was that this board would have to meet my deputy at least every thirty days and give a full and complete report and information of everything done on the line, so that the Minister would know at all times what was going on and what was being done. Would this relieve the Minister of the responsibility? Not of one iota. The Minister must retain all responsibility, but it would relieve him and his deputy of a multitude of details which now come here and which ought never to get beyond the head office at Moncton. We have to-day details coming to the department at Ottawa which never go to the president of a railway company, which never get by the general manager, and three-fourths of which never get to the general manager. But a condition has grown up on the government-owned railway for which nobody is to blame; and little details, instead of being settled on the spot by men detailed and paid for that purpose, keep filtering through by some means to the head office and to the Minister, until our department is at present flooded by these matters, which ought never to reach it. This board would be given power to settle these minor affairs without reference to the department at all. This would be a good thing for the railway, it would be a good thing for the men, and a great relief to the department."

Temiskaming and Northern Ontario Ry.

The report of the operations of the T. and N.O.R. for the year 1908 has been presented to the Ontario Legislature. The mileage operated during the year averaged 191. The total revenue was $973,065.61, made up as follows: From freight, $471,203.41; from passengers, $366,504.53; from other freight and passenger train revenue, $45,501.06; from telegraph and telephone services, $27,950.22; from miscellaneous revenue, $61,906.39. The operating expenses were $688,397.43, or 70.8%. The distribution of the operating expenses was as follows: Maintenance of way and structures, $125,563.45; maintenance of equipment, $119,565.01; traffic expenses, $12,499.96; transportation expenses, $405,907.58; general expenses, $24,863.45. The net earnings were $284,668.18, and the revenue from ore royalties, $134,820.27, a total of $419,486.45. The Commissioners paid the Treasurer of Ontario $350,000, the balance of $69,488.45 being carried to profit and loss account. The cost of road and equipment to Dec. 31 was $13,441,704.89, the cost of the 191 miles operated being $9,651,751.43, or $50,532.73 per mile. The interest on the cost of this mileage at 3.8% was $366,866.55.

The operating statistics show: Passengers carried earning revenue, 479,005; passengers carried one mile, 15,252,710; passengers carried one mile per mile of road, 79,857; freight carried earning revenue, 484,444 tons; freight carried one mile, 34,279,838 tons; freight carried one mile per mile of road, 179,475 tons; average distance each passenger carried, 32.05 miles; average distance haul of one ton of freight, 70.7 miles. Passenger earnings per mile of road, 2.43 cents; freight earnings per mile of road, 1.37 cents; gross earnings per mile of road, $5,094.58; gross expenses per mile of road, $3,604.17; net earnings per mile of road, $1,490.41.

Chateau Frontenac Extension.

The C.P.R. has in course of construction a wing to the Chateau Frontenac, Quebec, which carries out the architectural design of the original building, and with it will form one harmonious whole. Owing to the fact that the site of the new wing is not level, it has been found necessary to build the additions considerably higher than the original building, and the work of grouping the new, so that it would be strictly in accord with the old, was one of exceptional difficulty. To ensure a uniformity of material and coloring between the two parts, it was decided to use the same materials for the exterior of the additions as had been used in the original building—Terrebonne stone and Scotch fire-brick. To provide a sufficient area for the additions it was found necessary to construct arches over two highways, in order to connect the new erection with the original work.

The new building is 155 by 55 ft., and the tower, which is at the end furthest from the old building, has a height of 175 ft. from grade. The main part of the building has nine floors and the tower extends four storeys higher. The construction throughout is of reinforced concrete. With the exception of the attic floors, which, like the roof, are of solid concrete slab construction, the floor system in general is a combination of concrete and hollow tile; this method giving flat ceilings of large span. The columns along the corridors in the lower stories of the main portion of the building are of structural steel, to economize space. These columns are fireproofed with concrete, the outside diameter of the finished columns being 18 inches. The structural steel columns do not extend above the sixth storey, while all other columns are hooped concrete. In the lower portion of the building, which is 55 ft. higher than the main part, the concrete columns start at the footings, where they have a diameter of 34 inches. The concrete skeleton is enclosed with brick and stone masonry, these walls being carried on reinforced concrete beams at each storey, these beams framing generally into wall columns and in some cases into cantilever brackets. In order to economize all the space within the enclosure, two living floors, besides an attic floor, are taken care of in the roof portion of the main addition. In the tower roof there are four floors, one for water tanks and one for general storage. The roof of the main building has a pitch of 60 degrees, and the tower roof a pitch of 75 degrees. They are of concrete slabs and will be finished off with copper in conformity with the roof of the original building. The stairs throughout the building are of cast iron and steel, and are covered with marble. In connection with the heating apparatus it was found necessary to construct a smoke flue underground for a distance of 100 ft. to the end of the building, where the chimney stack is. The plumbing is of the most modern type, the pipes being laid in specially built flues, to which access can be readily had to effect repairs.

ASTORIA LIGHT, HEAT & POWER CO., ASTORIA, N.Y. SHOWING BRIDGE TRAMWAY.

Change about Jan 1st/09

THE BROWN HOISTING MACHINERY CO.

Engineers, designers and builders of hoisting machinery of all descriptions.

Write us stating your requirements and ask for catalogues.

Main Office and Works:

CLEVELAND, OHIO

Branch Offices:

PITTSBURG AND NEW YORK

Victoria Rolling Stock Co. of Ontario.

The directors' report for the year ended Feb. 15 states that during the year the company has not issued any new debentures, and outstanding debentures against leases were reduced by $282,000. All payments maturing during the year were promptly met.

The directors wrote off the balance at debit of discount and commission account in connection with Series S lease, $16,000. The profit on the year's business, after charging up directors' fees, expense account and $16,000 for discount and commission on debentures sold, is $18,280.42; out of which a dividend of 12% for the year on the paid-up capital stock, amounting to $14,400, was paid, leaving $3,880.42 carried forward to profit and loss account, which now stands at $121,599.01.

ASSETS.

Obligations on leases	$1,725,441.06
Debentures held by company and accrued interest	168,451.39
Cash in bank	36,169.89
Call loans	100,000.00
	$2,030,062.34

LIABILITIES.

Capital stock subscribed.. $600,000.00	
Capital stock paid up	$ 120,000.00
Debentures outstanding	1,772,000.00
Interest accrued on same	16,463.33
Balance at credit of profit and loss	121,599.01
	$2,030,062.34

PROFIT AND LOSS ACCOUNT.

Interest paid and accrued on debentures	$ 78,541.14
Discount and commission on debentures sold, Series S	16,000.00
Expense account	972.82
Directors' fees last year	1,300.00
Dividend account	14,400.00
Balance carried forward	121,599.01
	$ 232,812.97
Balance at credit profit and loss, Feb. 15, 1908	$ 117,718.59
Rents received and accrued on leases, and interest on advances and debentures held by company	115,094.38
	$ 232,812.97

MEMORANDUM RE ROLLING STOCK.

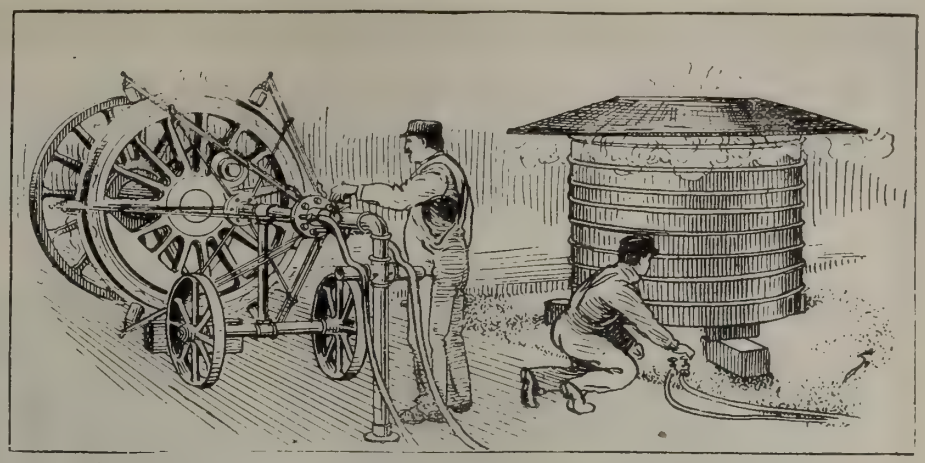
Original cost of rolling stock held under existing leases	$4,439,802.53
Amount paid in on account by railway companies in addition to interest	2,668,108.88
	$1,771,693.65
Total amount of the company's debentures outstanding	$1,772,000.00

The officers and directors for the current year are: President, E. B. Osler, M.P.; Vice-President, W. D. Matthews; Managing Director, R. A. Smith; other directors, D. Coulson, Hon. J. S. Hendrie, H. Pellatt, D. R. Wilkie; Secretary, G. T. Chisholm.

Railway Taxation in Ontario.

The Ontario Government collected from railways operating in the province taxes amounting to $400,902.71 during the year ended Dec. 31, 1908. Following are details:

Algoma Central and Hudson Bay Ry	$ 1,365.00
Brockville, Westport and N.W. Ry	675.00
" " " for 1907	675.00
Bay of Quinte Ry	1,405.12
Canada Atlantic Ry	20,666.08
Canadian Pacific Ry	136,945.98
Canadian Northern Ry	14,140.00
Canada Southern Ry	27,791.00
Central Ontario Ry	2,233.50
Grand Trunk Ry	168,638.80
James Bay Ry	8,808.00
Kingston and Pembroke Ry	1,546.50
Lake Erie and Detroit River Ry	13,348.20
Manitoulin and North Shore Ry	137.78
Niagara, St. Catharines and Toronto Ry	289.70
Nosbonsing and Nipissing Ry	55.00
Ottawa and New York Ry	853.50
Thousand Islands Ry	63.30
Toronto, Hamilton and Buffalo Ry	1,265.25



Crude Oil Tire Heaters For Railway Shops.

The Lehigh Valley Rd. has recently introduced crude oil tire heaters at its shops at Sayre, Pa., which have been found far superior to the former method of using gasolene and perforated rings for the application and removal of tires.

The heater for removing tires consists of six oil burners mounted on an adjustable frame, being able to adjust the burners to any desired diameter. The frame consists of an arrangement of wrought-iron pipe mounted on a pair of wheels. On the main part of the frame a combination air and oil chamber is arranged to slide forward and back, and, in conjunction with a six-point star, the various adjustments of the burners are produced. On the front side of the supply chamber six ball-joint connections are made to the oil supply, also six connections are made to connect the air supply with the burners and piping arranged to connect the burners with the supply chamber.

When using gasolene for removing tires two men would use from 20 to 50 minutes in removing a tire, while with this heater from 7 to 11 minutes are required. While the old tires are being removed new ones are piled up on three cast-iron blocks and a large crude oil burner is placed underneath, the burner having the capacity to fill the inside of eight tires with flame and heat them for application in 20 minutes. Inasmuch as both heaters are comparatively smokeless, there is perfect satisfaction. During a test, six old tires were removed and six new tires were applied in 1 hour and 52 minutes.

G.T. Pacific Ry. Gradients.

A. J. Anderson writes us from Winnipeg: "In your Feb. issue you copied an interview some New York paper had with C. M. Hays, President G.T.P.R., in which he tabulated a statement or comparison with five other railways of their maximum gradients and gross capacity of locomotives in tons. You published a foot-note showing the statement was not fair to the C.P.R., as the new cut-off being built between Field and Hector, B.C., will place the C.P.R. in the same position as the G.N.R., N.P.R. and U.P.R., as to gross capacity of engines in tons. Mr. Hays' statement in a very important point is not correct. He says the maximum gradient between Prince Rupert and Winnipeg (going east) is 21 ft. to the mile. This is certainly an error, because descending from the Yellow Head Pass westerly, they have a continuous 1% gradient for 20 miles, and some shorter stretches before Tete Jaune Cache is reached. This, of course, will be a pusher grade, but, just the same, in his tabulated statement, if correctly put, it would show the G.T.P. gross capacity of locomotives in tons 1,020 instead of 2,041, as published. Enquiries in the proper quarter, the Department of Railways, Ottawa, will show you this is correct."

On receipt of the above letter, we communicated its contents to Mr. Hays, who has written us as follows: "While it is a fact that we have a 1% gradient for a distance of 20 miles easterly from Tete Jaune Cache, this is but a temporary gradient, and will only be in existence until such time as the traffic available will justify the additional expenditure of reducing it to our maximum of 4/10 of 1%. This 20 miles, however, does not constitute a serious break in the ruling conditions, as, owing to the shortness of the distance, that particular division must always be operated as a 0.4% gradient, entailing only the additional expense of an additional engine for 20 miles, until such time as the expense of the additional engine service would equal the interest on the additional cost of eliminating this stretch of 1% gradient, a survey for which is already made. Your correspondent is also in error in stating that there are other short stretches of 1% gradient; there is not a foot of gradient more than 0.4% on the line outside of this 20 miles of temporary gradient."

Automatic Signalling on Railways.—The Board of Railway Commissioners' Secretary has issued the following circular to railway companies: "For some time past the destruction of life and property resulting from accidents caused by main line switches being left open, has been so great that the Board is of the opinion that some action must be taken to secure better protection of trains against danger from this cause. The Board has been informed that it is possible to install, at moderate cost, an electro-mechanical device which would indicate by a signal suitable for both day and night use, that a main line switch was open; the said device to be connected with the switch-lever and act so that the opening of the switch would automatically give the danger signal. Such a device being installed, a rule could be issued prohibiting engineers from passing such a signal at danger, and requiring them to call for the closing of the switch before proceeding further towards the yard or siding. The Board will be pleased to have from your company, as soon as possible, an expression of opinion as to what it regards as proper and practicable in the premises."

The Cuban Government has signed a contract with the Cuba Ry. for the construction of a railway from Martí to Manzanillo, by way of Bayamon. The contract carries a subsidy of $6,000 a kilometre.

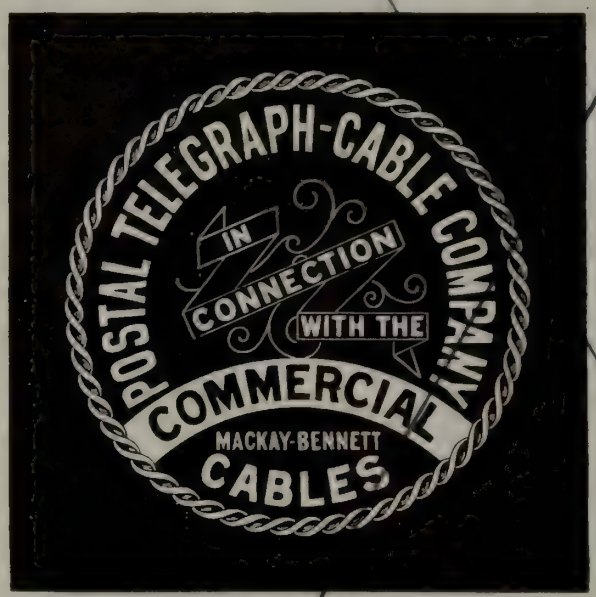
ENAMELED IRON TELEGRAPH SIGNS.

The only signs that are absolutely impervious to the weather.

No. 1.—Double, 19 x 13 ins., including flange, white letters on blue ground.

No. 3.—Double, 21½ x 10 ins., including flange, white letters on blue ground.

No. 4.—Double, 22 x 8 ins., including flange, white letters on blue ground.



No. 2.—Single, 30 x 30 ins., white letters on blue ground.

No. 5.—Single, 24 x 12 ins., white letters on blue ground.

Enameled Iron Signs can be made in any shape, size or colors. Blue and white make the most striking contrast.

Prices and further particulars supplied on application.

Acton Burrows Limited, 157 Bay Street, Toronto.

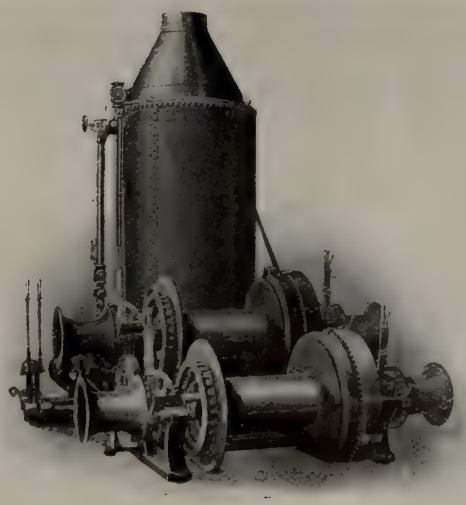
STEAM RAILWAY STATISTICS FOR YEAR ENDED JUNE 30, 1908.

The table given in our last issue showed the financial results of the operations of steam railways for the year ended June 30, 1908. The following table gives the percentages and the principal statistical information compiled by the companies. The table published last issue and the one given below contain all the information given in our compilation of these statistics published last year, but the columns have been rearranged so as to combine in the first table the financial and in the second the statistical information.

Name of Railway	Proportion of Earnings to working expenses	Revenue Train Mileage	Mileage of Non-Revenue Trains	Earnings per Train Mile	Operating Expenses per Train Mile	Passengers Carried	Passengers Carried one Mile	Passenger Earnings per Train Mile	Tons of Freight Carried	Tons of Freight Carried one Mile	Freight Earnings per Train Mile
Alberta Ry. & Irrigation Co.	87	70,950	5,011	$2.87	$2.50	32,374	1,393,388	$0.94	96,183	4,356,277	$1.89
Algoma Cent. & Hudson Bay Ry.	70	49,598	.....	7.27	5.10	19,752	665,072	.47	367,069	8,971,969	2.77
Atlantic & Lake Superior Ry.	100	88,900	.....	.82	.82	20,702	1,552,650	.45	32,241	2,418,075	.57
Atlantic, Quebec & Western Ry.	251	11,654	.....	.75	1.90	8,532	117,198	.31	6,925	138,500	.43
Bay of Quinte Ry.	68	218,870	619	1.06	.73	101,501	1,424,033	.21	268,549	11,625,757	.83
Bedlington & Nelson Ry.	185	2,170	243	.37	6.89	700	4,340	.11	2,055	13,664	.25
Beersville Coal & Ry. Co.	94	13,664	160	.37	.35	2,592	20,736	.73	11,082	88,656	.50
Bessemer & Barry's Bay Ry.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brandon, Sask. & Hud. Bay Ry.	264	64,358	7,506	.60	1.60	21,303	670,772	.44	41,393	1,850,599	.83
British Yukon Ry.	45	57,780	9,187	5.47	2.48	11,066	984,320	1.33	327,152	2,886,285	4.12
Brockville, Westport & N.W. Ry.	47	57,170	1,510	1.11	.52	74,418	2,112,540	.58	24,395	731,850	1.07
Buctouche & Moncton Ry.	84	20,608	.....	1.32	1.12	20,455	409,100	.51	26,621	532,420	.81
Canada Coals & Ry. Co.	65	19,460	9,220	1.88	1.22	20,763	181,925	.39	86,753	778,341	1.44
Canada Southern Ry.	69	3,713,862	78,533	2.12	1.47	1,065,123	78,215,945	1.31	5,932,347	1,003,339,086	2.51
Canadian Government Rys.—											
Intercolonial Ry.	104	7,217,272	441,123	1.23	1.29	2,866,408	142,721,881	.93	4,008,541	1,005,670,287	1.29
Prince Edward Island Ry.	130	330,107	27,693	.94	1.23	323,935	7,338,420	.49	98,590	3,651,303	.43
Canadian Northern Ry.	67	4,409,974	298,825	2.20	1.48	937,036	74,468,415	1.06	2,651,580	875,287,887	2.36
Canadian Northern Ontario Ry.	99	232,774	30,845	1.05	1.05	93,590	5,372,887	.69	92,098	7,057,181	2.02
Canadian Northern Quebec Ry.	104	573,667	24,906	1.26	1.31	322,488	9,749,364	.68	457,110	35,516,533	1.48
Canadian Pacific Ry.	68	32,131,991	1,888,194	2.19	1.49	9,286,495	1,035,721,150	.57	14,232,306	5,848,799,811	2.29
Cape Breton Ry.	214	19,492	.....	.41	.87	7,912	176,009	.27	2,925	59,778	.12
Caraquet Ry.	102	40,150	6,294	1.28	1.31	13,326	426,432	.38	24,178	1,644,105	.89
Carillon & Grenville Ry.	211	2,756	.....	.60	1.64	4,532	55,892	.56	78	.....	.43
Central Ontario Ry.	57	191,378	.....	.14	.80	139,434	3,227,848	.55	234,091	10,804,293	1.02
Crow's Nest Southern Ry.	73	68,833	9,805	2.71	2.00	15,292	667,122	.83	228,526	11,746,496	4.38
Cumberland Ry. & Coal Co.	47	45,260	.....	2.11	1.01	33,502	678,946	.40	333,409	5,165,527	2.18
Dominion Atlantic Ry.	64	555,284	8,215	1.66	.91	355,662	15,026,719	.80	355,970	15,662,680	1.66
Elgin & Havelock Ry.	87	17,928	.....	.69	.60	9,183	119,379	.22	15,905	176,400	.47
Esquimalt & Nanaimo Ry.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand Trunk Ry.	69	18,194,935	828,817	1.66	1.15	10,299,771	505,714,652	1.23	12,473,223	2,776,428,062	1.87
G.T.R. (Canada Atlantic Ry.)	96	1,657,975	179,585	1.22	1.18	507,340	26,530,660	.67	2,078,735	248,560,959	1.34
Halifax & Southwestern Ry.	99	366,317	15,185	1.05	1.05	198,722	7,913,705	.62	182,061	8,815,189	.70
Hampton & St. Martins Ry.	59	16,700	.....	.70	.41	7,398	89,890	.26	11,427	3,012,969	.43
Hereford Ry.	135	85,197	784	.87	1.18	29,476	730,539	.30	186,693	5,104,064	1.09
Inverness Ry. & Coal Co.	56	126,294	6,155	1.66	.90	33,398	779,377	.52	322,475	17,452,422	1.48
Irondale, Bancroft & Ottawa Ry.	113	31,400	.....	.80	.90	11,012	200,141	.22	25,668	797,634	.57
Kaslo & Slocan Ry.	283	17,150	.....	1.03	2.98	4,959	95,900	.44	9,283	204,097	.57
Kent Northern Ry.	56	14,580	.....	1.29	.73	5,000	100,000	.56	10,000	240,000	.70
Kettle River Valley Ry.	152	2,504	.....	1.19	1.41	1,625	6,500	.11	27,550	110,200	1.08
Kingston & Pembroke Ry.	80	197,959	.....	1.09	.88	69,163	1,521,586	.32	122,136	6,265,576	1.16
Klondyke Mines Ry.	196	28,817	.....	1.63	3.43	3,863	74,887	.91	6,502	92,848	1.22
Liverpool & Milton Ry.	62	8,100	.....	1.15	.71	11,200	44,800	.10	20,153	100,765	1.05
Lotbiniere & Megantic Ry.	83	18,780	.....	1.68	1.40	12,152	157,118	.26	50,916	780,844	1.40
London & Port Stanley Ry.	115	124,930	1,328	.99	1.14	219,592	3,668,295	.62	465,416	7,734,198	1.02
Manitoulin & North Shore Ry.	74	12,887	186	3.62	2.68	3,280	28,233	.91	250,541	2,393,567	3.35
Massiwippi Valley Ry.	89	168,459	2,028	1.17	1.05	177,463	3,332,716	.92	514,918	14,981,324	1.34
Midland Ry. of Manitoba	271	31,718	3,684	1.06	2.88	10,646	325,037	.27	50,170	2,674,422	.82
Montreal & Atlantic Ry.	95	558,375	8,503	1.35	1.28	303,894	7,743,379	.66	922,894	47,602,786	1.27
Montreal & Province Line	79	94,736	5,081	.95	.75	136,065	2,061,704	.66	78,668	1,848,876	.75
Montreal & Vermont Junc. Ry.	53	102,557	1,933	1.63	.87	149,962	3,131,165	.78	747,118	19,538,193	3.09
Morrissey, Fernie & Michel Ry.	75	19,248	.....	5.53	4.20	292,616	1,784,957	.54	588,453	7,237,971	4.77
Napierville Junction Ry.	166	18,009	11,754	1.09	1.82	12,330	154,009	.27	56,029	1,438,557	.83
Nelson & Fort Sheppard Ry.	130	62,188	6,985	1.54	2.00	24,900	874,112	.70	38,524	1,266,171	2.91
New Brunswick Coal & Ry. Co.	103	60,379	.....	.89	.92	20,087	430,070	.20	54,860	2,584,245	.55
New Brunswick & P.E.I. Ry.	80	46,850	.....	.62	.50	19,488	375,492	.35	39,862	502,314	.44
New Brunswick Southern Ry.	105	66,922	7,085	.67	.71	16,602	758,323	.37	27,389	771,875	.38
New Westminster Southern Ry.	73	74,318	889	1.66	1.23	130,392	2,647,203	1.54	86,673	1,507,669	1.59
Nosbonsing & Nipissing Ry.	100	7,165	.....	.....	.....	.....	.....	.....	14,329	70,810	.....
Nova Scotia Steel & Coal Co.	235	15,700	.....	.32	.75	8,729	77,625	.13	6,208	70,160	.....
Orford Mountain Ry.	139	49,434	900	.55	.77	16,753	268,048	.17	27,370	410,550	1.45
Ottawa & New York Ry.	105	114,658	11,488	1.02	1.08	113,765	2,797,242	.88	95,414	3,089,663	1.28
Phillipsburg Ry. & Quarry Co.	380	2,400	.....	.68	2.59	.....	.....	.....	5,844	35,064	.63
Princeton Branch	46	10,503	291	2.38	1.12	91,308	465,671	.88	135,925	693,218	2.34
Pere Marquette Rd.	85	1,100,204	7,016	1.82	1.55	333,795	7,272,908	.61	1,849,276	339,309,377	2.18
Quebec Central Ry.	70	661,020	184,235	1.68	1.19	~~91,308~~	~~465,671~~	.80	749,675	54,598,657	1.70
Quebec & Lake St. John Ry.	74	438,459	.....	1.49	1.11	337,038	14,969,493	.83	345,458	27,639,422	2.06
Quebec Ry., Light & Power Co.	73	304,167	.....	.66	.49	1,351,094	7,060,817	.54	111,001	1,041,298	2.08
Quebec, Montreal & Southern Ry.	92	201,398	47,174	1.57	1.45	361,100	9,839,994	.82	474,141	17,281,707	1.67
Red Mountain Ry.	98	16,008	171	2.14	2.11	13,866	115,898	.72	115,381	1,055,337	3.59

(Continued on page 325.)

272,213 — 4,235,634



Hoisting Engines

WE CAN FURNISH HOISTS DESIGNED TO SUIT EVERY PURPOSE. OUR HOISTS GIVE THE MAXIMUM RESULTS AT A MINIMUM COST.

STEAM-BELT DRIVEN AND ELECTRIC HOISTS OF ALL CAPACITIES

"INDUSTRIAL" COALING AND LOCOMOTIVE CRANES

In Capacities from Five to One Hundred Tons

FOR USE ABOUT

Manufacturing Plants, Railroad Yards, Coaling Stations, Quarries, Etc.

F·H·Hopkins & Co

Successors late James Cooper

Montreal

THE ABOVE CUT ILLUSTRATES ONE OF OUR

50 TON "OTIS" ALL STEEL CARS

SPECIALLY BUILT FOR

COAL, COKE AND ORE

Our 1909 Design is an improvement on the above and an order for 500 cars has been placed by the Canadian Pacific Railway Company. Sample car can be inspected at Montreal.

THE HART-OTIS CAR CO., LIMITED

SUCCESSORS TO DOMINION DUMP CAR CO., LIMITED

MONTREAL

Steam Railway Statistics for the Year Ended June 30, 1908—*(Continued from page 323)*

Name of Railway	Proportion of Earnings to Working Expenses	Revenue Train Mileage	Mileage of Non-Revenue Trains	Earnings per Train Mile	Operating Expenses per Train Mile	Passengers Carried	Passengers Carried one Mile	Passenger Earnings per Train Mile	Tons of Freight Carried	Tons of Freight Carried one Mile	Freight Earnings per Train Mile
Rutland & Noyan Ry.	54	7,416	338	$2.58	$1.39	96,640	327,609	$1.61	336,180	1,139,650	$4.16
Salisbury & Harvey Ry.	145	18,000	.....	1.82	2.65	14,721	441,630	.65	39,250	1,177,500	1.15
Schomberg & Aurora Ry.	153	22,070	.....	.40	.62	22,456	280,700	.23	3,120	35,162	1.20
Stanstead, Shefford & Chambly Ry	100	90,166	25,868	.83	.84	193,148	1,236,654	.49	764,524	2,661,603	.96
St. Clair Tunnel	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Lawrence & Adirondack Ry.	64	228,537	3,734	1.80	1.17	364,285	9,072,181	1.32	661,248	22,147,024	2.49
Sydney & Louisburg Ry.	96	126,012	.....	3.32	3.22	51,995	691,361	.60	3,559,392	60,077,815	4.30
Temiscouata Ry.	72	162,120	10,083	1.30	.94	74,971	2,203,913	.45	148,569	5,833,821	1.59
Temiskaming & Northern Ont. Ry.	88	445,937	.....	1.80	1.59	471,787	14,984,691	1.52	434,930	28,800,119	2.55
Thousand Islands Ry.	84	39,640	.....	.85	.73	33,185	199,100	.28	30,171	181,026	.50
Toronto, Hamilton & Buffalo Ry.	78	414,076	20,853	1.91	1.51	453,123	11,455,197	.96	1,181,723	45,502,943	3.34
Vancouver, Victoria & Eastern Ry.	88	162,747	42,670	2.31	2.05	151,864	2,570,699	.88	872,122	19,051,018	2.99
Victoria & Sidney Ry.	153	21,983	.....	1.84	1.62	63,127	849,767	1.20	29,724	439,072	2.05
Victoria Terminal Ry. & Ferry Co.	87	1,541	.....	9.48	14.54	63,127	71,964	1.04	29,724	33,885	2.47
Wabash Ry. (in Canada)	88	1,517,890	22,472	1.61	1.43	563,403	35,588,586	.85	1,200,915	282,402,384	2.11
Wellington Colliery Co.	98	12,900	.....	2.93	2.89	6,327	63,270	.24	280,510	2,805,100	2.68
" (Ladysmith Extension)	100	12,440	.....	4.63	4.63	.....	.....	.....	483,347	4,804,469	4.63
York & Carleton Ry.	91	7,908	.....	.58	.53	4,700	40,000	.16	10,288	95,164	.42
Totals	...	78,637,526	4,305,164	.....	.....	34,044,992	2,081,960,864	.....	63,071,167	12,916,512,519	.....

Inverness Railway and Coal Co.

Following are extracts from the annual report for the year ended June 30, 1908: "In the face of prevailing conditions, your Board considers the result fairly satisfactory. The total output for the year is the largest in the company's history, totalling 282,639 tons, an increase of 23,914 over the preceding year. Your colliery and railway departments each show substantial increases in gross as well as net earnings. The gross earnings of your colliery were $509,336.82, an increase of $87,-531.21, while your railway earned $210,112.94, an increase of $24,726.20 compared with the preceding year. With a materially reduced deficit in the operation of the boats under charter, the net figures from operation show encouraging increases, amounting to $133,-268.34, an improvement of $87,359.15 over the previous year.

"The report of the company's General Manager, Mr. W. D. Barclay, dated July 15, 1908, herewith submitted, shows in detail the progress made in the development of the company's properties during the past fiscal year. Your directors believe that the output your mines are capable of producing with the plant available is estimated at a minimum amount by Mr. Barclay. Your directors are pleased to report, from recent advices received from your mines, that the new angle slope has been completed to the seventh level, and the first coal was hoisted on this slope on Feb. 15; that the coal, on analysis, is of better quality than that produced from the old workings; all of which indicates satisfactory working conditions during the balance of the current fiscal year, having in view the fact that a large proportion of the output during the coming season will be taken from the new slope.

"The issue of prior lien bonds, of which mention was made in your directors' last report, has not been consummated, other financial arrangements having been concluded to temporarily take care of the capital expenditure then proposed. Your directors have set aside, as a contingency account, out of the net profits for the past year, $30,000, to meet any losses unprovided for in the nature of bad and doubtful debts."

General Manager Barclay reports on the colliery at length, and says that with the completion of the 13-ft. seam tunnel and the new angle slope, the output should reach between 30,000 and 35,000 tons a month. In regard to the railway he says: "The purchase of 50 hopper coal cars this year has helped out the operation of the railway considerably. We have now sufficient rolling stock to take care of any increased output we will get next year. The balance of the rolling stock has been maintained in good condition. There has been considerable improvement made to the track this season, without any appreciable extra expense. It is now in good condition. The pier at Port Hastings is in good order."

ASSETS.

Railway and railway equipment, mines, mining plant, development, etc.		$10,496,167.30
Sinking fund, deposited with National Trust Co., to redeem 1st mortgage bonds		44,541.80
OPERATING ASSETS—		
Colliery and railway stores on hand	$ 50,881.12	
Colliery accounts and agents' and conductors' balances due	180,160.88	
		231,042.00
Income account		352,894.46
		$11,124,645.56

LIABILITIES.

Capital stock		$ 7,500,000.00
First mortgage gold bds.	$3,000,000.00	
Less held in treasury	885,000.00	
		2,115,000.00
Contingency account		30,000.00
Loans applied in developing property, secured by treasury bonds		922,903.83
Other advances to company		393,760.74
CURRENT LIABILITIES—		
Unpaid bills	$ 140,153.24	
Accrued interest on bonds, etc	22,827.75	
		162,980.99
		$11,124,645.56

INCOME ACCOUNT.

Balance at June 30, 1907		$277,390.14
DEFICITS IN OPERATION OF BOATS—		
Turret Bell	$ 36.35	
Kilkeel	3,379.29	
Renwick	4,667.77	
Inverness Bge	12.98	
	$ 8,096.39	
INTEREST ON BONDS, ETC.—		
First mortgage bonds	$105,750.00	
Bank advances	58,192.62	
Other advances	14,830.04	
Interest accrued to June 30, 1908	19,227.75	
Less accrued at June 30, 1907, paid during current year	19,227.75	
	178,772.66	
Hire of equipment	3,711.47	
		190,580.52
		$467,970.66
Transferred to contingency account		30,000.00
		$497,970.66
NET EARNINGS—		
Colliery—		
Gross earnings	$509,336.82	
Operating expenses	461,441.69	
	47,895.13	
Railway—		
Gross earnings	$210,112.94	
Operating expenses	114,565.96	
	95,546.98	
Operation Port Hastings pier	1,328.70	
Miscellaneous	305.39	
		145,076.20
DEBIT BALANCE, JUNE 30, 1908		$352,894.46

The annual meeting was held in Toronto Mar. 12. Following are the directors for the current year: President, Wm. Mackenzie; Vice-President, D. D. Mann; other directors, Z. A. Lash, D. B. Hanna, L. Lukes, E. Bristol, Toronto; R. M. Horne-Payne, London, Eng.

The Secretary of the Board of Railway Commissioners has issued a circular stating that railway companies subject to its jurisdiction which have not complied with the provisions of the Board's orders 3238, July 3, 1907, and 4685, May 5, 1908, relative to placing fire extinguishers in passenger cars, will be required to show cause, at the sittings of the Board in Ottawa on May 4, why proceedings should not be taken against them by the Board for non-compliance with its orders.

During February 22 railway employes were killed and 17 injured in the course of their work on Canadian railways. Of the fatalities, 10 were due to explosions of dynamite; 3 each to collisions, to being run over and to falling material; 2 by falls and one to being caught between cars. Of the other accidents, 4 were due to being caught between cars; 3 each to derailments and to explosions of steam; 2 each to falls, to falling material and to being run over, and one to a collision.

ACME RAILWAY EQUIPMENT CO.

PHILADELPHIA, PA.

ADOPTED ON

1,800 INTERCOLONIAL RAILWAY CARS
50 TEMISKAMING & NORTHERN ONTARIO CARS
300,000 CARS IN THE STATES

DOUBLE HANDLE CALLED FOR "Where a coupler couples by impact, but cannot be uncoupled unless the brakeman or switchman goes between, or over, or under the cars or around the end of the train, IN ORDER TO REACH THE APPLIANCE ON THE CONNECTING CAR, such a coupling is DEFECTIVE AND PROHIBITED BY LAW."—*Judge McPherson, Des Moines, Iowa.*

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.

MONADNOCK, CHICAGO

Kenora Railway Y. M. C. A.

The Railway Y.M.C.A. building at Kenora, Ont., which has been erected by the C.P.R., and furnished by the company's employes and by citizens, was opened recently, J. J. Scully, the company's local Superintendent, presiding. W. Whyte, Second Vice-President C.P.R., in turning the building over to the Y.M.C.A. management, said;

"I assure you it is a very great pleasure for me to be here this evening at the formal opening of this handsome, commodious and well-laid-out building, and I sincerely trust that the objects sought to be obtained through the medium of this building by the Y.M.C.A., the C.P.R., and all others who are interested in the welfare of men, may realized. The aim and object of the Y. M.C.A. is to do good to mankind by providing the members of the Association with means for clean, healthy amusements, recreations and with athletic games and exercises, believing that after the body has been got into a clean and healthy condition, the mind will then be in a better condition to receive and digest secular, moral and spiritual food. The Y.M.C.A. has demonstrated, to my mind, at all events, that they are a great power and influence for the uplifting of humanity, and railway companies and other corporations who employ large numbers of men, have realized that it is a good investment to subscribe towards the building, operating and maintenance of edifices for the Y.M. C.A., and it is my earnest hope that this institution may be productive of much benefit to its members by making better citizens of them, and thereby benefitting the community in which they live, and giving to their employers better and safer men.

"A railway club was recently inaugurated in Winnipeg, and at its first regular meeting I was asked to deliver a short address to its members. I spoke a few words on that occasion on what I consider the essentials that lead to success, and as this audience is largely composed of railway employes and young men, it might not be out of place to repeat some of the remarks I made on that occasion. I have spent the whole of my life in the railway service, starting when in my teens and beginning at or very close to the lowest rung of the railway ladder, and I have filled a number of different positions in the railway, therefore, my remarks are based upon actual experience. The railway service, to my mind, is one, if not the most, important of all businesses. In fact, it is becoming, if it has not already become, a profession, by reason of the high qualifications which are necessary to fill any position of importance. It is also exacting by reason of the attention and application necessary to meet the requirements of well-managed, up-to-date systems. Therefore, application is one of the essentials. The man who is a plodder, even though he may not be gifted with the ability that some of his fellow-employes possess but who are lacking in application, will succeed when the others fail. Reliability is another important essential. The man of clean habits, who can be depended upon at all times, will not pass unnoticed. Education, I place behind application and reliability, not because I do not believe in higher education, but that is not an absolute necessity to success. The young man starting out in life with clean habits, a fair education and who will apply himself wholeheartedly to what he is given to do is bound to succeed. I know of no power or influence to keep him back. That young man will also find the time to improve his mind, because he will realize that in order to reach the higher and the highest positions it will be necessary for him to improve his mind. I have said that the railway service is exacting, and the officers of the company who are here will agree with me that the nature of the work has to be most accurate. This remark has special reference to the issuing, handling and executing of train orders, because human life and valuable property are at stake. At the same time, the field for advancement is larger and more open than in, I believe, any other commercial pursuit. I have endeavored to point out the necessity of clean habits, and I would like to still further emphasize this point by stating that day by day civilization is demanding more of each one of us. No man of bad habits can do good work—every one's work speaks for or against him—no man with bad habits can do much work of any kind, or any work of a good kind—look at a man's work if you would know his habits—a man's habits are known by the work he does. If you desire to keep your habits clean, carefully watch the beginning of bad habits, for a bad habit has a velvet foot. It steals upon one softly unawares——first it charms—next masters—then destroys you. In the moral philosophy one studies at college, this illustration is given, 'Neglect your conscience for only two weeks and it begins to disappear; obey its faintest whisper for two weeks and it becomes as delicate as a woman's blush.'

"I thank you for the kind attention you have given my remarks, and before resuming my seat I wish to say that I sincerely trust that the management of this institution will at no time weary in well-doing, but will continue from the evidences of the good results to carry on the good work with renewed energy and interest.

"A previous speaker has pointed out the harm carping criticism may do the institution by any of its members who have a cause for complaint talking it aloud on the street corners to all and sundry. He should make known his complaint to the Secretary or the executive and lay the case clearly before them, and if there is a good ground for complaint I feel certain the management will remove it. No matter how much may be spent on the architectural effect of a building, or the facilities for comfort and amusement, if the management is not of the proper kind it will not be a success. Therefore, the success of this institution depends almost entirely upon the management of it. I take great pleasure in turning this building over to the Y.M.C.A."

The building, which is 45x120 ft., is of white brick and stone. There is a basement and three floors. The building is well constructed and splendidly finished, being of the best. The building and furnishings cost upwards of $40,000. On the main floor on entering is the lobby which is very spacious and is provided with a large fireplace. It is used as a smoking and lounging room and in one corner is located the Secretary's office. About one-third of the main floor is taken up with a large social and game room, and a reading room where are found a piano, checkers, chess and dominoes, also being provided. The reading room is thoroughly furnished with the best in the line of daily and weekly papers and monthly periodicals, including the Railway and Marine World, special attention being given to the needs of the employes. At the other end of the main floor is a dining room with a seating capacity of 50. It is kept open day and night, meals being served at the lowest possible rates. Bowling alleys and pool tables are located in the basement, and are very popular with the members. Shower baths and lavatories occupy one corner of the basement with an abundance of hot water, where the men enjoy cleaning up. The two top floors are entirely devoted to dormitories, which, when fully completed, will accommodate 65 men. When this was written (April 5) one floor only was completed. It accommodated 32. Lavatories and bathrooms are also provided on the sleeping floors. The building is heated with steam and brilliantly lighted with electricity.

RAILWAY Y.M.C.A. BUILDING, KENORA, ONT.

Within one week after the opening of the building 250 applications were received for membership, which indicates the appreciation on the part of the men of the comforts and conveniences so amply provided.

It is reported that Russian laborers are being taken to Prince Rupert, B.C., to work on G.T.P. Ry. construction.

The C.P.R. placed a special train at the disposal of the Canadian Press Association, for a trip from Toronto to Peterboro recently. At the conclusion of the trip the newspaper men gave G. H. Ham, of the C.P.R. head office staff, a case of cutlery; R. L. Thompson, District Pasenger Agent, and D. Carmichael, Assistant Superintendent, cut glass berry bowls.

An order-in-Council has been passed bringing into operation on the Intercolonial and the Prince Edward Island Rys. new regulations for the transportation of explosives and inflammable articles. The new rules are the same as are in force on the G.T.R. and C.P.R. and are in accordance with the rules adopted by U.S. lines, and approved by the Inter-State Commerce Commission.

"AMERICAN"

"AMERICAN" BRIDGE ERECTORS' ENGINE

Steam and Electric Hoists
Locomotive Cranes and
DERRICKS

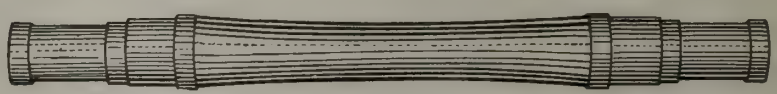
Designed for Every Purpose
Built for the Discriminating Buyer

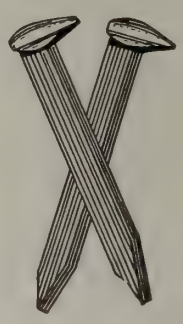
WRITE FOR CATALOGUE "R M"

AMERICAN HOIST & DERRICK CO.
ST. PAUL, U.S.A.

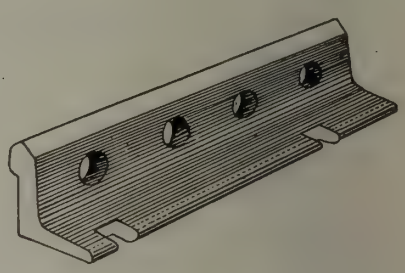
CHICAGO NEW YORK PITTSBURG NEW ORLEANS SAN FRANCISCO

The Hamilton Steel & Iron Co.
HAMILTON, CANADA LIMITED





Railway Axles
Angle Bars
and Track Spikes
Tie Plates



FORGINGS—MARINE AND RAILROAD

In Rough, Rough-turned or Smooth Finished. Specialty of Heavy Forgings.

PIG IRON, IRON AND STEEL BARS

Railway Commissioners' Traffic Orders.

6612 and 6613. Feb. 23.—In the matter of the complaint of J. A. Meddaugh, of Vancouver, B.C., respecting the Vancouver, Westminster & Yukon Ry's rates on lumber from B.C. to Manitoba, and of the complaint of the B.C. Mills, Lumber & Trading Co., of Burnaby, B.C., alleging excessive rates charged by the V.W. & Y.R. from Vancouver to Burnaby, B. C. Upon hearing the applications and what was alleged on behalf of the applicants as well as the railway company, and the parties agreeing, as appears by a memorandum attached to the file, it is ordered that the Great Northern Ry. Co., operating the Vancouver, Westminster & Yukon Ry., shall forthwith file and publish rates on lumber, shingles, and articles taking the same rates via New Westminster or Vancouver in connection with the C.P.R. Co., as follows: From points on the Vancouver, Victoria & Eastern Ry. & Navigation Co.'s line between Vancouver and New Westminster, not inclusive, to points on the C.P.R. west of Winnipeg, except such points as may be routed direct by the G.N.R. Co. and its connections; rates based upon 1c per 100 lbs. higher than rates maintained from Vancouver by the C.P.R. Co.; the Vancouver, Victoria & Eastern Ry. & Navigation Co. to be allowed 2 1-2c per 100 lbs.

SLEEPING AND PARLOR CAR TARIFFS.

6689. Mar. 29.—Whereas, by order 6196, dated Feb. 9, 1909, the Board prescribed a uniform size and numbering of sleeping and parlor car tariffs; and it appears that the tariffs already filed with the Board do not in all cases comply with the provisions of the order and with the requirements of secs. 330 and 331 of the Railway Act; It is ordered that every railway company subject to the legislative authority of the Parliament of Canada file for the approval of the Board a tariff of additional maximum tolls, no greater than tolls now being charged, to be charged for the carriage of passengers in sleeping or parlor cars on its railway, to be entitled "Standard Tariff of Maximum Sleeping and Parlor Car Tolls," and numbered C.R.C. No. S.1. That the said tariff specify the standard maximum tolls to be charged for each seat, berth, section, compartment, and drawing-room for all distances covered by the company's railway; but that such distances may be expressed in blocks or groups, which may include relatively greater distances for the longer than for the shorter hauls. That the said standard tariffs, if and when approved by the Board, be published in The Canada Gazette, in the manner prescribed for standard passenger tariffs in sec. 331 of the Railway Act. That special tariffs of sleeping and parlor car tolls may be published and filed in the manner prescribed for special passenger tariffs in secs. 330, 331, 332 and 339 of the Railway Act. That under sec. 338 of the Railway Act, the filing and publication of joint tariffs of sleeping and parlor car tolls by foreign railway companies not operating in Canada, be, and they are hereby, excepted. That the said standard tariffs of sleeping and parlor car tolls be filed for the approval of the Board not later than June, 1909.

PAYMENT FOR COAL CAR DOORS.

6701. Feb. 19.—In the matter of the complaint of J. J. Denman and others of the Province of Alberta, complaining of unjust treatment accorded to them by the Canadian Northern and the C.P.R. Co's. in compelling complainants to furnish doors or boards for interior of doorways of cars supplied to them for shipments of coal: Upon hearing the complaint in the presence of counsel for the complainants and the railway companies; and upon hearing what was alleged by counsel aforesaid, it is ordered that where shippers upon all or any railways subject to the jurisdiction of the Parliament of Canada, are compelled to furnish car doors to enable cars to be used for traffic, allowance be made upon the following basis: (1) Lower car door, $1; (2) Upper car door, 50c, and adjustment upon the above basis shall be made by the agent at or nearest to the point of shipment by (a), at the time of shipment, payment to the shipper of the account out of funds of the railway company of which he is agent, in his hands; or (b) the shipper may deduct from the freight charges (if any) payable by him upon the shipment in such car, for which the said door or doors were so supplied, the amount of such bill upon the foregoing basis, receipting the same, and turning the account into the agent as so much cash.

RATES ON TELEGRAPH, TELEPHONE AND TROLLEY POLES.

6702. Mar. 25.—In the matter of the complaint of J. McKenzie of Ormsby, J. A. Scobell of Kingston, the Rideau Lumber Co. of Ottawa, and others, complaining that the freight rates charged by railway companies on telegraph, telephone, and trolley poles are unjustly discriminatory with respect to the rates charged on lumber and other forest products, the Board's Chief Traffic Officer made the following report;—

"Prior to the issue of order of July 30, 1904, Scobell vs. Kingston & Pembroke Ry. Co., telegraph poles were not rated in the Canadian Freight Classification, but were specified for carriage by special contract only. By that order wooden telegraph, telephone, and trolley poles were added to the list of commodities which are included in the Canadian Classification under the heading of 'lumber.' The classification now reads as follows:—

	L.C.L.	C.L.
Logs, masts, piles, spars, telegraph, telephone and trolley poles, timber and traverses.....	4	10

"Under the classification, the minimum carload weight for 10th class traffic is 30,000 lbs. per car of not over 36½ ft. inside or platform length, and that is the minimum charged for short poles on single cars; on long poles rule 1 (c) provides that long poles requiring two or more cars for carriage are charged the 10th class minimum of 30,000 lbs. for the first car, and two-thirds of the classification minimum, or 20,000 lbs., for each additional car over which the poles extend. That order did not mean that the companies were to charge 10th class rates and none other on poles, any more than on lumber and other forest products which are generally carried at commodity rates; the intention was to abolish the special contract privilege as tending to variation and discrimination. Whether or not, as a result of that order, taken in connection with the remark of the Chief Commissioner in the judgment that the second ground of complaint that the rates upon telegraph poles were excessive in that they were higher than the rates on ordinary lumber, the Board was not satisfied that this matter of complaint had been fully and sufficiently argued, the companies, in the following November, issued new tariffs on forest products, in which the ordinary 10th class rates, under the Canadian Classification, were substituted for the special mileage scale which had previously been in force. That old mileage scale, applicable, by the way, between the stations of one company only, made the rates on telegraph, telephone, and trolley poles 20 per cent. higher than the rates on common lumber; also, under that scale, the minimum weights for long poles requiring two or more cars were 30,000 lbs. on the first car, or the same as for single cars, and 20,000 lbs. for each additional car, so that the carload minimum weights then were practically the same as they are now.

"It was stated at the hearing, by Superintendent Donaldson of the G.T.R. that on his division (the old Canada Atlantic and O.A. & P.S.) the pole shipments numbered probably 1,500 cars a year, and that about 85 per cent. were short poles carried on single cars. It also appeared from the evidence that the risks of transportation which the companies considered entitled them to higher rates on poles than on lumber pertained to the long poles rather than to the short ones. These risks, however, seem to be attributable very largely to the lack of inspection and the non-observance of the M.C.B. Association rules governing the loading of lumber, logs, poles, etc., on open cars, No. 30 of which reads as follows:—

"'All material carried on two or three cars must always be examined by a competent inspector before the cars are moved from the loading point. If an inspector is not stationed at the loading point, the agent must give notice to the proper authority when the cars are loaded, so that proper inspection may be arranged for. The object of such inspection is to see that these regulations have been complied with.'

"The M.C.B. rules give detailed instructions as to the loading of logs, poles, etc., the size of stakes, tie wires, etc., and are accompanied by explanatory diagrams, and if these rules are strictly complied with, there would seem to be no reason why telegraph poles, under ordinary conditions, should not be safely carried. Similar risks are incurred with respect to improperly staked lumber, and the evidence seemed to me to prove that the difficulties complained of should be preventable by rigid inspection rather than by the imposition of higher rates. Whether the rate be low or high, the risk exists—possibly the higher the rate the greater the risk, as shippers would probably be inclined to greater carelessness on the theory that they were paying the companies well for any extra duties thrown upon them. It was also stated, as a reason for the higher rates, that empty cars had often to be hauled considerable distances for loads, whereas box cars may be immediately available for lumber shipments; but this same empty movement of flat cars is frequently necessary in the case of lumber and machinery shipments, racked cars for bark, flats for logs or square timber, etc.

"As regards the practice elsewhere; the C.P.R. carries both long and short poles on its main and branch lines in British Columbia, at the same rates as charged for lumber, but the minimum carload weights are not so favorable as in the east. These minimums are somewhat variable, but in most cases the long poles are carried at a minimum of 30,000 lbs. for each car used. It is true that the rates in B.C. are greater than in eastern Canada, but so also is the cost

POLSON IRON WORKS

LIMITED

TORONTO, CANADA

Steel Shipbuilders, Engineers and Boilermakers

Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers. . . . .

OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO

N. CURRY, President
N. A. RHODES, Vice-President

CAPITAL $1,000,000

J. M. CURRY, Sec.-Treas.

RHODES, CURRY & CO.

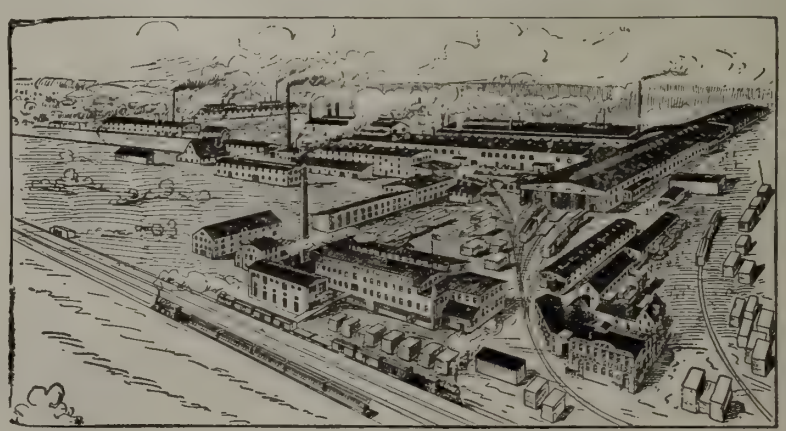
AMHERST, NOVA SCOTIA LIMITED

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels



Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

of haulage. As the companies do not file their local tariffs with this Commission, I have not the means of knowing what the local rates of the companies operating in the United States may be, except in the case of the Michigan Central, whose local commodity tariff on lumber and forest products, G.F.D. No. 7576, effective July 7, 1908, I have before me. This tariff applies between all stations on the Mackinaw Division and branches north of Bay City, Mich., and it applies on telegraph and telephone poles, as well as on lumber and the other forest products which are usually carried at lumber rates. The minimum weight is in accordance with the Official Classification, which provides a minimum of 34,000 lbs. for single cars, and only 50 per cent. or 17,000 lbs. for each additional car. The rates also are lower than charged by the same company between its stations in Canada, and by the other Canadian companies. I have examined a number of joint tariffs on forest products between two or more companies within the U.S., and these cover telegraph poles also.

"In my opinion, taking into consideration the fact that lumber rates are applied on short timber, logs, ties, fence posts, and the like; the evidence and the practice elsewhere; the rates charged on short poles in eastern Canada are unjustly discriminatory with respect to the rates charged on other forest products loaded on single cars, and that the companies in eastern Canada should be required to carry wooden telegraph, telephone, electric light, and trolley poles, on single cars, at the same local and joint rates as lumber, when not subject to uncontrollable competition; or, in the words of the Board's order in the case of Gillies Bros. and the Rideau Lumber Co., dated Aug. 1, 1906, that the tolls 'shall not be higher than the tolls provided in the special (local and joint) tariffs of the companies to apply on common lumber; except that it shall not be obligatory on the companies to charge thereon such tolls as may be made necessary by the competition of carriers not subject to The Railway Act when such competitive tolls are lower than the lowest special tariff of tolls between the same points on common lumber issued under ordinary transportation and trade conditions.' I think also that the phraseology of that order should apply with respect to shipments of poles from points in Canada to points in the U.S. between which joint rail rates on general traffic are, or may be, made by the Canadian railway companies with the concurrence of their U.S. connections.

"As regards poles too long for a single car and requiring more than one car for their carriage, I believe the companies are reasonably entitled to higher rates than for single cars, and I would recommend that the scale used by the companies themselves prior to Nov., 1904, be prescribed, namely 20 per cent. higher than for single cars, the minimum weights to be in accordance with rule 1 (c) of the Canadian Classification, and in the computation of the additional rate the fractions to be disposed of as follows, namely:—.25 and under, nil; .26 to .75 equal ½c.; .76 and over equal 1c.; the rates in no case to exceed the 10th class rates between the same points."

In commenting on the above the Chief Commissioner said:—"The impression I formed at the hearing was that, although there was some extra risk in the carriage of poles, yet that no reason existed why they could not be safely loaded if proper care were exercised. I think an order should issue embodying the recommendations of the Chief Traffic Officer."

The order was therefore made as follows:—

1. That the tolls and minimum carload weight charged by railway companies subject to the legislative authority of the parliament of Canada and operating lines of railway in Canada east of Port Arthur, Ont., on wooden telegraph, telephone, electric light, and trolley poles loaded on single cars, be not greater than the tolls and minimum carload weight provided in the special (local and joint) tariffs of the companies to apply on common lumber; except that it shall not be obligatory on the companies to charge thereon such tolls as may be made necessary by the competition of carriers not subject to the Railway Act, when such competitive tolls are lower than the lowest special tariff of tolls between the same points on common lumber issued under ordinary transportation and trade conditions.

2. That, with respect to poles too long for a single car and requiring more than one car for their carriage, the said companies be authorized to charge not more than 20 per cent. higher than for single cars and not more than the 10th class rates; the minimum weight for the first car to be the same as herein prescribed for single cars, and for each additional car over which the load extends two-thirds of the single car minimum, the longest car in the series to be considered the first car.

3. That in the computation of the additional rate on long poles, the fractions be disposed of as follows, namely; .25 and under, nil; .26 to .75 equal ½ cent; .76 and over equal 1 cent.

4. That the provisions of this order apply also to shipments of poles from points in Canada to points in the United States, between which joint rail rates for general traffic are, or may be, made by the Canadian railway companies with the concurrence of their U.S. connections; the minimum weights to be in accordance with rule 7 of the "Official" Classification, or as it may be modified by the joint tariffs, if any, on lumber between the same points, and the 6th class rates to be the maxima.

The Board has signified its desire that the provisions of the order be made effective on traffic between points in Canada not later than May 1, and on traffic to the U.S. not later than June 1, and that tariffs be so amended.

COAL RATES FROM BIENFAIT, SASK.

6749. Feb. 11.—In the matter of the complaint of the Board of Trade of Alameda, Sask., complaining that the rate charged by the C.P.R. Co. on coal shipments from Bienfait to Alameda is excessive; and that the carload minimum of 20 tons is unreasonable: Upon hearing the complaint in the presence of counsel for the complainant and the railway company, and what was alleged; and upon the report of the Chief Traffic Officer of the Board, it is ordered that the railway company be directed to substitute for its present rates on coal, in carloads, from Bienfait, Sask., to the points named, the rates per ton of 2,000 lbs. following, namely:

To Hirsch, Sask.	$ .50
" Frobisher, Sask.	.60
" Alameda, Sask.	.70
" Oxbow, Sask.	.75
" Glen Ewen, Sask.	.80
To Carnduff, Sask.	.85
" Carievale, Sask.	.85
" Gainsborough, Sask.	.90
" Pierson, Man.	.90
" Elva, Man.	.95
" Melita, Man.	.95
" Napinka, Man.	1:00
" Lauder, Man.	1.05

And it is further ordered that the rates from other stations or collieries contiguous to Bienfait, and to all other stations where dislocation of customary bases may ensue from the changes ordered, be graduated proportionately to those from Bienfait and to the points of consumption herein designated. And it is further ordered that the application for a reduction in the minimum weight of 20 tons per car be dismissed.

PLANKING OF LIVE STOCK SHIPMENTS.

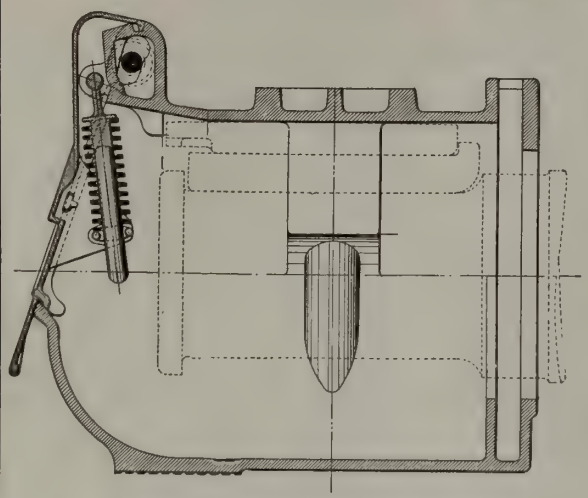
6763. Feb. 19.—In the matter of the complaint of the Live Stock Commissioner of Edmonton, Alta., and shippers of live stock, that where they are unable to secure from the railway companies stock cars for the movement of stock, box cars are supplied and planking has to be placed across the doorways, which the companies' agents refuse to supply and which entails an expense to the shippers of $2 a car for planking: Upon hearing the complaint in the presence of counsel for the C.P.R., the C.N.R., and the G.T.P.R. Cos. the complainants being represented at the hearing, and what was alleged: It is ordered that where shippers have ordered stock cars for the shipment of live stock and are supplied with box cars, and are obliged to furnish lumber for temporary doors thereof, the shipper may deduct and retain $1.25 from the freight charges, if any, payable by him upon the shipment in each such car, for which the said lumber is so furnished, receipting the same and turning the account in to the agent as so much cash; or he may render to the agent of the company at or nearest to the point of shipment, an account for the actual outlay for the said lumber, which account the said agent shall pay at the time of shipment, out of the funds of the company in his hands.

GRAIN RATES FROM PRINCE ALBERT TO B.C.

Chief Commissioner Mabee gave the following judgment April 6 in the case of the Prince Albert Board of Trade vs. the Canadian Northern and Canadian Pacific Railway Companies: The question in this case is whether the joint tariff of these companies from Prince Albert to British Columbia points of 50c per 100 lbs. upon grain and grain products is unreasonable. Prior to the acquisition of the Q'Appelle, Long Lake & Saskatchewan Ry. by the Canadian Northern, it was controlled by the C.P.R. Co. and a through rate was given via Regina from Prince Albert to B.C. points of 45c per 100 lbs. upon grain and grain products. The route now is via Strathcona, and the combination of the locals of the two companies is 56½c, the Canadian Northern local to Strathcona being 24c, and the C.P.R. from that point 32½c; the through joint rate, therefore, is 6½c less than the sum of the locals. The proportion of the through 50c rate which the C.N.R. receives is 20c, which is 4c less than its local to Strathcona; so gauged by these standards the existing through rate can hardly be considered unreasonable. The further and larger question remains for consideration, whether, without more, the former rate of 45c should be restored. This feature was not argued in this case, and it is better, perhaps, that no opinion be now

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



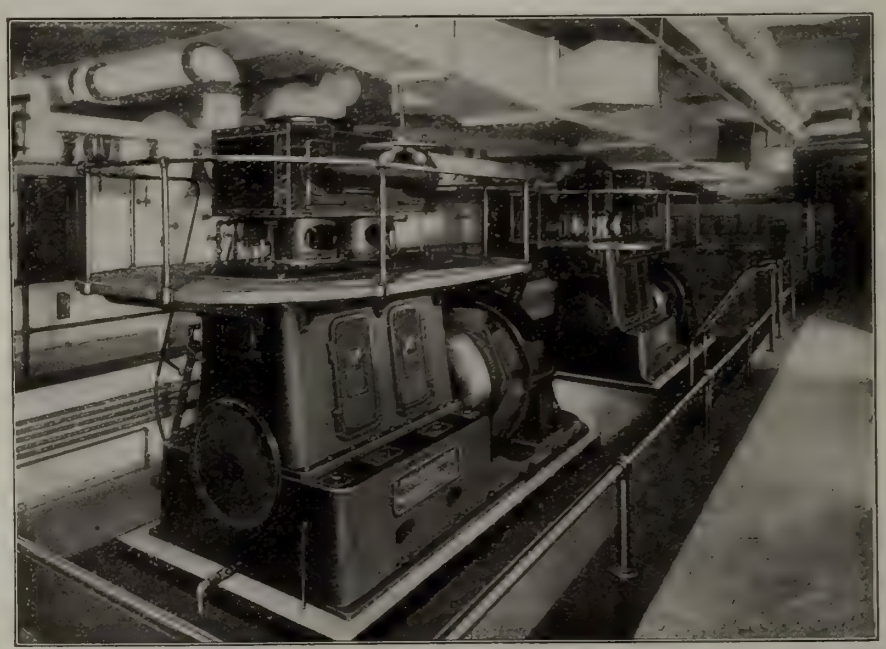
The Strongest, Lightest, Tightest Box Made

The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCORD Force Feed Lubricator

McCORD & COMPANY
Old Colony Building, Chicago

THE HOLDEN CO., Limited
302 St. James Street, Montreal



HIGH-SPEED VERTICAL ENGINES

of the English enclosed type with pressure oiling system, installed by us at the

TRADERS BANK
TORONTO

ROBB ENGINEERING CO., LIMITED, AMHERST, N.S.

DISTRICT OFFICES:
Traders Bank Building, TORONTO, Wm. McKay, Manager.
Bell Telephone Building, MONTREAL, Watson Jack, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.

expressed. Much can be said both for and against the proposition that upon a change of ownership or control of a connecting line joint rates should be established which should not be higher than the through rates existing prior to the change of ownership or control. This matter, however, may for the present remain for future consideration. The application must be refused.

RATE FOR BLANKETS TO WINNIPEG.

6815. Feb. 1.—In the matter of the application of the Winnipeg Jobbers and Shippers' Association for an order directing the railway companies to provide carload rating on blankets from points in Eastern Canada to Winnipeg. Upon hearing the application in the presence of counsel for the C.P.R. and the C.N.R. Companies the applicants being represented at the hearing, and what was alleged; it is ordered that the application be dismissed.

GRAIN RATES TO FORT WILLIAM AND PORT ARTHUR.

6834. Feb. 3.—In the matter of the complaint of the Manitoba Grain Growers' Association, alleging that the C.P.R. and C.N.R. Companies charge excessive freight rates on bulk headed cars of grain going to Fort William and Port Arthur, Ont.; and applying for an order directing the said railway companies to reduce their charges on the said shipments: Upon hearing the application in the presence of counsel for applicants and the railway companies, the evidence adduced, and what was alleged—it is ordered that the application be dismissed.

LUMBER RATES, BRITISH COLUMBIA TO EDMONTON.

6835. April 6.—In matter of complaint of Fullerton Lumber & Shingle Co. of Vancouver, complaining against rate of $10 a car charged in addition to rate to Strathcona, Alta., on lumber shipments from British Columbia mills to Edmonton; Upon hearing complaint at sittings of Board held at Edmonton, Vancouver, and Ottawa, in presence of counsel for applicant, C.P.R. and C.N.R. Co's., the evidence adduced, and what was alleged; and upon report and recommendation of Board's Chief Traffic Officer; It is ordered that C.P. and C.N.R. Companies be directed to publish and file joint class and commodity tariffs of rates on freight traffic in classes 6 to 10, inclusive, of Canadian Classification, between Edmonton and all points on C.P.R. except Strathcona, via Strathcona Jct., on basis of 1c per 100 lbs. over and above C.P.R. class and commodity rates to or from Strathcona; and that in the divison thereof, the C.N.R. Co. be allowed a proportional rate of $10 a carload, regardless of weight, between Strathcona Jct. and any or all sidings in Edmonton, including those owned by C.P.R., but excepting the Griffin packing house, to or from which the C.N.R. be allowed $12 a carload, regardless of weight; provided that in no case shall proportion allowed the C.N.R. exceed joint rates charged for local traffic between Strathcona and Edmonton.

WIRE FENCING RATES.

6844. Apr. 6.—In matter of application of Canadian Freight Association for order granting permission to substitute for existing commodity rates on wire fencing and netting, in carloads, from Hamilton, Windsor, and Walkerville to points east of Toronto, the class tariff rates thereon, subject to existing commodity rates to Montreal and Ottawa as maximum, viz., 18½c per 100 lbs. from Hamilton and 22c per 100 lbs. from Windsor and Walkerville; and to substitute class tariff rates for remainder of existing commodity rates on wire fencing and netting from Hamilton, Welland, Stratford, Owen Sound, Windsor and Walkerville; Upon hearing application, and what was alleged by counsel for C.P.R. and representatives of Canadian Freight Association and Canadian Manufacturers' Association; and upon report and recommendation of Board's Chief Traffic Officer, it is ordered that the application be granted, except that carload commodity rates from Hamilton, Windsor and Walkerville to points east of Toronto, be scaled as follows:

To G.T.R. Points	To C.P.R. Points.	From Windsor and Walkerville.	From Hamilton.
Scarboro Junction to Whitby	Agincourt to Myrtle	19	10
East of Whitby to Port Hope	East of Myrtle To Peterboro	19	12
East of Port Hope to Belleville	East of Peterboro to Ivanhoe	20	14
East of Belleville to Kingston	East of Ivanhoe to Sharbot Lake	20	16
East of Kingston to Cornwall	East of Sharbot Lake to Finch, Prescott, and Brockville	21	17
East of Cornwall to Montreal, Valleyfield and Ottawa	East of Finch to Montreal, and north of Smiths Falls and Kemptville to Ottawa	22	18½
		cents per 100 lbs.	

The said carload commodity rates to take effect not later than April 26, 1909.

TIME FOR UNLOADING CHARCOAL.

6849. Dec. 22, 1908.—In the matter of the application of McDiarmid & Gall, of Montreal, for an order directing railway companies to make an allowance of 72 hours for unloading charcoal in carloads, instead of 48 hours allowed by the Canadian Car Service Bureau rules. Upon hearing application in presence of counsel for applicants, the C.P.R. and the G.T.R., the Canadian Car Service Bureau being represented at the hearing; and upon the evidence adduced, and what was alleged; it is ordered that the application be refused.

GRAIN SWITCHING, ST. BONIFACE TO WINNIPEG.

6859. Feb. 6.—In the matter of the complaints of the Northern Elevator Co., Ltd., and the Anchor Elevator & Warehousing Co., Ltd., of Winnipeg, alleging excessive charges made by C.P.R. for switching "in transitu" grain from St. Boniface transfer track to applicants' elevators on the C.P.R. at Winnipeg and return to same transfer track for re-delivery to C.N.R. Upon hearing complaint in presence of complainants and counsel for the railway companies, and what was alleged; it is ordered that on grain carried via Winnipeg at the lawfully published and filed through rate, with the privilege of stopping in transitu for the purpose of manufacture, storage, or treatment, on the tracks of another railway company within its yard limits at Winnipeg, and on which the additional "stop-over" charge, duly published and filed (if any be made), does not exceed 1c per 100 lbs., the further additional tolls collectible by the company on whose tracks the industry or warehouse is situated, for switching the said grain from the point of interchange at Winnipeg or St. Boniface to the proper unloading tracks, and for reswitching the said grain, or the product thereof, back to the said point of interchange, shall not exceed $5 per carload, regardless of weight, in each direction; the said tolls to become effective at Winnipeg not later than May 17 next, and to be shown in the grain tariffs which provide for "stoppage in transitu" at Winnipeg for the purposes herein indicated, as well as in the tariffs of interswitching tolls.

A Railway to Hudson Bay

Among the votes on capital account passed by the Dominion Parliament is one of $65,000 to provide for survey and location of a line from the Saskatchewan River to Hudson Bay. The Minister of Railways explained that all the information as to the progress of surveys already made had been laid before the House. The main question raised by this information was as to whether Fort Nelson was not a more favorable harbor than Fort Churchill. The Government desired that the best possible harbor should be utilized, and the present vote of $65,000 was to have further surveys made at Fort Nelson and Fort Churchill. The preliminary report of the survey showed that the route to Fort Nelson was 60 miles shorter than that to Fort Churchill, while the country through which the lines would pass were about equal in point of quality. If the harbor at Fort Nelson was as good or better than that at Fort Churchill, it would be foolish to construct the additional 60 miles of line. The Government had no idea of abandoning the project, and would proceed with construction at the earliest possible moment that the conditions would warrant.

In connection with the suggestion to develop Fort Nelson as a possible terminus of the railway to Hudson bay, an Order-in-Council has been passed reserving a strip of land two miles deep along the northwest side of Nelson River, and its estuary, between Seal Island and Black Creek, a distance of about 15 miles.

In reply to questions as to the money available for construction, which is to be provided out of a fund created by the sale of pre-emptions the Minister of the Interior said the payments on these did not become due for three years, so that no money had been received. There had been about 2,000,000 acres taken as pre-emptions. Whatever had been paid in on account of purchased homesteads, upon which the first payments are made with the entry, will be in the Treasury, and could not be considered as available for construction purposes, but what the amount was, he could not say. (Apr., pg. 251.)

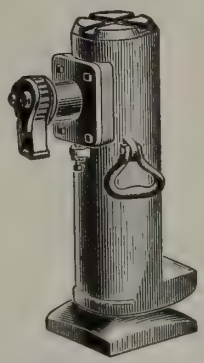
The G.T.R. on April 1, placed a third-class car on one of its daily trains each way between Montreal and Toronto, thus complying with the Privy Council's judgment that it must, as its charter provides, give "a penny a mile" rate between Toronto and Montreal. On several occasions the cars started out without passengers, and on no occasion have they been largely patronized.

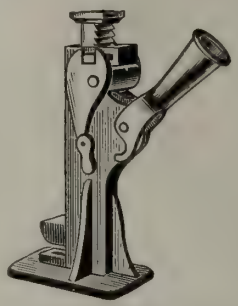
NORTON JACKS

Are Made in Canada and Save You Delay and Duty on American Made Jacks.

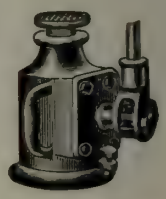
50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY

Sectional View


Foot Lift Jack


15 Ton Track Jack

Traversing Jack


Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

Wire Rope

We manufacture and carry a complete stock of wire rope suitable for all requirements.

Ballast Cables, Wrecking Ropes
Switch Ropes

WIRE ROPE FITTINGS OF ALL DESCRIPTIONS

The Dominion WIRE ROPE Co., Limited
MONTREAL

C. P. R. Betterments, Construction, Etc.

Place Viger Extensions.—The merging of Montreal breweries, with C. R. Hosmer, one of the C.P.R. directors, as a director, may have some effect upon the company's plans for the extension of the yards at Place Viger, Montreal. The properties purchased by the C.P.R. adjoining the Place Viger yard practically surrounded the property of one of the breweries, and it is understood that the merger will bring about the transfer of the property in question to the C.P.R.

Prescott Round House.—Considerable damage was done by fire to the company's round-house at Prescott, Ont., recently, and two, out of the three locomotives in it, were burned.

Brockville Improvements.—Press reports state that C.P.R. engineers were in Brockville, Ont., April 10, taking measurements and levels in the tunnel which runs under the city, connecting the upper yards with those on the water front. It is said that the work is being done with a view to submitting a plan for its enlargement, so as to permit the largest locomotives and cars in the service to pass through it.

Campbellford, Lake Ontario and Western Ry.—A meeting of representatives of municipalities through which this projected line will pass was held at Cobourg, recently, when a resolution was passed appointing a deputation to wait on C.P.R. officials to urge the necessity of undertaking the construction of this line at an early date.

West Toronto.—The question of the closing of the bridge over the Weston Rd., West Toronto, is under consideration by the Council. General Superintendent Oborne stated to the Council it was the company's intention to build a station between Bruce St. and Royce Ave., and in order to do this it was necessary to close up the bridge. The company proposed to construct a foot subway from Cawthra Ave. to Union St. and a foot bridge at Pacific Ave., and to close up the Jane St. crossing. Objection was made to the closing of the bridge, as it was very largely used for vehicle traffic, and it was a curiosity to see a foot passenger going over it.

Guelph and Goderich Ry.—The Dominion Parliament has extended the time for the construction of branch lines.

Tillsonburg, Lake Erie and Pacific Ry.—The C.P.R. has withdrawn plans filed showing the location of this projected line through Stratford. With the withdrawal of the plans the company's application to the Dominion Parliament for an extension of time for the construction of the line is being proceeded with.

Walkerton and Lucknow Ry.—The Dominion Parliament has extended the time within which the company may construct its projected railway.

Fort William Lines.—The Dominion Parliament has confirmed an agreement between the company and the G.T. Pacific Ry., respecting the joint use of certain lines already constructed or to be constructed at Fort William, Ont., by the two companies.

Western Lines Construction.—Contracts are reported to have been let to Foley, Welsh and Stewart for the construction of 40 miles northerly of Cheadle, Alta.; for 28.5 miles northerly from Kipp to Little Bow River, Alta.; and for 35.5 miles easterly from near Lacombe, Alta. A contract is also reported to have been let to Dutton and Finson for the construction of 20 miles westerly from Weyburn, Sask.

Kootenay Central Ry.—The Dominion Parliament has granted an extension of time for the construction of this projected railway.

Kootenay and Arrowhead Ry.—In the course of the discussion before the Railway Committee of the House of Commons, recently, it was stated that as soon as the act granting an extension of two years for the construction of the Kootenay Central Ry. had been passed, the men employed upon its construction had been taken off, and put to work on the K. & A. Ry. The portion of the company's line to be constructed is about 40 miles long, and when completed it will provide an improved connection between the C.P.R. main line and the Crow's Nest branch, as well as tap the Lardeau district, B.C. (Apr., pg. 255.)

G.T.R. Betterments, Construction, Etc.

Portland Wharves.—Plans are being prepared for the reconstruction of the company's wharf and sheds at Portland, Me., which were burned some time ago. The wharf will be rebuilt on the old lines.

Freight Yards at St. Lambert, Que.—Plans have been filed for the laying out of freight yards covering an area of about 100 acres at St. Lambert. No decision has been announced as to when work will be started on the laying out of the yards. The plans for the layout show a general yard a short distance from the end of Victoria bridge, just beyond St. Lambert station, covering about 25 acres. This yard will be used for storing purposes. Beyond this to the east will be situated the westbound sorting yard and the eastbound receiving yard, alongside each other, with the caboose tracks between them, while further along the main line will be the eastbound sorting and departure yard and the westbound receiving yard arranged in a similar manner. Between the general yard and the westbound sorting and departure and the eastbound receiving yards, will be space for stores and supplies, while the space between the second and third groups will be employed for scales and cinder pits. The various yards will be well equipped with tracks, and a run-around track will encircle the whole series of yards. Along the southern side of the yards will run the G.T.R. main lines towards Portland, while a proposed easterly cut-off may be constructed from this line to the line leading to Rouse's Point. It is also proposed to construct another westerly cut-off to the Rouse's Point line from the southern extremity of the bridge. It is likely that a round-house with turntables and other facilities for handling locomotives will be built at St. Lambert.

Ottawa Station and Hotel.—A press report states that the company has given up its project to erect an hotel on Major's Hill Park, Ottawa. The Ottawa City Council, Apr. 5, passed a resolution asking the Dominion Government to cancel the proposed sale of the site to the G.T.R., that the fence be removed, and the park thrown open as formerly.

We were officially advised, Apr. 22, that there was no intention of the company giving up the project, and that plans are being made for the building, the construction of which will be undertaken and completed as soon as possible.

Garden Hill-Cobourg Cut-off.—Arrangements are reported to have been completed for making a survey during April and May, for a cut-off from Garden Hill, on the Midland Division, to Cobourg, Ont., as a continuation of the proposed short line from Lindsay to the main line. The report further states that a new station and freight shed will be constructed at Cobourg, and the yards modernized.

Kingston Subway.—H. E. Whittenberger, Superintendent G.T.R., has asked the City Council of Kingston, Ont., to appoint representatives to meet the company's engineers and go over the ground in the vicinity of the G.T.R. junction, and try to settle on some plan for crossing protection that will be satisfactory to all concerned. The company has prepared plans for an overhead bridge which would involve the closing of two public highways. Meetings of farmers and others interested have been held to protest against the divergence of Perth Rd. and Montreal St., which the carrying out of this proposal would necessitate.

London Improvements.—The question of track elevation in London, Ont., was not dealt with on the occasion of the visit of the Board of Railway Commissioners to the city recently. Certain questions in connection with level crossings were considered, not only in London, but at other nearby points. The Mayor of London said he had been informed that the company's engineers were busy with the plans, but it would be some time before they were finished. It is said that all preliminary arrangements will be completed so that negotiations can be reopened June 1.

Point Edward Improvements.—General Transportation Manager Brownlee and Superintendent Gillen were at Sarnia and Point Edward recently, and inspected the company's properties there. It is said that considerable improvements are contemplated at both places. Mr. Brownlee said definitely that it was the intention of the company to erect a new station at Point Edward.

Sarnia Tunnel.—Preparatory work is reported to be in progress at Sarnia, Ont., and Port Huron, Mich., for the relaying of the track in the Sarnia tunnel with 100-lb. rails. Track-laying will occupy, it is anticipated, about two months, two gangs being employed, one in the early morning and a second after the 3 p.m. train has passed through.

Chicago and Kalamazoo Terminal Co.—The property of this company has been acquired by the G.T.R., which thus secures an entrance into Kalamazoo, Mich. It is said that a spur line will be constructed from the main line, nine miles south of the city, to establish a connection with the terminals. (Mar., pg. 199.)

Ontario Railway Subsidies

An act has been passed by the Ontario Legislature providing for the granting of the following cash and land subsidies in aid of railways.

Bruce Mines and Algoma Ry.—For an extension from present terminus at Rock Lake, northerly for not exceeding six miles, a cash subsidy of $3,000 a mile, and 1,000 acres of land a mile.

Central Ontario Ry.—Cash subsidy of $3,000 a mile for extension of 15 miles northerly from junction with the Canada Atlantic Ry., between Whitney and Madawaska, Ont.

Lac Seul, Rat Portage & Keewatin Ry.—For 20 miles through Kenora northerly to National Transcontinental Ry., land grant of 1,000 acres a mile.

Superior & Western Ontario Ry.—For seven miles from near Waco station on G.T.P.R., Lake Superior branch, land grant of 1,000 acres a mile.

The land grant to the Canadian Northern Ontario Ry. is dealt with in a separate act.

SILLIKER CAR COMPANY, LIMITED, HALIFAX, N. S., CANADA

STREET RAILWAY CARS

HEAVY FORGINGS AND CASTINGS

RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

ADDITIONAL SAFETY AND ECONOMY IN

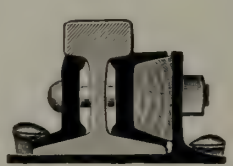
TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence.

HIGHEST AWARDS
Paris, 1900;
Buffalo, 1901; St. Louis, 1904

Continuous Joint

Over 50,000 miles in use


Weber Joint

Rolled from Best Quality Steel

Wolhaupter Joint

Catalogues at Agencies

Baltimore, Md. Boston, Mass. Chicago, Ill. Denver, Colo. Pittsburg, Pa.
San Francisco, Cal. Seattle, Wash. St. Paul, Minn. St. Louis, Mo. Troy, N.Y.
London, Eng. New York City.

THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES: BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base-Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, and Insulating Rail Joints, Protected by Patents in U. S., Canada and Mexico.

National Transcontinental Railway.

Replying to a question in the House of Commons, April 1, the Minister of Railways said there had been paid on account of construction and equipment of the N.T.R. between Moncton and Winnipeg to Feb. 28, $48,372,560.01, and it was estimated that $66,021,206 further would be required to finish it and put it in order ready to hand over to the Grand Trunk Pacific Ry., exclusive of the amounts required for the Quebec bridge, the Quebec terminals and lines thereto, and the Winnipeg terminals and the large shops in that vicinity.

The members of the N.T.R. Commission and H. D. Lumsden, Chief Engineer, visited Quebec recently in connection with the construction of docks and railway terminals. The Commissioners had a conference with the Mayor and the Civic Finance Committee, with a view to purchasing the Champlain Market property, on which it is proposed to erect the union station to accommodate all railways coming into Quebec after the completion of the Quebec bridge. The city representatives expressed a willingness to sell at a suitable price, and at a subsequent meeting the City Finance Committee directed the employment of a valuator to fix a price.

The Commissioners have under consideration tenders for the supply of rail fastenings necessary for the laying of 5,154 gross tons of soft steel rails, for delivery at West Fort William, Ont.; and also for the erection of station buildings, section and tool houses as follows: Four No. 2 stations, two No. 3 stations, and five section houses between Lake Superior Jct. and Wabigoon River; one No. 1 station building, two No. 2 station buildings, three No. 3 station buildings and four section houses between Wabigoon River and northeast of Rennie; two No. 1 station buildings, two No. 2 station buildings, four No. 3 station buildings and three section houses from northeast of Rennie to St. Boniface, Man.

Haney, Quinlan and Robertson's tender for the construction of the terminal shops at St. Boniface, Man., has been accepted.

Quebec Bridge and Ry. Co.—A further amount of $10,500 has been voted by Parliament to provide for expenses of preparing plans for the reconstruction of the Quebec bridge.

GRAND TRUNK PACIFIC RAILWAY.

During the discussion in the House of Commons of the Government proposal to lend the G.T.P.R. $10,000,000, the Minister of Finance stated that the estimated cost by the company of the prairie division of the line was $34,059 a mile, while the Government Engineer's estimate was $34,943. The provision made for financing the construction of the 916 miles of the prairie division was $23,482 a mile, so that owing to the high cost of construction it was necessary to provide, according to the company's estimate, $9,688,425, additional, or according to the Government estimate, $10,497,522. Although the company was strictly liable for all the cost of the line above the Government guarantee on bonds to the extent of $13,000 a mile, in the interests of the country as well as of the company, he was of opinion that the Government should step in with the necessary assistance to prevent the company being compelled to sell below 90, securities which would eventually be worth par or over. The resolution granting the loan was adopted, and the bill giving effect to it is under consideration. At a meeting of G.T.R. shareholders in London, Eng., April 21, a resolution was submitted authorizing the necessary guarantee of G.T.P.R. bonds to be issued to secure the loan of $10,000,000.

In connection with the discussion in Parliament the following figures were submitted to the Government by C. M. Hays, President G.T.P. Ry.

Total expenditure to Sept. 30, 1908, including interest on bonds, less interest on proceeds.	$24,037,743.70
Estimated cost to fully complete work from Oct. 1, 1908, including bond interest payable up to and on Jan. 1, 1910.....	8,110,607.60
Total	$32,198,351.30
RESOURCES.	
Proceeds series A bonds.....	$9,601,926.30
Received from Government on account proceeds of bonds guaranteed by Government to extent of $13,000 a mile for 916 miles.	10,335,482.91
Due from Government balance on account of proceeds of bonds guaranteed by Government to extent of $13,000 a mile.....	1,572,517.09
Estimated value of construction equipment to be transferred to mountain section on completion of prairie section.....	1,000,000.00
Balance to be provided.....	9,688,425.00
Total	$32,198,351.30

The Dominion Parliament has approved of an act respecting the subsidy from the Ontario Government for the construction of the Lake Superior branch. The formal inspection of the last 66 miles of the branch is being made by the Ontario Government Engineer preparatory to handing over the 198,000 acres of land granted as a subsidy.

The Dominion Parliament has passed an act approving of the agreement with the C.P.R. for the use jointly of certain lines belonging to the C.P.R., or to be hereafter constructed in Fort William, Ont.

An act has been passed by the Dominion Parliament approving of an agreement with the Midland Ry. of Manitoba, with respect to the provision of a union station and other joint facilities at Portage la Prairie, Man.

The company has ordered from the Dominion Iron & Steel Co. 13,000 tons of steel rails for delivery at Prince Rupert during the summer. They are for the first 100 miles easterly from Prince Rupert, and on the line being constructed as a branch under the Pacific, Northern and Omineca Ry. Co.'s charter.

A Winnipeg dispatch dated Apr. 21, said, E. J. Chamberlin Vice-President and General Manager, had returned from the West, and stated that construction would begin during . the next few days on branch lines north and south from Melville, Sask., and that the company would lose no time in building a through line from the U.S. boundary to Hudson Bay, providing the farmers with a short wheat route to Europe. We are officially advised that it is the intention this year to proceed with the construction of the following branch lines: From Melville to Yorkton, Sask.; from Melville to Regina, Sask., with an extension to Moose Jaw to follow; from Redgar, Sask, to Battleford, Sask.; from at or near Wainwright, Alta., to Calgary, Alta., with a projected extension later on to Coutts on the International Boundary and another to the Crow's Nest Pass Coal Fields in B.C.; from near the McLeod River on the main line west of Edmonton, in Alberta, to the coal fields. We are also advised that the Hudson Bay branch is one of the lines the company is chartered to build and that it will no doubt be undertaken later on.

PACIFIC NORTHERN AND OMINECA RY.

The British Columbia Legislature has extended the time for the construction of the lines authorized by previous acts, and granted permission for the construction of a line from the junction of the Skeena and Copper rivers to the junction of the Bulkley and Telkwa rivers. (April, pg. 277.)

May Birthdays

Many happy returns of the day to—

W. R. Baker, Secretary, and Assistant to President C.P.R., Montreal, born at York, Eng., May 25, 1852.

G. S. Cantlie, General Superintendent Car Service, C.P.R., Montreal, born there May 2, 1867.

M. Donaldson, Superintendent Ottawa Division G.T.R., Ottawa, Ont., born near Edinburgh, Scotland, May 1, 1851.

G. C. Gunn, Divison Engineer, G.T.P.R., St. ohn, N.B., born at Quebec, May 13, 1862.

Hon. W. C. Edwards, Temiskaming Steamboat Co., Rockland, Ont., born at Clarence, Ont., May 7, 1844.

J. D. Evans, Chief Engineer Central Ontario Railway, Trenton, Ont., born at Goderich, Ont., May 27, 1843.

E. T. Galt, President Alberta Railway and Irrigation Co., Montreal, born at Sherbrooke, Que., May 24, 1850.

C. M. Hays, 2nd Vice-President and General Manager G.T.R., and President G.T. Pacific Railway, Montreal, born at Rock Island, Ill., May 16, 1856.

G. H. Hedge, Assistant Master Mechanic, C.N.R., Winnipeg, born at Neath, Wales, May 26, 1865.

R. B. Hepburn, President and General Manager Ontario and Quebec Navigation Co., Picton, Ont., born there May 27, 1876.

W. T. Huggan, Accountant and Auditor, Prince Edward Island Railway, Charlottetown, P.E.I., born at Halifax, N.S., May 24, 1851.

W. S. Kinnear, Assistant General Manager Michigan Central Rd., and Chief Engineer Detroit River Tunnel, Detroit, Mich., born at Circleville, Ohio, May 25, 1864.

M. Neilson, C.E., Consulting Engineer, Montreal Street Railway, born at Almonte, Ont., May 26, 1852.

A. L. Ogilvy, General Purchasing Agent, National Transcontinental Railway Commission, Ottawa, Ont., born at Richwood, Oxford County, Ont., May 23, 1868.

Hayter Reed, Manager-in-Chief C.P.R. hotels, Montreal, born at L'Orignal, Ont., May 26, 1849.

H. B. Sherwood, Superintendent Bay of Quinte Railway, Napanee, Ont., born at Auburn, N.Y., May 25, 1847.

E. Tiffin, General Traffic Manager, I.C.R., Moncton, N.B., born at Hamilton, Ont., May 5, 1849.

J. H. Walsh, General Manager Quebec Central Railway, Sherbrooke, Que., born at Quebec, May 12, 1860.

H. K. Wicksteed, Chief Engineer of Location, Mackenzie, Mann & Co., Ltd., Toronto, born at Quebec, May 25, 1855.

James Yeo, ex-Roadmaster Intercolonial Railway, Riviere du Loup, Que., born at Bideford, Devonshire, Eng., May 1, 1830.

J. A. Yorick, Canadian Passenger Agent, Chicago, Burlington and Quincy Rd. at Toronto, born at London, Ont., May 7, 1872.

Pintsch Light Steam Heat

Most brilliant illumination made possible by the Pintsch System using perfected Mantle Lamps and Safety Axle Driven Dynamo Electric System a product of sixteen years experience and now operating successfully on leading roads

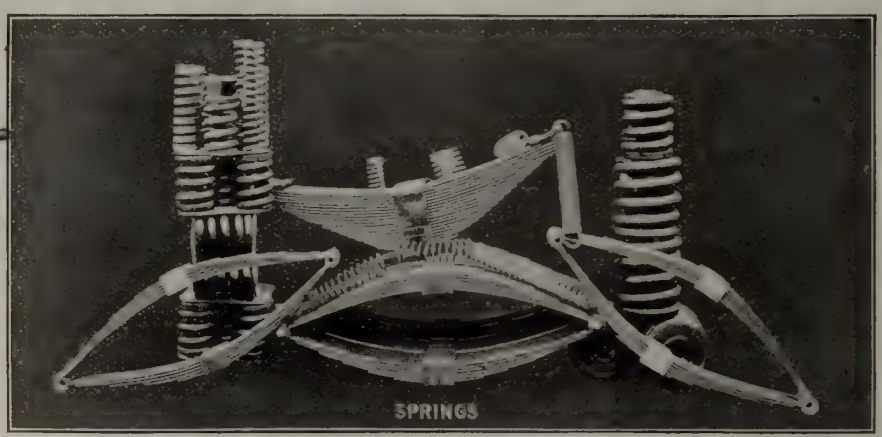
The Safety Car Heating and Lighting Co.
2 RECTOR ST., NEW YORK.

Car Heating Systems guaranteed to meet all conditons of service. Controllable Direct Steam, Hot Water or Thermo Jet System where pressure not desired. Steam tight couplers, traps, trainpipe valves and other appliances.

CHICAGO. BOSTON. ST. LOUIS. ATLANTA. PHILADELPHIA. MONTREAL. BERKELEY, CAL.

MONTREAL STEEL WORKS, LIMITED

P. O. BOX 2369 - MONTREAL



MANUFACTURERS OF

Steel Castings
(Acid Open Hearth System)

Switches and Track Work
for Steam and Electric Roads

Springs
of all kinds

Manganese Steel Castings
for wearing Parts, insuring Great Hardness and Durability

Interlocking Plants

Trucks for Electric Cars

AGENTS FOR CANADA FOR

THOS. FIRTH & SONS, LIMITED
Sheffield, England

"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc.
A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO.
Barrow-in-Furness, England

Quotations for Tee Rails, Fish Plates, etc., promptly furnished.
Catalogues sent on application.

Orders by the Railway Commissioners.

Beginning with June, 1904. we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper his done this.

The dates given of orders, immediately following the numbers, are those on which the hearings took place and not those on which the orders were issued. In many cases orders are not issued for a considerable time after the date assigned to them.

6538. Mar. 3.—Directing V.V. & E. Ry. & Nav. Co. to construct fences and gates at farm crossings on Mrs. H. M. Milstead's lands at Abbotsford, B.C.

6539. Feb. 25.—Dismissing complaint of A. F. Latta, Port Moody, B.C., re damages for cow killed.

6540. Mar. 3.—Directing G.N. Ry. & V. V. & E. Ry. & Nav. Co. to erect crossings, gates, fences and cattle guards where it affects property of Messrs. Murphy, Mackenzie, Milton, Armstrong and Shannon, near Cloverdale, B.C.

6541. Feb. 25.—Dismissing complaint of F. Allan and others regarding extension of railway siding now terminating at western boundary of Pacific Coast Mill Co.'s premises, Coal Harbor, Vancouver, B.C.

6542. Feb. 25.—Dismissing complaint of Burnaby & Coquitlam municipalities, B.C., regarding defective cattle guards on V.W. & Y. Ry. or V.V. & E. Ry. & Nav. Co.'s line.

6543. Feb. 25.—Dismissing application of Vancouver Board of Trade for refund under order of Aug. 11, 1906, in the "Transcontinental rate case."

6544. Feb. 23.—Dismissing application of V.W. & Y. Ry. for authority to construct branch line in Vancouver, B.C., from the main line north of False Creek.

6545. Feb. 25.—Directing V.W. & Y. Ry. to join its tracks with the C.P.R. tracks, operated by the B.C. Electric Ry. at or near junction of Columbia and Front sts. Vancouver, B.C., within two months from date.

6546. Feb. 25.—Dismissing complaint of Trades and Labor Council of Vancouver, B.C., that the C.P.R. is running trains from Vancouver without proper inspection.

6547. Feb. 25.—Dismissing complaint of R. Robertson & Co, Vancouver, B.C., respecting C.P.R. rates to Ladysmith, B.C.

6548. Feb. 25.—Authorizing Vancouver Power Co. to erect wires across C.P.R. at the second narrows, Burrard Inlet, Vancouver, B.C.

6549. Feb. 23.—Dismissing application of V.W. & Y. Ry. for authority to cross C.P.R. by its branch line from False Creek to Burrard Inlet, Vancouver.

6550. Feb. 23.—Dismissing application of V.W. & Y. Ry. for authority to cross with its branch line No. 2 from False Creek to Burrard Inlet over lane between Barker and Napier Sts., in Vancouver, B.C.

6551. Mar. 18.—Extending until May 18, time during which C.N.O. Ry. may use for construction purposes crossing of G.T.R. spur line to Edwards' Mills, Rockland, Ont.

6552 to 6577. Feb. 23.—Dismissing 26 applications of V.W. & Y.R. for authority to cross with branch line over various lanes and streets in Vancouver, B.C.

6578. Mar. 20.—Authorizing Sunderland Telephone Co. to erect wires across G.T.R. in Brock tp., Ont.

6579. Mar. 18.—Authorizing Bell Telephone Co. to lay conduits under Fortification Lane to Victoria Sq. and under Victoria Sq., Montreal.

6580. Mar. 18.—Authorizing C.P.R. to use bridge at mileage 4.2, Guelph branch, Ont.

6581. Mar. 18.—Authorizing C.P.R. to use certain bridges on its Havelock section, Ont.

6582. Mar. 23.—Authorizing Hamiota municipality, Man., to erect wires across C.P.R.

6583. Mar. 18.—Authorizing G.T.R. to construct spur to the Stratford Mill Bld. Co. and Ballantyne's cheese warehouse, Stratford, Ont.

6584. Feb. 25.—Dismissing application of Vancouver and Lulu Island Ry. for order authorizing proposed deviation from plan of branch line on south side of False Creek, Vancouver, B.C.

6585. Mar. 15.—Dismissing application of Canada West Coal Co. for authority to construct tunnels and work in connection therewith under C.P.R. Crow's Nest branch at Taber, Alta.

6586. Feb. 18.—Authorizing C.P.R. to open for passenger traffic its Moose Jaw branch from mileage 14.5 to 118.75 and to operate trains over mileage 14.5 to 113.0, at a speed of 25 miles an hour.

6587. Feb. 25.—Authorizing City of Vancouver, B.C., to construct a highway bridge over C.P.R. at intersection of northerly shore of False Creek and Granville St. and at intersection of False Creek and Fourth Ave.

6588. Mar. 19.—Directing C.N.R. to properly fence its right of way where it crosses s.e. ¼ sec. 21, tp. 19, range 21, west 2nd. mer.

6589. Mar. 16.—Refusing petition of residents of Sinclair, Man., for order directing C.P.R. to provide a side track between Reston and Sinclair.

6590. Mar. 22.—Authorizing Cardoc-Ekfried Telephone Co. to erect wires across C.P.R. north of Appin, Ont.

6591. Mar. 22.—Authorizing Canadian Northern Telegraph Co. to erect wires across C.P.R. Wolseley-Reston branch, and Brandon-Regina branch, at Kaiser, Man.

6592. Mar. 22.—Authorizing Bell Telephone Co. to erect wires over G.T.R. near Sprucedale station, Ont.

6593 to 6596 inc—Authorizing Hamiota & Miniota municipalities, Man., to erect telephone wires across C.P.R. at four points.

6597. Mar. 10.—Dismissing application of E. D. Coffey, Dauphin, Man., F. L. Merritt, Winnipegosis, Man., and Canadian Lakes Fishing Co. for order directing C.N.R. to put into immediate and continuous operation its railway now constructed from Etiomami to the Pas, Sask.

6598. Mar. 15.—Dismissing application of M. McGregor, Tilston, Man. and other residents of Tilston, alleging unsatisfactory train service furnished by C.P.R. between Lauder and Tilston, Man.

6599. Mar. 15.—Authorizing the C.N.R. to operate temporarily, until further ordered by Board, its spur from connection of C.N.R. near Smith's Packing Co., Edmonton, Alta., to Clover Bar Coal Co.'s property.

6600. Mar. 22.—Dismissing complaint of Nipigon Bay Fish Co. of refusal by C.P.R. to carry, on passenger trains, fish offered for carriage at Rossport, Jackfish and Coldwell, Ont.

6601. Mar. 22.—Dismissing complaint of C. N. Cobett, Edmonton, Alta., alleging exorbitant rates charged in the west by express companies.

6602. Mar. 12.—Amending order 6320, of Feb. 13, in complaint of Nelson-Ford Lumber Co. and International Elevator Co. as to service furnished to them by C.P.R. over spur track in Estevan, Sask.

6603. Feb. 23.—Dismissing application of C. T. W. Piper, Vancouver, B.C., for order directing G.N.R. to construct spur to Britannia Trading & Lumber Co.'s premises, Burnaby Lake, B.C.

6604. Mar. 5.—Dismissing complaint of F. W. Godsal, Cowley, Alta., alleging unsatisfactory train service between Cowley, Alta., and Nelson, B.C.

6605. Mar. 5.—Dismissing application of residents of Westbank, B.C., for order directing C.P.R. mail boats to call at Hall's Landing at least three times a week to deliver mails and passengers.

6606. Mar. 5.—Dismissing complaint of R. G. Sidley, Sidley, B.C., that V.V. & E. R. unjustly discriminates against settlers in and around Sidley in the matter of railway facilities and in favor of points in United States.

6607. Mar. 5.—Dismissing complaint of Vernon Fruit Co., Vernon, B.C., alleging excessive freight rates charged by C.P.R. from Peachland to Victoria, B.C., and complaining against minimum carload weight on such shipment.

6608. Mar. 5.—Dismissing application of V.V. & E.R. for authority to construct branch line to connect with its main line at the International Boundary near Myncaster, B.C.

6609. Mar. 5.—Dismissing complaint of R. Robson, Mayook, B.C., alleging unsatisfactory train service on the C.P.R. Crow's Nest branch between Mayook and Cranbrook, B.C.

6610. Mar. 5.—Dismissing application of City of Revelstoke, B.C., for order directing C.P.R. to provide a traffic bridge in connection with its proposed new railway bridge across Columbia River.

6611. Mar 22.—Authorizing C.P.R. to use bridges on its Esquimalt & Nanaimo branch at four points.

6612-6613. Feb. 23.—Directing G.N.R. to file and publish tariffs on lumber, shingles, etc. These orders are given fully on page 329.

6614.—Feb. 25.—Dismissing application of V.V. & E.Ry. & Nav. Co. for order sanctioning placing of crossings over lot 23, group 2, New Westminster, B.C.

6615. Feb. 25.—Dismissing application of V.W. & Y. Ry. for order approving place and mode of crossing of its branch line No. 2 from False Creek to Burrard Inlet, over Powell, Vancouver, B.C.

6616. Mar. 22.—Directing C.P.R. to construct and operate spur to the Okotoks Milling Co. and the Electric Light Co.'s premises, Okotoks, Alta.

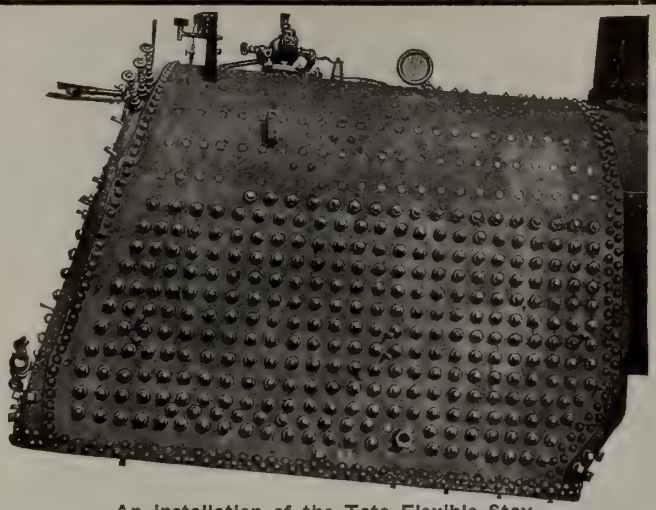
6617. Mar. 22.—Directing C.P.R. to construct spur to Western Canada Pressed Brick & Tiles Co. and Pugh & Livingstone Lumber Co.'s premises at Okotoks, Alta.

6618. Mar. 18.—Dismissing application of J. G. Wilson, Dana, Sask., for order directing C.N.R. to pay $95 damages for cattle killed on tracks.

6619. Mar. 8.—Dismissing complaint of F. W. Godsal, Cowley, Alta., alleging excessive passenger rates on C.P.R. steamboats on Kootenay and Arrow Lakes, B.C.

6620. Mar. 5.—Authorizing Kettle River Valley Ry. to construct its line across alleyway in block 26A, between Fourth and Fifth Sts., Grand Forks, B.C.

6621. Mar. 5.—Dismissing complaint of Greenwood Board of Trade, B.C., against freight and passenger rates charged by V.V. & E. Ry. & Nav. Co., as unjustly discriminating against points on the company's railway in B.C. and in favor of points in State of Washington.



An Installation of the Tate Flexible Stay.

THE TATE FLEXIBLE STAYBOLT

THE PERFECT STAY

For Locomotive Fire Boxes

Over a million and a half bolts in service on over 100 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited
TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, = Pittsburgh, Penn., U.S.A.

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

THE ALGOMA STEEL CO., LIMITED

SAULT STE. MARIE, ONTARIO

IS NOW BOOKING ORDERS FOR **STEEL RAILS** FOR DELIVERY DURING THE SEASON OF 1909

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to insure desired deliveries.

Office:
CANADA LIFE BUILDING
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS

6622. Mar. 8.—Authorizing town of Claresholm, Alta., to secure certain lots, and do grading necessary in connection with carrying of Centre Ave. across C.P.R.

6623. Mar. 5.—Dismissing complaint of Nelson Board of Trade against freight rates charged by C.P.R. on shipments to and from Nelson, B.C.

6624. Mar. 5.—Dismissing complaint of Okanagan Board of Trade against rates charged by C.P.R. on fruit shipments in B.C.

6625. Mar. 23.—Authorizing Manitoba Government Telephones to erect wires across C.N.R. near Scarth, Man.

6626-6627. Mar. 23.—Authorizing Miniota municipality, Man., to erect wires across C.P.R. near Miniota station, and 4 miles west of Grandall, Man.

6628. Mar. 23.—Authorizing Princeton & Drumbo Telephone Co. to erect wires across G.T.R. tracks at town line between Blenheim and Dumphries tps., Ont.

6629. Mar. 23.—Authorizing Hamiota municipality to erect wires across C.P.R. 3 miles west of Hamiota, Man.

6630. Mar. 23.—Approving C.P.R. plan of proposed viaduct on Richmond Rd., Ottawa, Ont.

6631. Mar. 23.—Authorizing C.P.R. to use seven bridges on its Windsor section.

6632. Mar. 23.—Authorizing C.N.R. to construct spur to Rosthern Flour Mills Co.'s mill, Rosthern, Sask.

6633. Mar. 23.—Authorizing B.C. Telephone Co. to erect wires across E. & N. R. at Nanoose Bay, B.C.

6634. Mar. 1.—Authorizing E. & N.R. to construct a spur to B. Wilson Co.'s premises, Victoria, B.C.

6635. Mar. 24.—Authorizing C.P.R. to construct branch line across Higgins Ave. to the Northern Electric Co.'s premises, Winnipeg, Man.

6636. Feb. 11.—Dismissing application of settlers along C.P.R. Pheasant Hills branch, for order directing C.P.R. to provide siding at or near n.e. ¼ sec., tp. 17, r. 32, w. 1st mer., Sask.

6637, Feb. 27.—Authorizing South Wellington Coal Mines to place pipes under E. & N.R. at a point between Victoria and Nanaimo, B.C.

6638. Mar. 8.—Amending order 5261 of Sept. 2, 1908, re C.P.R. application for authority to make diversions on its Crow's Nest branch between Peigan and Crow's Nest, Alta.

6639. Feb. 27.—Directing E. & N.R. to remove section-foreman's house at crossing of its line at Duncan, B.C., in order that there may be a clear view of 75 ft. from right of way.

6640. Mar. 8.—Directing Calgary & Edmonton Ry. to put crossing on road between tps. 11 and 12, south of Claresholm, Alta., in safe condition, and to widen partial diversion on ¼ sec. 36, tp. 11, r. 27 and make same safe in accordance with regulations regarding crossings.

6641. Mar. 24.—Ordering Nelson & Fort Sheppard Ry. to construct a suitable station and freight shed at Fruitvale, B.C., and to install a telephone therein.

6642. Feb. 27.—Authorizing Council of North Cowichan, B.C., to construct a highway across E. & N.R., and rescinding order 5737, of Nov. 26, 1908.

6643. Feb. 19.—Refusing C.P.R. application for order to amend order 5608 made on application of City of Edmonton and Strathcona Radial Tramway Co., by providing that City of Edmonton and Strathcona Radial Tramway Co. shall install a half-interlocking plant at crossing at White Ave., Strathcona, Alta.

6644. Mar. 25.—Authorizing Miniota municipality to erect wires across C.P.R. at Crandall, Man.

6645. Mar. 8.—Directing that $1,650 be paid by Northwest Jobbing & Commission Co. to C.P.R. for construction of spur to the company's warehouse, that the company pay the C.P.R. $250, being balance of $1,900 agreed upon, and that accrued interest on the deposit of $1,650 be paid by the bank to the Northwest Jobbing & Commission Co.

6646. Mar. 23.—Authorizing C.P.R. to cross with its second track the Ottawa & New York Ry., at Finch, Ont.

6647-6648. Mar. 5.—Amending orders 3813 and 3814 of Oct. 23, 1907, and authorizing Kettle River Valley Ry. to construct its line across Main and Bridge Sts., Grand Forks, B.C.

6649. Feb. 27.—Dismissing complaint of R. Carter, Courtney, B.C., against through rates charged by C.P.R. on freight to Comox, Courtney and Cumberland, B.C.

6650. Mar. 5.—Amending order 3807, of Oct. 23, 1907, and authorizing Kettle River Valley Ry. to construct its line across Victoria Ave., Grand Forks, B.C.

6651. Mar. 5.—Amending order 3811, of Oct. 23, 1907, and authorizing Kettle River Valley Ry. to construct its line across Sixth St., Grand Forks, B.C.

6652-6654. Mar. 5.—Amending orders 3809, 3810 and 3812, of Oct. 23, 1907, and authorizing the Kettle River Valley Ry. to construct its line across Winnipeg Ave., Fifth St., and Alexandra Ave., Grand Forks, B.C.

6655. Feb. 13.—Amending order 6330, Feb. 13, respecting town of Dundurn, Sask., constructing crossings over C.N.R. tracks.

6656-6660. Feb. 6.—Authorizing C.P.R. to use certain bridges on its Sherbrooke section, in the town of St. John's Que., near Montreal Jct., on its Newport section and on its London section.

6661-6664. Mar. 25.—Authorizing Atlantic, Quebec & Western Ry. to construct steel trestle over Chouinard gully, L'Anse aux Gascons, Que.; a steel bridge over Little River, Port Daniel, Que.; a steel trestle over Perry's Brook, Newport, Que., and a steel trestle over Anse a la Barbe gully, Que.

6665. Mar. 8.—Dismissing complaint of Local Union of United Mineworkers, Board of Trade, and storekeepers, of Taber, Alta., alleging excessive freight rates charged by C.P.R. on shipments of coal from Alberta, as well as failure of C.P.R. to supply sufficient cars for movement of coal.

6666. Mar. 6.—Dismissing complaint of J. G. Swinney, Cowley, Alta., alleging excessive rate charged by Dominion Express Co. on milk shipments from Cowley to Michel, B.C.

6667. Mar. 24.—Authorizing E. & N.R. to construct a spur to Imperial Oil Co.'s premises, Vancouver Island, B.C.

6668. Mar. 25.—Authorizing C.P.R. to use eight bridges on Toronto section.

6669. Mar. 8.—Dismissing complaint of F. W. Godsal, Cowley, Alta., alleging excessive rates charged by Dominion Express Co. between Winnipeg and Cowley.

6670. Mar. 20.—Authorizing C.P.R. to construct spur from its main line along North Railway St., Regina, Sask., to the western limits of the city.

6671. Mar. 16.—Rescinding order 6524, of March 16, authorizing Council of Wainfleet tp., Ont., to lay culvert under G.T.R.

6672. Feb. 13.—Refusing application of Board of Trade, Regina, Sask., for order directing C.P.R. and C.N.R. to construct a union station in Regina.

6673. Mar. 26.—Dismissing application of Town of Listowel, Ont., that G.T.R. and C.P.R. construct a switch connecting their respective systems within the town, for inter-switching purposes.

6674. Feb. 8.—Dismissing application of City of St. Boniface, Man., for order directing C.N.R. to comply with provisions of orders requiring the company to divert Thibault and Meuron Sts., St. Boniface.

6675. Feb. 23.—Dismissing application of C. T. W. Piper, Vancouver, B.C., for order directing G.N.R. to construct spur to Britannia Trading & Lumber Co.'s premises, Burnaby Lake, B.C.

6676. Feb. 11.—Dismissing complaint of D. H. MacDonald & Co., Fort Qu'Appelle, Sask., alleging excessive rates charged by Dominion Express Co., as well as delays in delivering express matter.

6677. Mar. 26.—Approving plans and specifications of Tilbury East tp. for the King & Whittle improvement drain, and directing C.P.R. to temporarily remove a bridge upon four days' notice from the corporation to permit dredge to cross and recross, for the purpose of cleaning the drain.

6678. Mar. 26.—Authorizing Atlantic, Quebec & Western Ry. to construct bridge over North River, Port Daniel, P.Q.

6679. Mar. 29.—Directing form, size, and style, in which tariffs of tolls shall be filed by telegraph companies subject to Board's jurisdiction.

6680. Mar. 26.—Authorizing W. W. Beardmore, of Acton, Ont., to lay a water pipe across G.T.R. and to connect same with G.T.R. water mains and pumping plant.

6681. Mar. 17.—Authorizing Aberdeen Telephone Co. to place wires under C. N.R. at Aberdeen, Sask.

6682. July 14.—Ordering the Peterboro Radial Ry. Co. to install and maintain derails on each side of crossing of G.T.R. on Charlotte St. and Water St., Peterboro, Ont., the said derails to be placed 100 ft. from nearest G.T.R. track.

6683. Mar. 29.—Authorizing C.P.R. to construct its railway across certain highways in Artemesia tp., Ont.

6684. Mar. 29.—Authorizing Erie Telephone Co. to erect wires across G.T.R. near Hagersville, Ont.

6685. Mar. 1.—Authorizing Quamichan Mill Co. to construct a crossing over E. & N.R., Duncan's station, B.C.

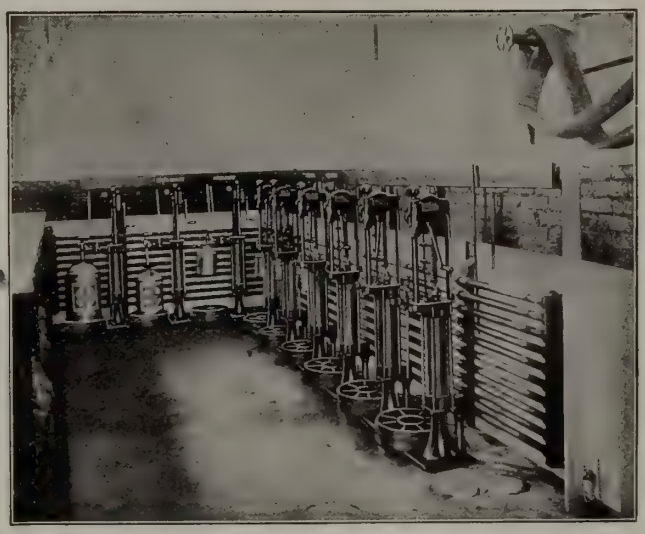
6686-6688. Mar. 25.—Authorizing C.P. R. to construct its railway across certain highways in Glenelg and Bentinck tps., Ont.

6689.—Ordering all railways subject to Board's jurisdiction to file for approval a tariff of additional maximum tolls, no greater than tolls now being charged for carriage of passengers in sleeping or parlor cars, to be entitled "Standard Tariff of Maximum Sleeping and Parlor Car Tolls," and numbered C.R.C. No. 1. See page 329.

6690. Feb. 27.—Directing V.W. & Y.R. to construct suitable highway crossings, cattle guards, planking and cross-fences at Rupert St., Hastings, B.C., as soon as the street is opened up, and an overhead bridge, not less than 20 feet wide at Nanaimo St.

6691. Mar. 26.—Authorizing C.P.R. to use certain bridges on its Smith's Falls section.

6692. Feb. 27.—Authorizing B.C. Dept. of Lands & Works to construct highway



Bowser Pumps in a Railway Storehouse

Greater Net Earnings

A big gross income is a good thing, but it is what is left after all expenses are deducted that counts.

Reduce your operating expenses, and thereby increase your net income by installing

The Bowser System of Oil Storage

The BOWSER reduces the cost of labor involved in handling the oil 75 per cent. It reduces the oil bills 10 to 25 per cent. It also reduces the insurance rate by decreasing the fire hazard.

Bulletin 18 tells all about it. Sent upon request to those interested.

S. F. BOWSER & CO., LIMITED
66-68 FRASER AVENUE - - TORONTO

THE

NEW HOTEL BREVOORT CHICAGO

The Twentieth Century Hotel **Absolutely Fireproof**

Centrally located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG,
PROPRIETORS

ARTHUR M. GRANT,
MANAGER

Drop a Line

TO THE

General Passenger Department

Intercolonial Ry.

MONCTON, N.B.

You will be told

Where These Were Caught

and where

You Can Catch More

bridge over E. & N.R. and Welington Colliery Co.'s railway, near Ladysmith station, B.C.

6693. Mar. 30.—Authorizing C.P.R. to construct five spur lines in Moose Jaw, Sask.

6694. Mar. 30.—Authorizing C.P.R. to use bridges over Lachine Canal, Montreal, near Ogilvie Flour Mills Co.'s premises.

6695. Mar. 3.—Authorizing B.C. Minister of Public Works to construct a highway across C.P.R. in the n.w. ¼ sec. 29, tp. 23, r. 2, west 6th meridian.

6696. Mar. 30.—Authorizing Welland County Telephone Co. to place wires under M.C.R. tracks in Bertie tp., Ont.

6697. Mar. 26.—Authorizing Montreal Light, Heat & Power Co. to erect wires across C.P.R. at Lachine Canal crossing.

6698. Mar. 26.—Authorizing City of Fort William, Ont., to construct sewer under C.P.R. at Tarbut St.

6699. Feb. 27.—Directing Nicola, Kamloops & Similkameen Coal & Ry. Co. to improve all its diversions and highway crossings between Spence's Bridge and Nicola, B.C., particularly at mileages 28½ and 30½ from Spence's Bridge, B.C.

6700. Mar. 30.—Approving plan of proposed spur track which C.P.R. was authorized to construct from its railway at Holmfield, Man., to the C.N.R. and of the connection of the spur with the C.N.R.

6701. Feb. 19.—Ordering amount of adjustment allowed shippers upon all railways subject to Board's jurisdiction who are compelled to furnish car doors to enable cars to be used for traffic.

6702. Mar. 25.—Respecting freight rates on wooden telegraph, telephone, electric light and trolley poles. See page 329.

6703. Mar. 30.—Amending order of Mar. 22, 1906, sanctioning location of proposed line of the Tillsonburg, Lake Erie & Pacific Ry. in West Zorra tp. and Oxford, Linwood and Wellington Counties, Ont., by excluding the portion of the line which extends through Stratford, Ont., and lands immediately adjacent thereto, that is, between mileages 22 and 28.

6704. Mar. 31.—Authorizing C.N.O.R. to open for traffic the portion of its railway between Queen and Cherry Sts., Toronto.

6705. Mar. 31.—Authorizing C.N.Q.R. to divert Cap Sante road, mileage 37 from Quebec bridge.

6706. Mar. 31.—Approving diversion of C.P.R. main line between Crane Lake and Piapot, Sask., mileage 65.32 to 65.65.

6707. Mar. 31.—Authorizing Corinne Rural Telephone Co. to erect wires across C.P.R. in s.e. ¼ sec. 2, tp. 13, r. 20 and n.e. ¼ sec. 35, tp. 12, r. 20, w. 2nd mer. Sask.

6708. Mar. 31.—Authorizing Stoney Beach Rural Telephone Co. to erect wires across C.P.R., between sec. 36, tp. 6, r. 24, w. 2nd, and sec. 31, tp. 16, r. 24, west 2nd. mer. Sask.

6709 to 6717. Mar. 31.—Authorizing Commissioner of Railways and Telephones for Saskatchewan to erect wires across C.P.R. at various points.

6718-6720. Apr. 2.—Authorizing C.N.O.R. to erect telegraph wires across various telegraph, telephone and power transmission wires at Hawkesbury, L'Orignal, and Rockland, Ont.

6721. Mar. 31.—Authorizing C.P.R. to cross with its second track from Toronto to Montreal, the Canada Atlantic Ry. at St. Polycarpe Jct., Que.

6722. Apr. 1.—Authorizing C.P.R. to construct highway over its line at mileage 132.9 from Romford, Ont.

6723. Apr. 1.—Amending order of Railway Committee of the Privy Council, of Dec. 16, 1902, respecting interlocking, derailing and signal system of the C.P.R. with the G.T.R. at Tillsonburg, Ont.

6724. Mar. 31.—Authorizing Commissioner of Railways and Telephones of Saskatchewan, to erect wires across C.P.R. at sec. 33, tp. 11, r. 12, w. 2nd. mer.

6625. Apr. 1.—Authorizing G.T.R. to construct spur line to George McLagan Furniture Co.'s premises, Stratford, Ont.

6726. Mar. 31.—Authorizing C.P.R. to construct spur line to city power plant, Moose Jaw, Sask.

6727. Mar. 31.—Authorizing Seaman Kent Co. to lay a pipe and box drain across G.T.R. at Meaford, Ont.

6728. Apr. 1.—Approving revision in portion of location of Kootenay Central Ry., at Golden, B.C.

6729. Apr. 1.—Approving location of C.P.R. Kininvie branch, mileage 0 to 162.05, Alta.

6730. Apr. 1.—Authorizing C.P.R. to change location of portion of spur line to Sherwin-Williams Co.'s premises, Montreal.

6731. Apr. 1.—Authorizing W.E. & L. S.R. Ry. to erect telephone line across C.P.R. in Sandwich E. & W. tps., Ont.

6732. Apr. 1.—Approving location of the C.N.O.R. Ottawa-French River line through Lauder, Boulter and Chisholm tps., Ont., mileage 191.4 to 212.3, from Ottawa West.

6733. Apr. 1.—Authorizing M.C.R. to reconstruct drawbridge over Chippewa Creek, near Montrose, Ont.

6734. Mar. 26.—Amending order 6531, of Mar. 17 and adding following clause: "Authorizing G.T.R. to collect such additional sum for switching and handling traffic to and from spur line of railway, directed by the said order to be constructed, as shall be agreed upon between the parties, and in the event of parties failing to agree, then such additional sum shall be fixed by the Board."

6734a. Apr. 2.—Authorizing C.P.R. to construct spur line to Victoria Park, Calgary, Alta.

6735. Apr. 2.—Authorizing the C.P.R. to use bridges on its Toronto-Romford line.

6736. Apr. 1.—Authorizing Enterprise Telephone Co. to erect wires across Algoma Central Ry. in Korah tp., Ont.

6737-6738. Apr. 1.—Authorizing Corinne Rural Telephone Co. to erect wires across C.P.R. at sec. 30, tp. 12, r. 19, and sec. 29, tp. 12, r. 19, w. 2nd mer, Sask.

6739 to 6741. Apr. 1.—Authorizing Theodore, Springside & Veaverdale Rural Telephone Co. to erect wires across C.P.R. at three points in Saskatchewan.

6742-6743. Apr. 1.—Authorizing Welland County Telephone Co. to erect wires across M.C.R. and G.T.R. at Bridgeburg, Ont.

6744. Apr. 1.—Authorizing Erie Telephone Co. to erect wires across G.T.R. near Garnet station, Ont.

6745. Apr. 2.—Authorizing Georgian Bay & Seaboard Ry. to construct its line across highway in Medonte tp., Ontario, at mileage 12.97.

6746. Apr. 2.—Authorizing Bell Telephone Co. to erect wires across G.T.R. 3 miles n.e. of Springford, Ont.

6747. Apr. 2.—Authorizing Village of Streetsville, Ont., to place electric light wires under C.P.R., Orangeville branch, at Streetsville Jct., Ont.

6748. Apr. 2.—Authorizing W. Long to lay water pipe under Temiscouata Ry. in Clair Parish, N.B.

6749. Feb. 11.—Directing C.P.R. to change its freight rates on coal from Bienfait, Sask., to Manitoba and Saskatchewan points. See page 331.

6750. Mar. 10.—Ordering Columbia & Western Ry. to protect crossing at Riverside Ave., Grand Forks, B.C., by electric bells within 60 days.

6751. Feb. 19.—Authorizing City of Edmonton, Alta.,to cross at rail level with its electric street railway tracks, the C. N.R. and the G.T.P.R. tracks at Syndicate Ave.

6752. Apr. 5.—Authorizing Central Ontario Ry. to cross with its track the G.T. R. tracks from Belleville to Peterboro, at Anson Jct., Ont.

6753. Apr. 3.—Amending order 6424, of Feb. 25, directing that crossing of highways in Dutton village, Ont., be protected by folding fence gates; by providing for installation of additional gate south of M.C.R. tracks.

6754. Apr. 3.—Authorizing C.N.O.R. to construct bridge over French River, mileage 67.72, from Parry Sound, Ont., north.

6755. Mar. 10.—Ordering C.N.R. to continue to permit public to use crossing at Vermillion St., Dauphin, Man.

6756. Apr. 3.—Authorizing Montreal St. Ry. to cross with its tracks the Montreal Terminal Ry. tracks at rail level, at Davidson St., Montreal.

6757. Apr. 5.—Ordering that interlocking plant be installed by G.T.P.R. at bridge over Kaministiquia River, Fort William, Ont., and that trains be permitted to pass over the bridge without being brought to a stop.

6758. Apr. 3.—Amending order 6423, dated Feb. 25, directing that crossing be protected by folding fence gates; by providing for extra gate immediately south of M.C.R.R. track at West Lorne, Ont.

6759. Mar. 10.—Dismissing complaint of Prince Albert, Sask., Board of Trade against C.N.R. joint tariffs with C.P.R. from Prince Albert to B.C. points, on grain and grain products. See page 000

6760. Feb. 11.—Directing C.P.R. to maintain and keep in proper shape with regard to planking, grading, etc., crossings in Heward, Sask.

6761. Feb. 11.—Authorizing C.N.R. to connect its Brandon-Regina branch with C.P.R. Arcola branch tracks at n.w. ¼ sec. 20, tp. 17, r. 19 w. 2nd mer. Sask.

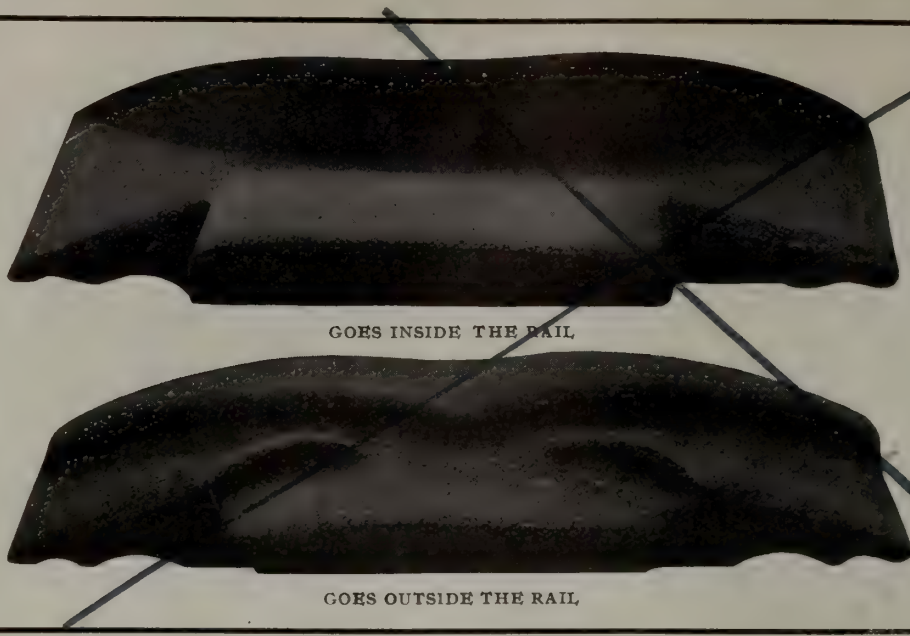
6762. Mar. 10.—Directing the C.P.R. to provide a station at Redvers, Sask., in accordance with its No. 5 standard plan.

6763. Feb. 19.—Respecting payment to shippers who provide temporary doors for shipping live stock in box cars. See page 331.

6764. Apr. 1.—Ordering that tariffs of joint tolls with the C.P. and C.N. Telegraph Cos. filed by G.T.P.R. applying on messages transmitted between offices of said companies in Manitoba, Saskatchewan and Alberta, be temporarily approved, until Board disposes of question of telegraph tolls generally.

6765. Apr. 6.—Ordering G.T.R. to prepare plans, within 10 days, for diversion of Montreal road, Kingston, Ont., that G.T.R. commence work 10 days after plans have been approved; and that all work connected with the subway be completed on or before Aug. 1, unless further extended.

6766. Apr. 6.—Authorizing Gordon, B. C., Government Agent to construct a



WASHBURN
REPLACERS

MADE IN CANADA

TAYLOR & ARNOLD
MONTREAL

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING, 232 ST. JAMES STREET, MONTREAL

DOMINION IRON & STEEL CO. LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1909. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICES AND WORKS: SYDNEY, CAPE BRETON, CANADA

highway level crossing over C.P.R. Revelstoke and Arrow Lake branch.

6767. Apr. 6.—Approving location of C.N.O.R. through unsurveyed territory in the Sudbury mining divison, Algoma, Ont., mileage 60 to 80 from Sudbury Jct.

6768. Mar. 26.—Refusing application of Essex Terminal Ry. to set aside orders of Mar. 22, 1907, June 5, 1906, and Mar. 13, 1907, which approved location of Windsor, Essex & Lake Shore Rapids Ry., between Windsor and Leamington, and authorized certain crossings over other railway tracks. Authorizing operation and maintenance of Windsor, Essex & Lake Shore Rapid Ry., along gravel road. Authorizing Essex Terminal Ry. to cross W.E. & L.S.R. Ry. and C.P.R. at or near existing crossing of C.P.R. and W.E. & L.S.R. Ry.

6769. Apr. 6.—Authorizing C.P.R. to use for traffic its Lauder extension, from Broomhill, Man., mileage 16.0 to 28.5.

6770. Apr. 7.—Extending for six months from date time within which construction of overhead farm crossing on A. M. Dickie's land, London tp., Ont., is to be completed by G.T.R.

6771. Mar. 26.—Directing Grand Valley Ry. to equip all its cars, freight motors, passenger motors and trailers, with air brakes by July 1.

6772. Apr. 6.—Ordering that C.P.R. bridge over Richelieu River, St. John's, Que., be protected with inner steel guard rails, within 60 days.

6773 to 6778.—Apr. 6.—Authorizing C.P.R. to construct bridges at its Sault Ste. Marie branch, Smith's Falls, Nipigon and Shuswap sections over Eagle river.

6779. Apr. 6.—Authorizing C.P.R. to construct spur line to Hutchins Car Roofing Co.'s premises, Montreal.

6780. Apr. 7.—Authorizing Commissioner of Railways and Telephones for Saskatchewan to erect wires across C.N.R. in secs. 17 and 18, tp. 17, r. 18, w. 2nd mer. Sask.

6781-6782. Apr. 7.—Authorizing Dundurn Rural Telephone Co. to erect wires across C.N.R. at two points in Saskatchewan.

6783. Apr. 7.—Authorizing Dunnville Consolidated Telephone Co. to erect wires across M.C.R. at Canfield Jct., Ont.

6784. Apr. 8.—Authorizing C.P.R. to construct coal tipple over its main line and other tracks, near Michel Station, B.C.

6785. Apr. 8.—Extending until May 31 order 6102, of Jan. 25, authorizing C.P.R. to install interlocking and derailing appliances at Oak Point Jct., near Winnipeg.

6786. Apr. 8.—Approving plan of proposed reconstruction of G.T.R. St. George Viaduct, So. Dumfries tp., Ont.

6787. Apr. 8.—Rescinding order 6542 of Feb. 25 dismissing complaint of Burnaby and Coquitlam municipalities, B.C., alleging defective cattle guards on the V.W. & Y.R. or the V.V. & E.R. & Nav. Co's. railway.

6788- 6789. Apr. 6.—Authorizing New Brunswick Telephone Co. to erect wires across C.P.R. at two points.

6790. Apr. 3.—Directing C.P.R. to open highway crossing between Arden and Kaladar, Ont.

6791. Apr. 6.—Ordering that City of Kingston, Ont., pay cost of night watchman at subway at Kingston Jct. being constructed by the G.T.R. until same is constructed.

6792. Apr. 6.—Dismissing application of C.N.Q.R. re crossing C.P.R. south of St. Jerome, Que.

6793. Apr. 6.—Dismissing application of C.P.R. to take additional lands adjoining its station at Sidney, Man.

6794. Apr. 6.—Dismissing application of C.W. & L.E.R. for order varying order of the Board of Oct. 4, 1906, which authorized the company to cross the G.T.R. at grade at William St., Chatham, Ont.

6795. Apr. 6.—Limiting speed of G.T.R. and K. & P.R. trains at Place d'Armes, Kingston, Ont., to six miles an hour.

6796. Apr. 8.—Authorizing C.P.R. to construct bridges at 14 points on its Ontario, Western, Lake Superior and Eastern Divisions.

6797. Apr. 8.—Authorizing C.N.O.R. to construct bridge over west branch of Vermilion River, at mileage 23.51 from Sudbury Jct. on its Sudbury-Port Arthur line.

6798. Apr. 8.—Authorizing C.N.O.R. to construct bridge over Vermilion River, at mileage 30.5 from Sudbury Jct. on its Sudbury-Port Arthur line.

6799. Apr. 8.—Authorizing Man. Gov't Telephones, to erect wires across C.P.R. near Moore Park.

6800. Apr. 8.—Authorizing R. S. Brewster, M.B., of Village of Beeton, Ont., to erect wires across G.T.R. at three points in Tecumseth tp., Ont.

6801. Feb. 23.—Dismissing complaint of Burnaby municipality, B.C., against fares charged on B.C. Electric Ry. Co.'s line between Vancouver and New Westminster, B.C.

6802. Apr. 7.—Directing City of Montreal to carry out the terms of agreement entered into between the City and the C.P.R., dated Feb. 3, 1892, and repair the steel viaduct carrying St. Catherine St. across the C.P.R.

6803. Apr. 6.—Directing C.P.R. to install and maintain interlocking plant, with derails, on G.T.R. and its own line, where G.T.R. crosses C.P.R. on level at Brampton, Ont.

6804. Apr. 6.—Directing C.P.R. to install and maintain interlocking plant, with derails, on G.T.R. and its own line, where G.T.R. crosses C.P.R. on level at Drumbo, Ont.

6805. Apr. 6.—Ordering that Montreal Ry. Co. be made party to City of Montreal's complaint against rates charged by Montreal, Park & Island Ry. and service and operation of that railway in Montreal.

6806 to 6809. Apr. 13.—Authorizing City of Edmonton, Alta., to erect telephone and electric light wires across C.N.R. at four points.

6810. Apr. 13.—Authorizing Bell Telephone Co. to erect wires across G.T.R. 3½ miles west of Paris station, Ont.

6811 and 6812. Apr. 13.—Authorizing City of Edmonton, Alta., to erect telephone and electric light wires across C.N.R. at two points.

6813. Apr. 6.—Directing G.T.R. to permit its siding across Preston St., Ottawa, Ont., to be joined with Export Lumber Co.'s proposed siding.

6814. Apr. 6.—Directing G.T.R. to build bridge across Preston St., Ottawa, Ont., within six months from date.

6815. Feb. 1.—Dismissing application of Winnipeg Jobbers' & Shippers' Ass'n, Winnipeg, for order directing railway companies to provide carload rating on blankets from points in Eastern Canada to Winnipeg.

6816. Mar. 5.—Dismissing application of Canada Zinc Co., Ltd., for leave to carry electric power transmission line over C.P.R. Proctor branch near Nelson, B.C.

6817. Mar. 3.—Authorizing V.V. & E. Ry. & Nav. Co. to divert Ladner highway, Delta municipality, B.C., and acquire lands for relocation of same.

6818 and 6189. Apr. 14.—Authorizing the Bell Telephone Co. to erect wires across G.T.R. at Carp and Galetta, Ont.

6820 to 6826. Apr. 14.—Authorizing Timiota municipality to erect wires across G.T.P.R. at various points in Manitoba.

6827 and 6828. Apr. 14.—Authorizing Bell Telephone Co. to erect main wires across C.P.R. at Monklands, Ont., and across G.T.R. at Barrie, Ont.

6829. Apr. 14.—Authorizing Burgesville Telephone Co. to erect wires across G.T.R. at two points in North Norwich municipality, Ont.

6830. Feb. 19.—Releasing 25 landowners of Beechmount subdivision, Edmonton, Alta., from plans 7851 R and 3624 U, filed by the G.T.P.R.

6831. Apr. 14.—Authorizing Toronto & Hamilton Ry. to cross C.P.R. near Lambton Mills, Ont.

6832. Apr. 14.—Approving plan of C.P.R. overhead bridge, crossing Haystead road, Foley tp., Ont.

6833. Feb. 11.—Directing C.N.R. to plank highway crossings on its Humbolt division, Sask.

6834. Feb. 3.—Dismissing complaint of Manitoba Grain Growers' Ass'n, alleging that C.P.R. and C.N.R. charge excessive freight rates on bulk-headed cars of grain going to Fort William and Port Arthur, Ont. (See page 333.)

6835. Apr. 6.—Directing C.P.R. and C.N.R. to file joint class and commodity tariffs of rates on freight traffic in classes 6 to 10 inclusive of Canadian Classification, between Edmonton and all points on C.P.R., except Strathcona, via Strathcona Junction, on the basis of 1c. per 100 lbs. over and above C.P.R. class and commodity to or from Strathcona. (See page 333.)

6836. Apr. 15.—Authorizing Farmers' Long Distance Telephone Co. to erect wires across M.C. Rd., 2½ miles west of Mull station, Ont.

6837. Apr. 14.—Authorizing Chatham Gas Co. to lay main under C.P.R. at Chatham, Ont.

6838. Apr. 15.—Authorizing A.Q. & W.R. to construct four bridges in Quebec province.

6839. Apr. 15.—Authorizing C.N.Q.R. to construct bridge over Lac Ouareau River, on its Jacques-Rawdon extension.

6840. Apr. 13.—Authorizing C.N.O.R. to cross Toronto-Sudbury branch by an undercrossing at Big Key River, mileage 283 west from Ottawa.

6841. Apr. 15.—Authorizing McKim municipality, Ont., to construct crossing over C.P.R.

6842. Apr. 15.—Authorizing temporary crossing of C.N.R. by the G.T.P.R., near Swift's packing house, Edmonton, Alta.

6843. Apr. 15.—Authorizing C.N.O.R. to construct bridge over Seguin River, at Parry Sound, Ont.

6844. Apr. 6.—Granting application of Canadian Freight Ass'n re rates on wire fencing and netting. (See page 333.

6845. Apr. 15.—Authorizing C.P.R. to construct spur line to A. E. Fenton's premises, Fort William, Ont.

6846. Apr. 16.—Authorizing Mount McKay & Kababeka Falls Ry. to cross C.N.R. at Gowanlock spur, Neebing tp., Ont.

6847. Apr. 16.—Authorizing London Tp. Telephone Co. to place wires under C.P.R. at Hyde Park flag station, Ont.

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for Sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

Canadian Gold Car Heating & Lighting Co. Ltd.

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

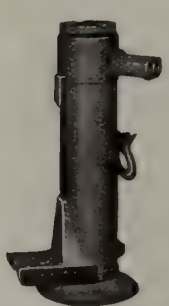
Catalogues and Circulars Cheerfully Furnished. **Improved System of Acetylene Car Lighting.**

Largest Manufacturers in the World of Car Heating Apparatus

H & E Patent Ball-Bearing Lifting Jacks

For Railway and Bridge Work, Contractors' and Builders' Use

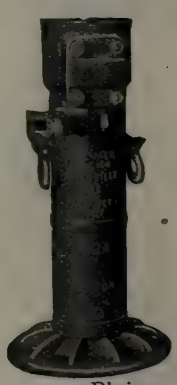
Foot-Lift



For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed. Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

Square Base

Journal Jack



Plain

MANUFACTURED BY

H & E LIFTING JACK COMPANY = = WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

6848. Apr. 16.—Authorizing Town of Orillia, Ont., to erect electric power wires across G.T.R. in Orillia tp.

6849. Dec. 22.—Refusing application of McDiarmid & Gall, Montreal, for order directing railway companies to allow 72 hours for unloading charcoal, instead of 48 hours allowed by Canadian Car Service Bureau rules.

6850. Apr. 16.—Authorizing Toronto Electric Light Co. to erect wires across G.T.R. at Greenwood Ave., Toronto.

6851. Apr. 19.—Approving general location of Nicola, Kamloops and Similkameen Ry. from Merritt to Similkameen, B.C.

6852-6854. Apr. 17.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at three points in Toronto.

6855-6856. Apr. 17.—Authorizing Seymour Power & Electric Co. to erect transmission line across Central Ontario Ry. and C.P.R., Marmora tp., Ont.

6857. Apr. 19.—Authorizing C.N.O.R. to place its Ottawa-French River division tracks over its Toronto-Sudbury division tracks near Cranberry Lake station, about mileage 284 west from Ottawa.

6858. Apr. 19.—Authorizing Atlantic, Quebec & Western Ry. to operate trains over its line from mileage 19.75 to 20.5 at the new station at Port Daniel, Que.

6859. Feb. 6.—Forcing stopping in transitu charge on grain at Winnipeg, and switching charge from Winnipeg or St. Boniface to unloading tracks. This order is given in full on another page.

6860. Apr. 19.—Authorizing C.P.R. to construct its railway across road allowances on Pheasant Hills branch, between mileages 530 and 556, west of Saskatoon. Sask.

6861. Apr. 20.—Authorizing Bell Telephone Co. to erect wires across C.P.R. near Conception Station, P.Q.

6862. Apr. 20.—Authorizing Man. Gov't Telephones to erect wires across C.N.R., at Swan Lake, Man.

6863. Apr. 20.—Authorizing W. C. Albert to lay water pipe under C.P.R. in Edmunston, N.B.

6864. Apr. 20.—Authorizing C.P.R. to reconstruct bridge 151.1 over the Walker River, on Lake Superior division.

6865. Apr. 19.—Authorizing City of Revelstoke, B.C., to erect transmission wires across C.P.R. at MacKenzie Ave.

6866. Apr. 19.—Authorizing C.P.R. to construct its tracks across Galt St., Lethbridge, Alta.

6867-6868. Apr. 19.—Authorizing City of Revelstoke, B.C., to erect transmission wires across C.P.R. at two points.

6869. Apr. 20.—Approving revised location of G.T.P.R., Prince Rupert, easterly, mileage 50, mileage 100, Copper River, B.C.

6870. Apr. 20.—Approving location of C.P.R. branch line, from point on revision of Crow's Nest Pass Line, sec. 30, tp. 9, range 22, west 4th mer., to west boundary sec. 8, tp. 17, range 24, west 4th meridian, Alta.

6871. Apr. 21.—Authorizing C.P.R. to open for traffic the portion of its line from Eburne to New Westminster, B.C., mileage 0 to 9.64.

6872. Apr. 21.—Authorizing Port Hope Telephone Co. to erect wire line across G.T.R. in Clarke tp., Ont.

6873. Mar. 8.—Amending order 4353 of Feb., 1908, authorizing C.P.R. and Alta. Ry. & Irrigation Co. to construct spur to Northwest Jobbing Co's. premises, Lethbridge, Alta.

6874. Apr. 21.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at Owen Sound, Ont.

6875. Apr. 21.—Amending order of Aug. 15, 1907, by rescinding authority therein granted in so far as it affects lot 16, block 14, parish lot 31 to 35, parish of St. Boniface, Man.

6876. Apr. 21.—Ordering Guelph & Goderich Ry. to install electric bell at Queen St. crossing, Blyth, Ont.

6877. Apr. 15.—Authorizing C.P.R. to construct two spur lines for N. Masson, Como, Que.

6878. Apr. 22.—Authorizing Walkerton & Lucknow Ry. to construct its railway across three highways in Glenelg tp., Ont.

6879. Apr. 6.—Refusing application of Export Lumber Co. for order directing G.T.R. and C.P.R. to provide a connection by a branch line between their sidings across Preston St. and York St., Ottawa.

6880-6882. Apr. 13.—Amending orders 6440, 6423 and 6424, Feb. 25, by striking out figures 6 and 10 in 9th line of operative part of orders and substituting figures 7 and 7.

6883. Apr. 22.—Authorizing C.P.R. to construct four bridges in Ontario.

6884. Apr. 22.—Authorizing Ingersoll Telephone Co. to erect wires across Tillsonburg, Lake Erie & Pacific Ry., in Dereham tp., Ont.

Great Northern Railway Lines in Canada

Winnipeg to Emerson, Man.—G.N.R. engineers are procuring land and laying out station sites on the route of its projected railway between Winnipeg and Emerson. A press report states that the company expects to have the line completed by Sept. 1.

Midland Ry. of Manitoba.—An act passed by the Dominion Parliament provides for the ratification of an agreement with the G.T.P. Ry. for the provision of a union station and other joint facilities at Portage la Prairie, Man.

Elkhorn and Autter, Sask.—A deputation from Elkhorn waited on the Manitoba Government recently in connection with the projected construction of a line from a G.N.R. branch at present terminating at the International boundary through Manitoba to Elkhorn and Autter, Sask.

Michel to Calgary.—Construction work was reported to have been started April 1, on the proposed line from Michel, B.C., to Calgary, Alta.

Vancouver, Victoria & Eastern Ry. & Navigation Co.—A letter was recently sent out by the United Empire Co., Princeton, B.C., stating that it was expected that the first train on the G.N.R. line would reach Princeton June 1. from Keremeos. (April, pg. 257.)

H. R. Patriarche read a paper on reciprocal demurrage at the Western Canada Railway Club's meeting at Winnipeg April 12.

C. A. M. Holland, alias G. W. Rathbun, was sentenced at Toronto April 13, to 5½ years in the penitentiary for defrauding the Dominion Ex. Co. of about $2,500 by forgery.

The Southern Alberta Land Co. has let a contract to J. D. McArthur, who is completing the construction of the Winnipeg-Lake Superior Junction section of the National Transcontinental Ry., for the construction of an irrigation ditch near Medicine Hat, Alta. It will be about 45 miles long and will bring under cultivation about 400,000 acres.

Recent Dominion Legislation

The following acts affecting transportation interests, passed by the Dominion Parliament, have been assented to by Deputy Governor-General, and are now law:

Abitibi and Hudson Bay Ry.—Extending time for construction.

Alberta Central Ry.—Extending time for construction, and authorizing construction of additional lines.

Alsek and Yukon Ry.—Extending time for construction.

Athabasca Ry.—Extending time for construction.

Brandon Transfer Ry.—Extending time for construction.

British Columbia and Manitoba Ry.—Authorizing Crawford Bay and St. Mary's Ry. to change name thereto, and extending time for construction.

Burrard Westminster Boundary Ry. & Navigation Co.—Extending time for construction and authorizing amalgamation with Vancouver, Westminster and Yukon Ry.

Canadian Pacific Ry.—Extending time for construction of branch lines, and authorizing construction of others.

Canadian Pacific Ry.—Grand Trunk Pacific Ry.—Respecting joint section of C.P.R. and G.T.P. Ry. at Fort William, Ont.

Canadian Western Ry.—Act of incorporation.

Collingwood Southern Ry.—Extending time for construction.

Edmonton and Slave Lake Ry.—Extending time for construction.

Grand Trunk Pacific Ry.—Midland Ry. of Manitoba—Respecting union station and other joint facilities at Portage la Prairie, Man.

Grand Trunk Ry.—Respecting debenture and other stock.

Guelph and Goderich Ry.—Extending time for construction.

Hudson's Bay and Pacific Ry.—Extending time for construction.

Huron and Ontario Ry.—Extending time for construction.

Kootenay Central Ry.—Extending time for construction.

Montreal Terminal Ry.—Extending time for construction.

Railway Act.—Amending the same.

St. Mary's and Western, Ont. Ry.—Extending time for construction.

Salisbury and Albert Ry.—Act of incorporation to take over Salisbury and Harvey Ry.

Southern Central Pacific Ry.—Extending time for construction.

Toronto, Niagara and Western Ry.—Extending time for construction.

Vancouver, Fraser Valley and Southern Ry.—Extending time for construction.

Vancouver, Westminster and Yukon Ry.—Extending time for construction.

Walkerton and Lucknow Ry.—Extending time for construction.

Winnipeg and Northwestern Ry.—Extending time for construction, and authorizing construction of additional branch lines.

The Lakewood Country Club has been incorporated under the Manitoba Companies Act for the purpose of encouraging and promoting the preservation of game in the province and to establish a country club. Among those interested are; W. Whyte, Second Vice-President, C.P.R.; F. M. Morse, Secretary-Treasurer, Winnipeg Electric Ry.; J. H. Munson, Counsel Western Lines, C.N.R., and F. H. Brydges, Winnipeg.

CANADIAN LOCOMOTIVE Co., LTD.,

KINGSTON, ONT.

Builders of Simple and Compound **LOCOMOTIVES** Adapted to every variety of service

A large number of Thermit repairs are described in "REACTIONS," the Thermit Quarterly. Copies will be sent free on request. Write also for Pamphlet No. 20 N illustrating over 30 important Thermit welding operations.

Repairing Heavy Steel Sections

For welding locomotive frames, driving wheel spokes, mud rings, gear wheels, crank shafts, sternposts of steamships, rudder stocks, anchors, and other steel sections, the Thermit Process offers the only method by which the repair may be made without removing the broken part. Heavy steel sections of all kinds may be welded IN PLACE. Simply send us a blue print of the parts to be repaired and we will submit an estimate immediately.

Goldschmidt Thermit Company
103 Richmond St. W. - - Toronto, Ontario

General Offices: 90 West St., New York.
Pacific Coast Branch:
432-436 Folsom St., San Francisco, Cal.

THE CANADA IRON CORPORATION

Successors to: LIMITED

CANADIAN IRON & FOUNDRY CO., LIMITED
CANADA IRON FURNACE CO., LIMITED
ANNAPOLIS IRON CO., LIMITED
JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE — MONTREAL, P.Q.

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and Gas Pipe, Specials, Valves, Hydrants, Etc.
Castings of All Kinds

MAINLY ABOUT PEOPLE

R. B. Angus, C.P.R. director, recently sailed for Great Britain.

Jas. Holway, formerly agent, M.C. Rd., Windsor, Ont., died there, Apr. 2, aged 56.

A. O. Sager, formerly M.C. Rd. agent at Welland, Ont., died there Apr. 3, aged 52.

Lady Shaughnessy and Miss Shaughnessy will, it is said, remain some time in England.

Hon. G. A. Cox, director G.T.P.R., was married at Toronto, Apr. 14, to Miss A. G. Sterling.

B. M. Armstrong, Controller Dominion Railway Mail Service, celebrated his 60th birthday Mar. 31.

Mrs. Mary Montgomery, niece of W. Mackenzie, President, C.N.R., died at Prince Albert, Sask., Apr. 14.

H. McD. Stevens, of the Intercolonial Ry. engineering staff, was married at Moncton, N.B., Mar. 24, to Miss N. G. Tidd.

M. K. Cowan, Assistant Solicitor, G.T.R., left Montreal recently on a southern trip to recuperate after an attack of typhoid fever.

The engagement of Miss M. Haney, daughter of M. J. Haney, railway and general contractor, Toronto, to Dr. H. Spohn is announced.

W. Stitt, General Passenger Agent, C.P.R., who has been recuperating at Atlantic City, N.J., after an attack of erysipelas, returned to Montreal, Apr. 21.

Archer Baker, European Manager, C.P.R., London, Eng., who was recently confined to his home with an attack of pneumonia, is reported to have resumed his duties.

F. W. Peters, Assistant to Second Vice-President C.P.R., returned to Winnipeg about the middle of Apr., after a business trip along the Pacific coast to Mexico.

Lieut.-Col. T. T. Turnbull, who was one of the promoters of the Hudson Bay and Pacific Ry., which is yet in the organization stage, died at Winnipeg, recently, aged 68.

Miss Amy P. Sinclair, daughter of Angus Sinclair, railway contractor, Toronto, is announced as being engaged to G. S. Stairs, of Halifax, N.S.

Lord Strathcona recently forwarded $250,000 to the Minister of Militia, in accordance with his offer to provide a fund for the provision of physical and military drill in Public Schools.

The late H. C. Hammond, President Northern Navigation Co., provided in his will for the payment of legacies to Osler & Hammond's employes of sums of from $500 to $1,000 each.

Mrs. Alex. Mackenzie, widow of the late Treasurer Canadian Northern Ry., has returned to Toronto from France, accompanied by her mother and her children.

Miss Crossen, only daughter of W. J. Crossen, President of the Crossen Car Mfg. Co., Ltd., of Cobourg, Ont., was married there Apr. 21 to Dr. L. E. Jordan, of Ottawa, Ill.

T. Grimes, General Yardmaster, C.P.R., West Toronto, was arrested recently on charges of forgery, whereby it is alleged he obtained almost $800 from the C.P.R. He has been remanded from time to time on bail.

J. Sieveright, formerly Master Mechanic, Quebec Central Ry., Sherbrooke, Que., died there recently, aged 73. He had been in the company's employ 33 years, and only retired from active service in Dec., 1908.

Mrs. Carter, wife of Capt. J. N. Carter, of Toronto, and formerly of Picton, Ont., and youngest daughter of M. C. Dickson, G.T.R. station agent, Woodstock, Ont., died suddenly at Toronto General Hospital, Apr. 25.

T. K. Bremner, who has been transferred from Stratford, Ont., to Toronto as Chief Clerk in G.T.R. division freight office, was presented with a gold watch by the members of the Congregational Church, Stratford, recently.

F. A. Gascoigne, Superintendent Car Service, C.P.R. Eastern Lines, Montreal, was recently presented with a travelling bag and gold mounted umbrella by the staff over which he presided as Car Accountant for six years.

Jas. Mills, Dominion Railway Commissioner, underwent an internal operation at Miss Lash's Cottage Hospital, Toronto, April 7. He is making good progress towards recovery, and it is hoped he will be able to resume his duties early in May.

E. H. Fitzhugh, Third Vice-President G.T.R., returned to Montreal in the middle of April from Texas, where he left Mrs. and Miss Fitzhugh with his son Earl Fitzhugh, whose health is reported to have been much improved by his residence there.

Hon. J. M. Gibson, Lieutenant-Governor of Ontario, Lieutenant-Colonel of the 15th Infantry Brigade (Western Ontario Command), and formerly President of the Dominion Power & Transmission Co., has been placed on the retired list of the Canadian Militia.

C. R. Hosmer, C.P.R. director, is a director of the new brewery company formed in Montreal with the title of the Eastern Breweries, to take over a number of the breweries in Montreal and other places in Quebec Province. The capital of the company is $12,000,000.

F. W. Jones, at one time Assistant to the Manager C.P.R., Western Lines, Winnipeg, who has been living in Victoria, B.C., since he sold out his interests in the Columbia River Lumber Co., intends to leave Victoria in August to spend two years in Europe.

E. A. Williams, who recently resigned the position of Special Agent, I.C.R., to enter the Thiel Detective Agency's service at Montreal, was presented with an address and a case of pipes by the members of the 19th Field Battery, of which he was an officer, on his leaving Moncton.

W. H. Allan, of Allan, Lang, Killam & McKay, general insurance agents, Winnipeg, who is also Canadian Northwest General Agent for the Allan Line Steamships, and is a son of the late Andrew Allan, of H. & A. Allan, Montreal, will be married shortly to Mrs. A. C. Killam, widow of the late Chief Railway Commissioner for Canada.

S. B. Clement, whose appointment as Chief Engineer, T. & N.O.R., was announced in our Apr. issue, was an honor graduate in civil engineering of McGill University, and has served as an engineer of construction, C.P.R., on survey work, T. & N.O.R., and prior to his appointment as Assistant Engineer, T. & N.O.R., in July, 1906, was Assistant Engineer of the Ontario Government Hydro Electric Power Commission.

J. E. McLurg, who has been appointed Superintendent Algoma Central Steamship Line, Sault Ste. Marie, Ont., was born at St. Mary's, Ont., Apr. 12, 1875, and entered transportation service Nov., 1903, since when he has been to June 15, 1904, in audit office, Algoma Central and Hudson Bay Ry.; June 15 to Oct. 20, 1904, purser, s.s. King Edward, Algoma Central Steamship Line; Oct. 20, 1904, to Apr. 1, 1905, in audit office, A.C. & H.B.R.; Apr. 1, 1905, to Apr. 1, 1909, Chief Clerk to Superintendent, Algoma Central Steamship Line.

F. A. Gascoigne, whose appointment as Superintendent, Car Service, C.P.R. Eastern Lines, was announced in our Apr. issue, was born at Gosport, Hants, Eng., Apr. 2, 1866, and entered Canadian railway service, May 18, 1883, since when he has been, to Aug., 1884, car checker and general clerk, C.P.R., Brockville, Ont.; Aug., 1884, to Dec., 1891, record clerk, foreign mileage clerk and statistical clerk, Car Accountant's Office, Montreal, successively; Dec., 1891, to Feb., 1903, Chief Clerk, Car Service Superintendent's office, Montreal; Feb. 1903, to Mar. 18, 1909, Car Accountant, Montreal.

F. J. Mahon, who has been appointed Superintendent Atlantic Division, C.P.R. Telegraph, was born at Montreal, Sept. 18, 1865, and entered C.P.R. telegraph service Aug. 15, 1886, since when he has been, to 1887, operator; 1887 to Dec., 1889, night chief operator, Montreal; Dec., 1889, to Feb., 1893, chief operator, St. John, N.B.; Feb., 1893, to Oct., 1906, local manager, Quebec; Oct., 1906, to Aug., 1908, chief operator, Montreal; Aug., 1908, to Feb., 1909, inspector, Eastern Division, Montreal. In Feb., 1909, he was appointed acting Superintendent, Atlantic Division, St. John, N.B., owing to the illness of the late P. W. Snider.

J. D. Murray, who was for some years in the Dominion Ex. Co.'s service, at Winnipeg, and who has latterly been in the Phosphate Co.'s employ at Christmas Island, in the Polynesian Archipelago, was married at St. George's, Hanover Sq., London, Eng., recently, to Miss E. M. McMicken, daughter of H. G. McMicken, European Traffic Agent, Great Northern Ry. (U.S.). Mr. Murray is a son of the late J. Murray, at one time C.P.R. Superintendent, Winnipeg; and a nephew of Sir John Murray, the eminent scientist, who was in charge of the Challenger expedition. Notwithstanding reports to the contrary, it is said that the newly-married couple will leave England for Christmas Island, in May.

W. P. Fitzsimons, who has been appointed Commissioner of Industries, G.T.R., Montreal, was born in Detroit, Mich., Oct. 27, 1868, and entered railway service as messenger in Assistant General Freight Agent's office, G.T.R., at Detroit, April 15, 1884, since when he has been consecutively to Feb. 10, 1896, in various positions general freight department same road at Detroit; Feb., 1896, to Jan., 1897, Travelling Freight Agent same road; Jan., 1897, to Nov., 1898, secretary to General Freight Agent same road, Montreal; Nov., 1898, to May, 1900, chief clerk General Freight Agent's office, same road, Montreal; May, 1900, to April, 1902, Division Freight Agent, same road, Detroit, Mich., and Manager Grand Trunk Despatch Fast Freight Line; May,

(Continued on pg. 353.)

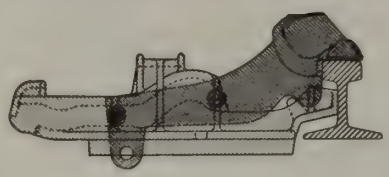
W. T. RODDEN, Managing Director J. F. JOHNSON, Secretary-Treasurer
GEO. C. TUNSTALL, Jr., Sales Manager

Standard Explosives
Limited

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL
Works: L'ISLE PERROT, NEAR VAUDREUIL, P.Q.



When used in signaling plants both the operating and locking connections of Hayes Derails are attached direct to the moving piece. The pull of the operating pipe is in line with the motion of the derail block and the force required to throw the derail is small. The locking rod is attached to a second lug on the derail block rendering the indication of the lock simple and positive. Fine adjustment of the locking mechanism, such as is required in the closed position of a split switch derail, is unnecessary in either direction.

They are made in Canada at Hamilton, Ontario.

Address: Hayes Track Appliance Co., Geneva, N.Y.

CROSSEN CAR MFG. COMPANY
OF COBOURG, LIMITED

MODERN HIGH-CLASS
ROLLING STOCK
Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows

CAR CASTINGS, FORGINGS AND REPAIR PARTS

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

PUBLICATION OFFICE,
157 Bay Street, Toronto, Canada.
Local and Long Distance Telephone, Main 3201

UNITED STATES REPRESENTATIVE
A. Fenton Walker
143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.

SUBSCRIPTION PRICES, INCLUDING POSTAGE:

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, MAY, 1909

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, A. S. Hobson, Sherbrooke, Que.; MANAGER, J. E. Duval, 121 Board of Trade, Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. J. Mossman, Buffalo, N.Y.; SEC.-TREAS., T. Marshall, Toronto.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, L. R. Johnson, Montreal; SECRETARY, J. Powell, St. Lambert, Que. MEETINGS 1st Tuesday each month 8 p.m., except June, July and August.

Canadian Street Railway Association.

PRESIDENT, J. E. Hutcheson, Ottawa; SEC.-TREAS., Acton Burrows, 157 Bay St., Toronto.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal. MEETINGS at Montreal, alternate Thursdays, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, R. J. Craig, Cobourg, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto. MEETINGS at Toronto, 3rd Tuesday each month, except June, July and August.

Dominion Marine Association.

PRESIDENT, C. J. Smith, Montreal; COUNSEL, F. King, Kingston, Ont.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto.
SECRETARY, R. B. Wolsey, C.E., Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee.

CHAIRMAN, A. A. Heard, Albany, N.Y.
SECRETARY, Jas. Morrison, Montreal.

Quebec Transportation Club.

PRESIDENT, E. A. Evans.
SECRETARY, A. H. Davis, Box 324, Quebec.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade. Montreal.

Western Canada Railway Club.

PRESIDENT, G. Hall, Winnipeg; SECRETARY, W. H. Rosevear, Winnipeg. MEETINGS at Winnipeg, 2nd Monday each month, except June, July and August.

Alphabetical List of Advertisers

	PAGE
Abbott, W.	Cover 1
Acme Railway Equipment Co.	326
Allan, A. A. & Co., Ltd.	364
Alexander Car Replacer Mfg. Co.	380
American Brake Shoe & Foundry Co.	366
American Hoist & Derrick Co.	328
Babcock & Wilcox Ltd.	388
Banwell, Hoxie Wire Fence Co., Limited	360
Beatty, M., & Sons, Ltd.	384
Boker, Hermann & Co.	372
Bowser, S. F., & Co., Limited	342
Bradstreet Company	374
Brevoort Hotel, Chicago	342
Brown Hoisting Machinery Co.	320
Burnham, Williams & Co.	368
Burns, R. M. & Co.	384
Burrows,—Acton Burrows, Limited	322
Butterfield & Co.	384
Canada Car Co., Ltd.	Cover 2
Canada Iron Corporation, Ltd.	348
Canadian Bridge Co., Ltd.	368
Canadian Bronze Co., Ltd.	386
Canadian Gold Car Heat'g & Light'g Co., Ltd.	346
Canadian Locomotive Co., Ltd.	348
Canadian Northern Railway	356
Canadian Office & School Furniture Co., Ltd.	376
Canadian Pacific Railway Land Department	376
Canadian Railway Accident Insurance Co.	386
Canadian Ramapo Iron Works, Ltd.	372
Canadian Rand Co., Ltd.	358
Canadian Road Machine Co., Ltd.	370
Canadian Westinghouse Co., Ltd.	Cover 2
Cardwell Mfg. Co.	378
Chicago Ry. Equipment Co.	366
Cleveland City Forge & Iron Co.	378
Clifton Hotel, Niagara Falls, Ont.	376
Coddington, W. H.	386
Coghlin, B. J., & Co.	384
Continental Iron Works	352
Crossen Car Mfg. Co., of Cobourg, Ltd.	350
Date, John	382
Delaware and Hudson Co.	380
Dominion Bridge Co., Ltd.	378
Dominion Car & Foundry Co., Ltd.	Cover 4
Dominion Iron & Steel Co., Ltd.	334
Dominion Wire Rope Co., Ltd.	334
Dougal Varnish Co., Ltd.	Cover 1
Drake & Wiers Co.	383
Drewry, E. L.	376
Drummond, McCall & Co.	340
Duner Co.	386
Engineering News Book Dept.	356
Falls Hollow Staybolt Co.	378
Farlow Draft Gear Co.	360
Flannery Bolt Co.	340
Fuce, Edw. O.	351
Galena Signal Oil Co.	314
Galt Malleable Iron Co.	386
Gardner, J. T.	376
Gartshore, J. J.	368
Gartshore-Thomson Pipe & Foundry Co., Ltd.	380
Goldschmidt Thermit Co.	348
Grand Trunk Railway	352
Greening, The B., Wire Co., Ltd.	384
Ground Anchor Co., Ltd.	354
H. and E. Lifting Jack Co.	346
Hamilton Pattern Works	386
Hamilton Steel & Iron Co., Ltd.	328
Harrison Dust Guard Co.	376
Hart-Otis Car Co., Ltd.	324
Hayes Track Appliance Co.	350
Hicks Locomotive and Car Works	383
Holden Co., Ltd., The	354
Hopkins, F. H., & Co.	324
Hotel Cadillac, Detroit, Mich.	Cover 1
Hudson's Bay Company	346
Hunt, Robert W., & Co.	382
Hutton, James, & Co.	382
Illinois Central Railroad	380
Imperial Bank of Canada	386
Imperial Guarantee & Accident Insurance Co.	386
Intercolonial Railway	342
International Marine Signal Co.	374
International Mercantile Marine Co.	378
Jardine, A. B., & Co.	354
Jessop, Wm., & Sons, Ltd.	376
Kerr Engine Co., Ltd.	370
Knowlton, W. H.	382
Lehigh Portland Cement Co., Ltd.	374
Lehigh Valley Rd.	384
Lewis, Rice, & Sons, Ltd.	340
Lufkin Rule Co.	Cover 1
McConway & Torley Co.	386
McCord & Co.	332
McGregor-Banwell Fence Co., Ltd.	358
Metcalf, John S., Co.	383
Midland Towing & Wrecking Co., Ltd.	380
Modoc Soap Co.	386
Montreal Locomotive Works, Ltd.	316
Montreal Rolling Mills Co., Ltd.	356
Montreal Steel Works, Ltd.	338
Mussens Limited	Cover 1 and 318
National Malleable Castings Co.	Cover 1
New Brunswick Wire Fence Co., Limited	380
Norton, A. O.	334
Ontario Wind Engine and Pump Co.	382
Orford Copper Co.	386
Ottawa Car Co., Ltd.	Cover 1
Owen Sound Wire Fence Co., Ltd.	382
Page Wire Fence Co., Limited	372
Parry Sound Lumber Co. Ltd.	374
Phillips. Eugene F., Electrical Works, Ltd.	386
Piper, The Hiram L., Co., Ltd.	386
Piper, N. L., Railway Supply Co., Ltd.	362
Polson Iron Works, Ltd.	330
Positive Lock Washer Co.	386
Preston Car & Coach Co., Ltd.	368
Provincial Steel Co., Limited	364
Pyke, J. W., & Co.	344
Pyle National Electric Headlight Co.	326
Rail Joint Co. of Canada, Ltd.	Cover 1 and 336
Rendle, A. Edgcumbe	Cover 1
Rhodes, Curry & Co., Ltd.	330
Robb Engineering Co., Ltd.	332
Robertson Machinery Co.	372
Safety Car Heating & Lighting Co.	338
Saxby and Farmer, Ltd.	Cover 1
Sheriffs Mfg. Co.	372
Silliker Car Co., Limited	336
Smart, James, Mfg. Co., Ltd.	366
Southam Press	382
Standard Coupler Co.	382
Standard Explosives, Limited	350
Standard Steel Works Co.	368
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold	352
Toronto Bolt & Forging Co., Ltd.	358
Toronto Pressed Steel Co., Ltd.	362
Vulcan Iron Works	366
Wallace Supply Co.	372
Washburn Steel Castings & Coupler Co.	344
Waugh Draft Gear Co.	Cover 1
Williams Boltless Rail Joint Mfg. Co.	364
Wire & Cable Co.	Cover 1

EDW. O. FUCE
Hon. Grad., Univ. Tor. (S.P.S.)
A. M. CAN. SOC. C. E.
ONT. LAND SURVEYOR,
Consulting Civil Engineer
GALT, ONT.
Railway Location & Construction.
Reinforced Concrete Structures.

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

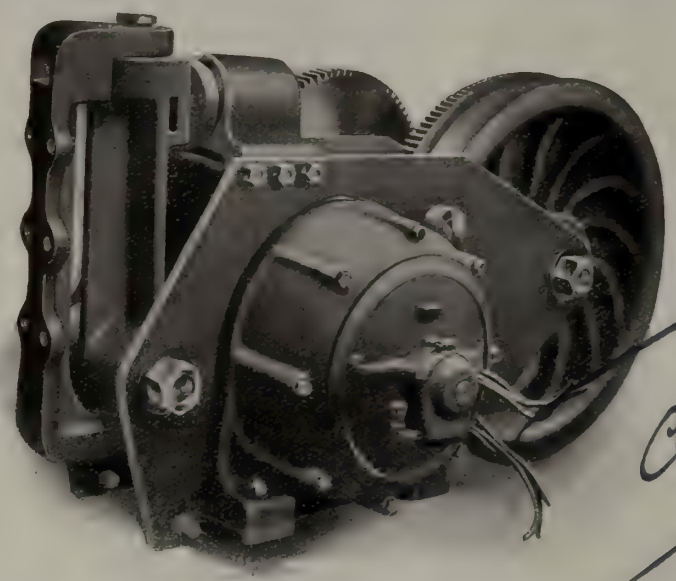
THROUGH TRAINS between BOSTON (via Boston & Maine R.R. and Cent. Vermont Ry.) MONTREAL, TORONTO and CHICAGO.
THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.
Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, Gen. Passenger and Ticket Agent, MONTREAL, QUE.



Pilling Electric Motors

FOR TURNTABLES AND SWING BRIDGES

ALSO

COMPRESSED AIR MOTORS

Canadian Pilling Co.

MONTREAL

MORISON Suspension Furnaces

The Universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine Boilers

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

Manufactured by

THE CONTINENTAL IRON WORKS, WEST AND CALYER STS. BOROUGH OF BROOKLYN. Near 10th and 23rd St. Ferries. NEW YORK

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

1902, to Sept., 1907, Manager, Lackawanna-Grand Trunk Line, Buffalo, N.Y.; Sept., 1907, to Apr., 1909, Manager, Bureau of Transportation and Manufacturers, Detroit, Mich. Board of Commerce.

W. P. Hinton, who has been appointed General Passenger Agent. G.T.P.R., Winnipeg, was born at Hintonburg, Ont., Aug. 30, 1871. He entered railway service May, 1887, since when he has been, to Aug., 1891, clerk, freight, passenger, and car accounts and travelling auditor, Canada Atlantic Ry.; Aug., 1891, to Mar., 1898, rate clerk, general freight and passenger departments, same road, and accountant, Canada Atlantic Fast Freight Line; Mar., 1898, to June 30, 1901, Assistant General Freight Agent, same road, and Canada Atlantic Transit Co.; June 30, 1901, to Jan. 30, 1903, General Freight Agent, same road, Jan. 30, 1903, to Oct., 1905, General Passenger and Freight Agent, Canada Atlantic Ry.; Oct. 1905, to Jan., 1907, General Agent Passenger Department, G.T.R., Ottawa; Jan., 1907, to Apr., 1909, Assistant General Passenger and Ticket Agent, same road, Montreal.

E. F. Tarbox, Travelling Passenger Agent, Halifax and Southwestern Ry., Boston, Mass., whose additional appointment as Travelling Passenger Agent, Canadian Northern Quebec, and Quebec and Lake St. John Rys., was announced in our Apr. issue, was born at Lynn, Mass., Jan. 4, 1881, and entered railway service in 1900. Since when he has been to 1901, stenographer, Chicago, Rock Island and Pacific Ry., Boston, Mass.; 1901, to Apr., 1905, clerk and ticket agent, New England Passenger Agent's office, Rutland Rd., and Canadian Government Railways. He was for a short time in 1905, in the U.S. Light House Service, and subsequently, to Mar., 1906, in the employ of the Beekman Tourist Agency; Mar., 1906, he was appointed Travelling Passenger Agent, H. & S.W. Ry., which position he still holds, in connection with a similar one on the Mackenzie-Mann Quebec Lines.

F. P. Brady, who has been appointed as one of the members of the Board to manage the I.C. Ry., was born at Haverhill, N.H., June 22, 1853, and entered railway service 1869, as station baggagemaster Passumpsic Ry., since which he has been consecutively: 1873 to 1880, train dispatcher Northern Rd., at Concord, N.H.; 1880 to 1888, Chief Train Dispatcher Southeastern Ry., at Richford, Vt.; 1888 to 1889, Trainmaster C.P.R.; 1889 to 1898, Assistant Superintendent same road; 1898 to May, 1901, Superintendent same road at Smith's Falls, Ont.; May, 1901, to Sept., 1902, Superintendent districts 10 and 11 same road at Toronto; Sept., 1902, to May, 1903, Superintendent district 19 same road at Fort William, Ont.; June 1, 1903, to Feb., 1904, Assistant General Superintendent Central Division, Winnipeg, Man.; Feb., 1904, to Sept. 16, 1908, General Superintendent Lake Superior Division, C.P.R., North Bay, Ont.

G. T. Bell, who has been appointed Assistant Passenger Traffic Manager G.T.R., and G.T.P.R., was born at Montreal Sept. 7, 1861. He entered railway service in 1878, since when he has been consecutively, to Nov., 1880, clerk, car mileage office, Great Western Ry.; Nov., 1880, to Nov., 1882, stenographer, General Passenger Agent and Rate Clerk's Office; same road; Nov., 1882, to Jan. 1, 1884, Chief Clerk, Assistant Passenger Agent's Office, G.T.R.; Jan. 1, 1884, to Apr., 25, 1892, Chief Clerk, General Passenger Agent's Office, same road; Apr. 25, 1892, to Apr., 1896, Assistant General Passenger Agent, same road, Montreal; Apr., 1896, to Aug., 1899, Assistant General Passenger and Ticket Agent, same road, Montreal; Aug., 1899, to May, 1900, First Assistant General Passenger and Ticket Agent, same road, Chicago, Ill.; May, 1900, to Aug., 1908, General Passenger and Ticket Agent, same road, Montreal; Aug., 1908, to Apr., 1909, General Passenger and Ticket Agent, G.T.R., and G.T.P.R., Montreal.

F. H. Phippen, who has been appointed General Counsel Canadian Northern Ry., with office at Toronto, was born at Belleville, Ont., Aug. 26, 1862. He studied law in the office of R. C. Clute, now one of the Judges of the Exchequer Division of the High Court of Justice of Ontario, and afterwards in Blake, Lash & Cassels and Barwick & Aylesworth's offices, Toronto. He was called to the Ontario bar Feb., 1885, passing first out of 60 candidates and to the Manitoba bar in Aug., 1885, again passing first. He entered Macdonald & Tupper, McArthur & Dexter's firm in Winnipeg in May, 1885, and on its dissolution became a partner in Macdonald, Tupper & Phippen, which firm, with additions to its membership, continued until Mr. Phippen was appointed a judge of the Manitoba Court of Appeal in July, 1906, which position he resigned April 12, 1909, to enter the C.N.R. service. He was formerly counsel for the Manitoba and Southwestern Ry. Co., and for the C.P.R. Land Department. His practice was almost entirely devoted to corporation work.

Canadian Patent Laws

A correspondent in the United States wrote us recently as follows: "If a firm has taken out a patent in Canada, I understand that the manufacturer is allowed to ship into Canada for two years, and after that must manufacture in Canada. To-day I heard that manufacturing must be begun in Canada one year after patent is issued. In the case of having a patent in Canada and two or more years have expired and they are manufacturing in Canada, may they send part of the machine or tool for putting the whole of it together in Canada, and if so, what percentage of the machine, tool or any article may be sent? If a U.S. manufacturer has arranged to allow a Canadian railway company or manufacturer to make its patented article on a royalty basis, does this protect the U.S. manufacturer in the same way as if he had himself been manufacturing in Canada?

We referred this inquiry to Fetherstonhaugh & Co., patent barristers and solicitors, Royal Bank Building, Toronto, who advise us as follows: "A patented article may be imported into Canada for one year from the date of the patent and must be manufactured within two years from the date of the patent. All parts of the invention must be manufactured in Canada and none of the parts can be imported and assembled in Canada after the one year allowed for importation has lapsed. If the article has been licensed to a railway company in Canada which manufactures the same within the time limit such manufacture protects the patent just as much as if the inventor had manufactured it himself in Canada."

Recent Ontario Legislation

The Ontario Legislature at its recent session passed the following acts dealing with transportation interests:

Algoma Central and Hudson Bay Ry.—Affecting the land grant.

Belleville Radial Ry.—Act of incorporation.

Burlington Beach.—Amending acts relating thereto.

Canada Central Ry.—Extending time for construction.

Canadian Northern Ontario Ry.—Voting land in aid of construction of Sudbury-Port Arthur line.

Cobourg, Port Hope and Havelock Electric Ry.—Act of incorporation.

Cobourg Radial Ry.—Act of incorporation.

Collingwood.—Confirming agreement with regard to shipbuilding.

Dunnville, Wellandport and Beamsville Electric Ry.—Extending time for construction.

Eastern Ontario Electric Ry.—Act of incorporation.

Farrar Transportation Co.—Respecting finances.

Ferries.—Act respecting ferries.

Fort William.—Act affecting city and street railway, etc.

Hamilton.—Act respecting city and its relation to, among other things, the street railway.

Lake Superior and Northern Ry. and Transportation Co.—Act of incorporation.

Manitoulin and North Shore Ry.—Respecting the land grant.

Midland.—Respecting the town of Midland.

Morrisburg Electric Ry.—Amending act of incorporation.

Niagara Peninsular Ry.—Authorizing extension of line.

Ontario Interurban Ry.—Act respecting the company.

Ontario West Shore Electric Ry.—Granting additional powers.

Ottawa and St. Lawrence Electric Ry.—Act of incorporation.

People's Ry.—Act of incorporation.

Peterboro Radial Ry. — Extending time for construction.

Port Arthur.—Act respecting the city and the street railway.

Railway.—Amending the Ontario Railway Act.

Railways.—Granting aid to certain railways.

Sault Ste. Marie.—Confirming an agreement with reference to bonus for dry dock.

Sault Ste. Marie and St. Joseph Island Ry.—Act of incorporation.

Simcoe Ry. and Power Co.—Act of incorporation.

Southwestern Traction Co.—Granting additional bonding power.

Stratford and St. Joseph Radial Ry.—Granting extension of time for construction.

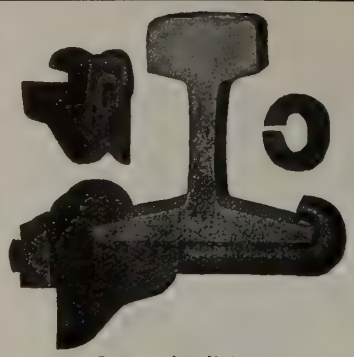
Temiskaming and Northern Ontario Ry.—Authorizing construction of extension to Gowganda.

Tillsonburg and Southern Counties Radial Ry.—Act of incorporation.

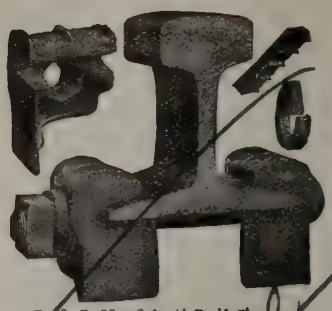
Toronto.—Respecting the city and its relation to the street railway, among other things.

Toronto Suburban Ry.—Extending time for construction.

The T. & N.O. Ry. is in the market for two 10-wheel passenger and four 10-wheel freight locomotives.



Q. & C. Anti-Rail Creeper



L. & S. No. 9 Anti-Rail Creeper

Monkbridge Staybolt Iron, Bent Cold

We highly recommend our ANTI-RAIL CREEPERS to Superintendents who are experiencing trouble with rails creeping, and our MONKBRIDGE STAYBOLT IRON to those in charge of drawing up specifications for the equipment of new locomotives. Write us for further information in this connection.

Watch for illustrations of our other well-known specialties.

THE HOLDEN COMPANY, Limited

MONTREAL—302 St. James Street. WINNIPEG—291½ Portage Ave. TORONTO—42 York Street.

"Jardine" Taps for the Boiler Shop

"Jardine" Taps for the Machine Shop

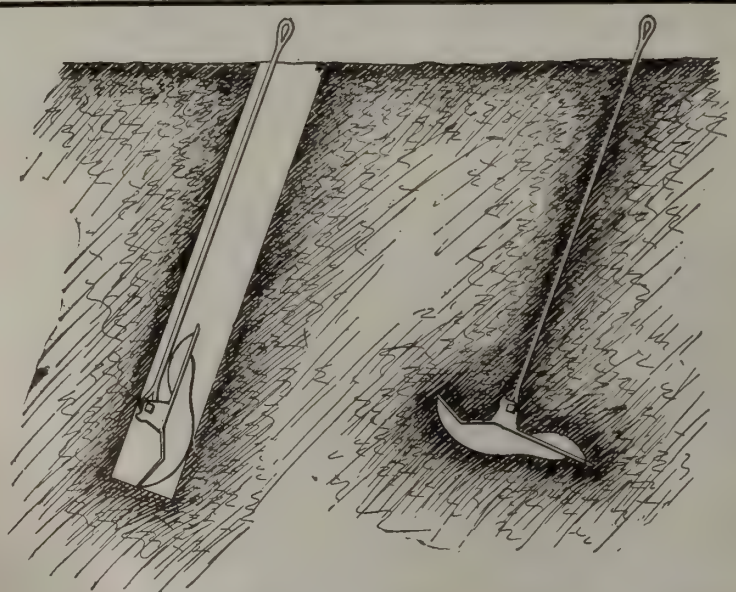
"Jardine" Taps for all Purposes

Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.



"AULD" TYPE GUY ANCHORS

Write us about your pole line; we can increase its efficiency and save you money.

Sole manufacturers under letters patent No. 90301 and No. 101462

THE GROUND ANCHOR CO.
LIMITED
Street Railway Chambers
MONTREAL

RAILWAY DEVELOPMENT

Projected Lines, Surveys, Construction, Betterments, Etc.

Abitibi and Hudson Bay Ry.—The Dominion Parliament has granted the company a further extension of time within which it may commence and complete the various lines of railway which it is authorized to construct. (Feb., pg. 101.)

Alberta Central Ry.—An act has been passed by the Dominion Parliament authorizing the construction of an extension of the previously authorized line terminating at Rocky Mountain House, Alta., to the G.T. Pacific Ry., near Yellowhead Pass, and easterly from Battle River to Saskatoon or Warman, Sask., and from near Red Deer, Alta., southerly to Moose Jaw, Sask. An extension of time for the construction of the Battle River-Rocky Mountain House line is also granted. (Mar., pg. 171.)

Algoma Central and Hudson Bay Ry.—The Ontario Legislature has granted an extension of time to Dec. 31, 1911, to earn the land grant voted in 63 Victoria, chap. 30. The conditions provide that the Lake Superior Corporation, which owns the railway, commence work forthwith on the extension and betterment of the plants of the various subsidiary companies at Sault Ste. Marie, Ont., and expends $1,500,000 upon such betterments before Dec. 31, 1910; that surveys be started at once upon the railway extension, that construction be started before May 1, 1910, and that thereafter not less than $25,000 a month be expended upon such work until the railway has been extended, including the main line and the Michipicoten branch, to a connection with the C.P.R. main line, such extension to be completed by Dec. 31, 1911; that the Crown shall have the right to throw open the 1,439,300 acres of land set aside in respect of such land grant by Order-in-Council of Feb. 4, 1905, to prospectors until Dec. 31, 1910, or such earlier date as the railway has been completed; that the Crown shall have the right to permit settlers to enter upon the lands and to grant patents in respect of such settlement. The money received in respect of any grants under these two conditions is to be placed in a separate fund and paid over to the company on completion of the railway within the date named. Under the first of these two conditions all discoveries of iron, coal, iron pyrites or nickel are reserved for the company, and under the second all minerals are reserved. (Mar., pg. 171.)

Alsek and Yukon Ry.—The Dominion Parliament has granted an extension of time within which the authorized lines of railway may be constructed. (Jan., pg. 17.)

Athabasca Ry.—The Dominion Parliament has granted an extension of time for two years within which construction work may be started on its authorized line of railway. (Jan., pg. 17.)

Atlantic, Quebec and Western Ry.—C. B. K. Carpenter, General Manager of the company concerned in financing the construction of this railway, stated in Montreal, April 16, that the line will be completed from Port Daniel to Pabos, Que., by June 30, and the whole line to Gaspe by Aug., 1910.

Blind River Colonization Ry.—The application to the Ontario Legislature for an act incorporating a company with this title was not proceeded with. (Mar., pg. 171.)

Brandon Transfer Ry.—The Dominion Parliament has granted an extension of time within which construction may be started upon the authorized line of railway in Brandon, Man. (Mar., pg. 171.)

British Columbia and Manitoba Ry.—The Dominion Parliament has changed the title of the Crawford Bay and St. Mary's Ry. Co. to the British Columbia and Manitoba Ry. Co. It has also granted an extension of time for construction, and given power to enter into agreements with the Northern Empire Ry.

The C.B. & St. Mary's Ry. Co. was incorporated in 1904 with power to construct a railway, to be operated by steam or electricity, from Crawford Bay, on Kootenay Lake, to Fort Steele, B.C., and by an act passed in 1906, it was authorized to extend its railway from Fort Steele, easterly to Lethbridge, Alta. (Mar., pg. 171.)

Bruce Mines and Algoma Ry.—A subsidy of $3,000 and 1,000 acres of land per mile has been voted by the Ontario Legislature in aid of the construction of an extension of this railway from its present terminus at Rock Lake, northerly for six miles. Construction of the extension has to be commenced within one year and completed within two years of the passing of the act. (Feb., pg. 101.)

Burk's Falls Ry.—A deputation from Burk's Falls district, Ont., waited on the Premier at Toronto, Mar. 31, to ask for a subsidy towards the construction of this projected railway from Burk's Falls to the French River, about 80 miles. It was stated that the line was to be constructed by interests allied to the G.T.R. as a colonization railway. Consideration of the project was promised, but the Government subsequently decided not to make any grant. (Sept., 1908, pg. 613.)

Burrard, Westminster, Boundary Ry. & Navigation Co.—The Dominion Parliament has granted a further extension of time for the constructing of the authorized line of railway, and permitting the company to enter into agreements of various kinds with the Vancouver, Westminster and Yukon Ry. Co. (Feb., pg. 101.)

Canada Central Ry.—The Ontario Legislature has extended the time within which the company may start construction upon its projected railway. (Apr., pg. 247.)

The Canadian Western Ry. Co. has been incorporated by the Dominion Parliament. (Mar., pg. 171.)

Central Ontario Ry.—The Ontario Legislature has voted a cash subsidy of $3,000 a mile in aid of construction of the northerly extension for 15 miles of the line now terminating at a junction with the Canada Atlantic Ry. between Whitney and Madawaska stations. Construction has to be started within three months and completed within two years of the passing of the act. (Feb., pg. 101.)

The Chicago, Milwaukee & Puget Sound Ry. is the title under which the Chicago, Milwaukee and St. Paul Ry. is constructing its western extension to Tacoma, Wash. Construction was commenced about three years ago, and it is expected that the line will be completed by May 1. The new line begins at Mobridge, S.D., and crosses the Rocky Mountains summit in Pinestone Pass, at an elevation of 6,350 ft., where there are two tunnels respectively 2,268 and 1,148 ft. long. At the summit of the Bitter Root Mountains, which are crossed at an elevation of 4,160 ft., there is an 8,751 ft. tunnel, and the line is carried over the Cascade Mountains by the Susqualine Pass. (See also Canadian Western Ry., Mar., pg. 171, and pg. 173.)

The Cobalt Range Ry. Co.'s bill for extension of time has been approved by the Commons Railway Committee. (Feb., pg. 101.)

Collingwood Southern Ry.—The Dominion Parliament has granted an extension of time within which this projected railway may be constructed. (Mar., pg. 173.)

Crawford Bay & St. Mary's Ry.—See British Columbia and Manitoba Ry.

Elkhorn Northern Ry.—Application will be made to the Manitoba Legislature for an act incorporating a company with this title, with power to construct and operate railway of standard or other gauge, and to use steam, electric or other motive power, from range 27, 28 or 29 at the International boundary, easterly, westerly and northerly to Elkhorn, and to the northern boundary of the province; also branch lines, bridges, etc., and to operate ferries, hotels, pleasure parks, etc. J. Carse, Elkhorn, Man., is acting for the applicants.

The Excelsior Coal Mining Co. has been incorporated under the Manitoba Companies Act, with a capital of $300,000 and office at Winnipeg for the purpose of mining coal, oil and metals, and in connection therewith to construct and operate railways, switches and sidings, and to use steam or electricity as a motive power. The provisional directors are: J. S. Douglas, A. Douglas, A. B. Wooldridge, F. Ashford, J. Malcolm, and D. W. McKerchar, Winnipeg.

Farmers' Ry.—D. W. Hines, of Hannah, Sask., has been spending some time in North Dakota, advocating the construction of a railway from Duluth, Minn., via Regina, Sask., to Hudson Bay. He says he has secured a charter covering the construction of a line from Regina to Melfort, Sask., and that as soon as he can get sufficient support for his project he will make application to the Dominion Parliament for authority to extend the line from Regina to the International boundary. He proposes to finance construction by securing as shareholders, the farmers along the route, each of them subscribing in cash for one share of $100 and undertaking to do so much grading on the line in their vicinity, receiving scrip in payment therefor.

Halifax and Southwestern Ry.—In reply to a question in the N.S. Legislature recently, the Premier said it was the company's intention to erect a shipping pier at Port Wade, N.S., the Middleton and Victoria Beach branch terminus without delay. (Sept., 1908, pg, 615.)

Hudson's Bay and Pacific Ry.—The Dominion Parliament has granted a further extension of time for the construction of the projected line of railway from Hudson Bay to the Pacific coast.

A company with the title of the Hudson Bay and Pacific Development Co. has been incorporated in London, Eng., with a capital of £150,000. It has for its object the construction and operation of railways, tramways, telegraph and telephone lines in Canada and elsewhere. (Mar., pg. 173.)

Intercolonial Ry.—The Dominion Parliament has voted the following addition-

SIX GOOD

BOOKS

FOR

RAILROAD MEN

THE ENGINEERING NEWS BOOK DEPARTMENT

220 BROADWAY, NEW YORK

ECONOMICS OF RAILWAY OPERATION

By M. L. Byers

C.E., Ch. Eng. M. of W., Mo. Pac. Ry.

672 pp., many diagrams and forms illustrating the best modern practice - $5 net

The only publication explaining in detail the operative systems of American railways. Sir William Van Horne says of it: "I regard it as a most useful and valuable book."

TRACK AND TRACK WORK

(Third Edition, Revised and Enlarged)

By E. E. R. Tratman

Assoc. M. Am. Soc. C. E.

520 pages, 232 illustrations, 44 tables and an appendix of statistics of standard track construction - - - - - - $3.50 net

The standard treatise on this subject.

DESIGN OF TYPICAL STEEL RAILWAY BRIDGES

By W. Chase Thomson

M. Can. Soc. C.E. Assist. Eng. Dominion Bridge Co.

178 pages, 21 figs., 5 fold. plates - $2 net

FIELD PRACTICE OF RAILWAY LOCATION

By Willard Beahan

270 pages, 50 illustrations - $3.00 net

RIGHT OF WAY SURVEYING

By A. I. Frye

8vo, 50 pages - - - - - - - $1.00 net

RAILWAY LOCATION AND CONSTRUCTION

By E. N. McHenry

88 pages, 2 folding plates - $1.00 net

Any of these books will be sent, postpaid, on receipt of price, or further details with full list of contents will be given if desired.

KEEP YOURSELF POSTED ON THE LITERATURE OF YOUR SPECIALTY

For the guidance of technical men we issue, at intervals, notices of **new** and **recommended** books on various subjects, by all publishers. This service is **absolutely free** to all and involves no obligation of any kind whatever.

Mark on the attached coupon the special subjects on which **you** wish to be kept informed regarding **new** publications, adding any subjects not mentioned thereon in which you are interested. Send us this coupon **at once** and we will send you these notices as issued.

Engineering News Book Dept. R.M.W. 19
220 Broadway, New York

Send me notices of new books on

Engineering: ..Mining ..Cement and ..Civil ..Municipal Concrete ..Electrical ..Railroad ..Contracting ..Mechanical ..Architecture ..Metallurgy ..Chemistry

Name .....

Address .....

.....

New Ways To The Woods

The six railways of the Canadian Northern Railway system offer the widest choice of new territories for the fisherman, canoeist, camper and hunter.

IN NOVA SCOTIA the Halifax and Southwestern Railway, from Halifax to Yarmouth, serves seven hundred miles of ocean shore; two score generous trout streams and the famous Rossignol lake system.

IN CAPE BRETON, sixty miles of the Gulf of St. Lawrence shore is skirted by the Inverness Railway, which gives easy access to the Margaree valley—far-famed for its salmon fishing.

IN QUEBEC, the Canadian Northern, Quebec and Quebec, and Lake St. John Railways give easy access to the Saguenay, Upper St. Maurice, the Batiscan, the La Tuque game and fish preserve, and the valleys of the St. Lawrence and Ottawa. All good fishing waters, abounding with ouananiche, trout and bass.

IN ONTARIO, the entire range of the Muskokas, the Georgian Bay hinterland, the French, Pickerel, Still and Maganetawan rivers—well stocked with bass, mascalonge, and pickerel, are best reached by the Canadian Northern Ontario Railway.

IN WESTERN ONTARIO and the prairie provinces, the Canadian Northern Railway serves over three thousand miles of splendid territory. The Rainy River section follows the old Dawson fur trail, which is the finest canoe trip on the continent. There is an amplitude of sporting opportunities for the camera hunter, the fisherman and canoeist.

For literature and general or special information inquire of the information Bureau, Canadian Northern Railway System, Toronto.

COLD TWISTED STEEL BARS

FOR CONCRETE REINFORCEMENT

For this class of work there is a demand for a bar possessing a high elastic limit, and great tensile strength, also of such shape as to permit of close bond with the concrete.

Our Cold Twisted Steel Bars by reason of their meeting these requirements have been found to give entire satisfaction.

We make all sizes from 1-4 in. to 1 1-4 in., lengths 6 to 38 ft.

The Montreal Rolling Mills Co.

al sums for improvements, betterments, etc., on the line:

Double-tracking	$ 60,000
Original construction	800
Strengthening bridges	70,000
New turntables	13,000
Increased water supply	74,700
Increasing facilities, etc.	133,000
Improvements, Mulgrave, N.S.	22,000
" North Sydney, N.S.	4,000
" Point Tupper, N.S.	4,000
Increased accommodation, Truro, N.S.	52,000
" " Pictou, N.S.	5,500
" " Halifax, N.S.	180,000
Diversion Sydney Mines to River George, N.S.	50,000
Overhead crossing, Proberts, N.S.	5,000
Subway crossing, Eastville, N.S.	10,000
Improvements, Loggieville, N.B.	25,500
" Sackville, N.B.	10,000
" Newcastle, N.B.	10,000
" Campbellton, N.B.	64,500
Siding for passenger cars, Gibson, N.B.	4,000
Cut-off line, Moncton, N.B.	50,000
Diversion at Chatham, N.B., and branch to wharf.	36,000
Locomotive and car shops with equipment and new freight yard, Moncton, N.B.	$400,000
Increased accommodation, St. Flavie, Que.	5,000
Improvements, Ste. Rosalie, Que.	55,000
" Drummondville, Que.	5,000
Engine house, etc., Chaudiere Jct., Que.	20,000
" " Riviere du Loup, Que.	158,500
Maintenance Windsor branch line	7,000

The Minister of Railways, in speaking of the votes stated that since the I.C.R. got into Halifax there had been expended in that city upon capital account, $4,155,000. The present vote of $180,000 would include the following works: Track, ballast and ties, west side Water St., $20,000; heating and piping building, Kempt yard, $5,000; boilers for power plant, $15,000; double tracking cotton factory branch, grading and subway, and grading new yard, $40,000; land and legal expenses, right of way, cotton factory branch, $7,000; track, ballast, ties, $15,000; engine house, $50,000; rails and fastenings and ties for engine house, $6,000; tracks, Richmond yard, $2,000; water supply, $5,000; land at Richmond, $10,000; electric lighting, $5,000. The estimated cost of the line from Sydney Mines to River George is $394,135, the distance being 8.75 miles. It was hoped to have gone on with the construction this year, but owing to the financial conditions it had been deferred; a vote of $50,000 being asked on account of the right of way. The same remark applied to the cut off at Moncton, the estimated cost of which is $374,000. The total estimated cost of the shops at Moncton was $2,000,000, and there had been already expended $1,351,446.76. With respect to the Windsor Branch line the Minister stated that the present 56-lb. rails were being replaced with 67-lb. rails. (Apr., pg. 247.)

Lac Seul, Rat Portage and Keewatin Ry.—The Ontario Legislature has granted 1,000 acres of land a mile in aid of the construction of a railway through Kenora, northerly to the National Transcontinental Ry., by this company. Construction has to be started within two years and completed within three years of the passing of the act. (Sept., 1903, pg. 617.)

Lake Superior and Northern Ry.—The Ontario Legislature has incorporated a company with this title instead of the Lake Superior and Long Lake Ry. and Transportation Co. applied for in the application to construct a railway, and to operate car ferries so as to effect a connection between Thunder Bay and the C.P.R. near the mouth of Black River, to the northeast angle of Long Lake, and a junction with the National Transcontinental Ry. The provisional directors are: M. Patrick, W. P., W. T., M. Phillip and J. T. Davis, who form the firm of M. P. and W. T. Davis, who have a contract for the construction of a 200-mile section of the National Transcontinental Ry. in districts D and E. The immediate object of the construction of the railway is to enable the contractors to take in supplies to their camps, but it was stated, when the bill was before the Legislature, that at some future date the company might seek power to extend the line to James Bay. (Apr., pg. 247.)

Liverpool and Milton Ry.—In reply to questions in the Nova Scotia Legislature recently, the Premier said the total sum paid by the Government on account of this railway was $48,000, which was paid Dec. 28, 1907. There was no agreement in writing with the Halifax and Southwestern Ry. in respect to the L. and M.R., that company had not acquired the undertaking of the L. and M.R., and had not executed a mortgage to the Government in compliance with chap. 14 of the statutes of 1907. The balance to be paid by the Government on account of the railway was $23,500. All construction on the line had been completed. (May, 1908, pg. 331.)

Manitoulin and North Shore Ry.—The Ontario Legislature has extended to Dec. 31, 1911, the time within which the company may earn the land grant voted by chap. 23, 7th Edward VII, with respect to the portion of the railway from Little Current to Sudbury. The conditions are that surveys shall be started before May 1; that construction be started before June 1; that $15,000 a month be expended until Dec. 31, in actual construction work; that $25,000 a month be expended upon construction from Jan. 1 to Dec. 31, 1910; that at least 36 miles of the line, in addition to the mileage now constructed, be operated by Jan. 31, 1911, and further that the entire line from Sudbury to Little Current be completed by Dec. 31, 1911. A cash subsidy of $5,000 a mile has also been voted to aid in the construction of the line from Little Current on Manitoulin Island, to a point 13 miles from Sudbury. (April, pg. 247.)

The New Brunswick Coal and Ry. Co. Commissioners have completed the ballasting of 20 miles between Norton and Chipman, N.B. In addition many wet cuttings, which had given serious trouble were patched up. It is recommended, in the Commissioners' annual report to the Government, that ballasting be recommenced at an early date and completed during this year. The estimated cost is $20,000. (Sept., 1908, pg. 617.)

Niagara Peninsular Ry.—The Ontario Legislature has extended the time within which this projected railway may be constructed, and authorizing an extension to St. Catharines. (Apr., pg. 249.)

Pincher, Cardston and Montana Ry.—It is reported that the title of the Alberta Oil, Coal and Wheat Ry. has been changed as above. A. J. McGuire, Pincher Creek, Alta., is interested. (Oct., 1908, pg. 711.)

Prince Edward Island Ry.— The following sums have been voted by the Dominion Parliament; Branch line Harmony to Elmira, $50,000; to increase accommodation at Charlottetown, $184,000; extension to wharf at Souris (further amount required), $23,000; to provide for land claims as follows: Montague branch, $6,851.51; Murray Harbour branch, $4,383.77; Vernon River branch, $2,216.69.

With reference to the Harmony-Elmira branch line, the Minister of Railways stated that tenders for construction had been received, and the firm putting in the lowest tender had been asked if they would go as far as the appropriation of $50,000 would carry them this year, on the understanding that Parliament would provide for further expenditure next year. As soon as a reply was received the contract would be let. It was the intention to proceed with the work just as soon as the conditions would permit. The estimated cost of the branch was $380,000. Some objection was made by members from the Island constituencies on the ground that the last surveyed route did not touch at Souris, as did former surveys, and that consequently a good deal of inconvenience would be caused. The Minister promised that the Chief Engineer would go over the route, and look into the matter. (Apr., pg. 249.)

St. John Valley Ry.—A company is being organized at Fredericton, N.B., for the purpose of constructing a railway along the St. John River Valley. The provisional directors are representatives of the Boards of Trade of St. John, Fredericton, Woodstock and other towns interested. A bill for incorporation is before the New Brunswick Legislature, the capital being placed at $1,000,000. The N.B. Premier stated to a deputation Mar. 31, that the Government would, under certain conditions, guarantee bonds to the extent of $25,000 a mile for the 180 miles it was proposed to construct. One of the conditions suggested was that the company should secure an agreement with the I.C.R. for the operation of the line upon a division of the gross revenue in the proportion of 60% to the I.C.R. and 40% to the construction company. A deputation waited upon the Dominion Government April 10 with a view of ascertaining if a Dominion subsidy at the usual rate could be obtained, and an agreement for the operation of the line entered into upon the terms named.

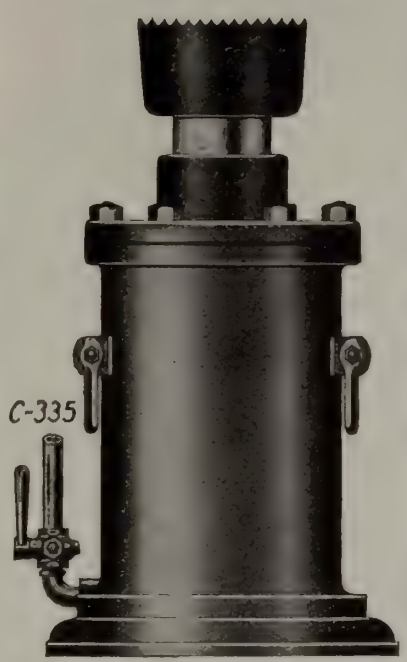
In 1907 the New Brunswick Government had some negotiations with Mackenzie, Mann & Co., Ltd., with a view to the construction of such a line as an extension of the C.N.R. system. This company on July 10, 1907, stated that it would be prepared to construct such a line on the grant of a Dominion subsidy up to $6,400 a mile, and a guarantee of bonds by the Province of $30,000 a mile; the Province to meet any deficiency of interest—outright for seven years, and for three years thereafter any deficiency of interest paid by the Government to be regarded as a debt due by the company, and to be paid by a further issue of bonds.

A deputation from St. John, Fredericton, Woodstock, Andover, Lakeville, Grand Falls and other places in New Brunswick, waited on the Premier, the Minister of Railways and the Minister of Public Works, at Ottawa, April 16, and urged the necessity of the Government aiding in the construction of this projected line. The Premier promised that the application should receive every consideration. (Apr., pg. 249.)

The Salisbury and Albert Ry. Co. is the title of a company which has been incorporated by the Dominion Parliament to take over and operate the Salisbury and Harvey Ry. in New Brunswick. (Apr., pg. 249, and Mar., pg. 175.)

Southern Central Pacific Ry.—The Dominion Parliament has granted an extension of time for the construction of this projected railway from Vancouver, B.C., via Kootenay Pass to Old Man River, and thence to Fort Churchill, Hud-

Compressed Air-Jacks



For short lifting around car and repair shops and manufacturing plants.

Rand Jacks are built in several styles from 4 to 30 thousand pounds capacity.

All of the latest construction, fitted with safety check valves for holding the load if the hose becomes detached or burst.

We carry in stock or can make quick delivery of all compressed air appliances and Rand Air Compressors.

Catalogs on all subjects.

Canadian RAND Co. Limited
MONTREAL, QUE.

Branches at:
TORONTO, WINNIPEG, ROSSLAND, COBALT, HALIFAX, MONTREAL.

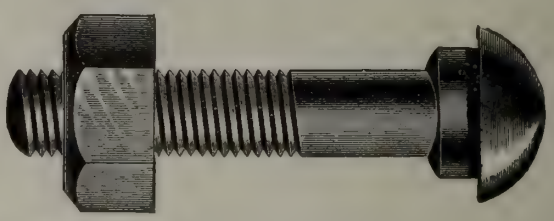
TORONTO BOLT AND FORGING CO.
LIMITED

Manufacturers of

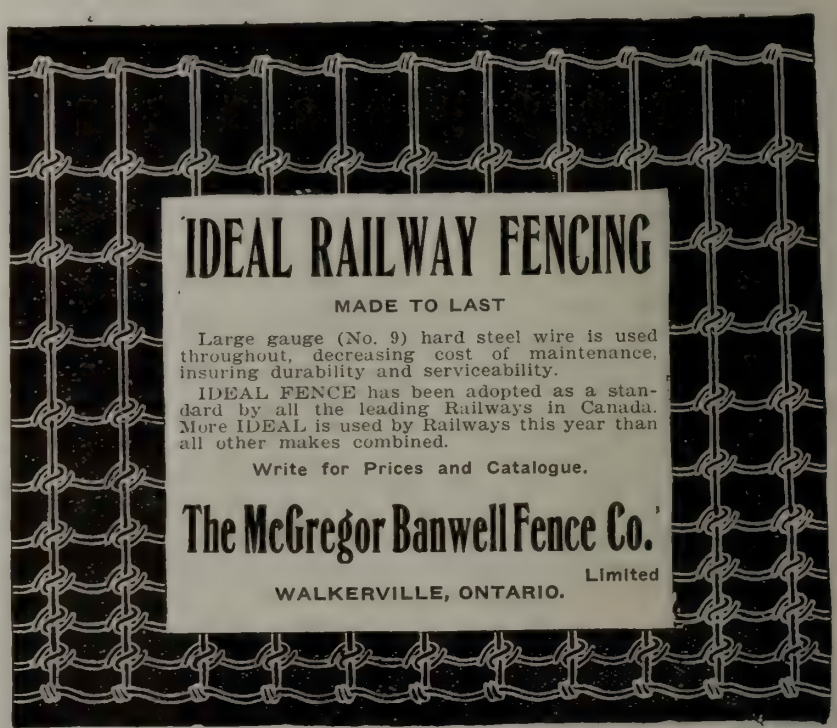
BOLTS AND NUTS

OF ALL KINDS, INCLUDING

Track Bolts
Track Spikes
Lag Screws
Boiler and
Bridge Rivets



TORONTO — CANADA



IDEAL RAILWAY FENCING

MADE TO LAST

Large gauge (No. 9) hard steel wire is used throughout, decreasing cost of maintenance, insuring durability and serviceability.

IDEAL FENCE has been adopted as a standard by all the leading Railways in Canada. More IDEAL is used by Railways this year than all other makes combined.

Write for Prices and Catalogue.

The McGregor Banwell Fence Co.
Limited

WALKERVILLE, ONTARIO.

son Bay. (Jan., pg. 19, and Sept., 1908, pg. 619.)

Superior and Western Ontario Ry.—A land grant of 1,000 acres of land a mile has been voted by the Ontario Legislature to this company to aid the construction of a line from Waco station, on the Lake Superior branch, G.T.P.R., for a distance seven miles northerly. Construction has to be commenced in one year and completed within two years of the passing of the act. The company's application for incorporation is before the Dominion Parliament. (Feb., pg. 105.)

Temiskaming and Northern Ontario Ry.—The Ontario Legislature has authorized the Commissioners to extend the railway from Charlton to Gowganda. The Premier said it was not the policy of the Government to demand at once a blanket authority for so large a sum as would be required to extend the line from Charlton to Sudbury. In a year's time authority might be asked to extend the line to Sudbury, or further, but at present the Government only desired to have the right to authorize the Commissioners to proceed with construction into the Gowganda district. (Apr., pg. 249.)

Vancouver, Fraser Valley and Southern Ry.—The Dominion Parliament has granted an extension of time within which this projected railway may be constructed. (Mar., pg. 175.)

Vancouver, Westminster and Yukon Ry.—The Dominion Parliament has granted an extension of time within which this projected railway may be constructed and also authorizing it to enter into agreements with the Burrard, Westminster, Boundary Ry. and Navigation Co. (Mar., pg. 175.)

Winnipeg and Northwestern Ry.—The Dominion Parliament has granted an extension of time for the construction of this projected railway, and authorizing the construction of the following branch lines: From narrows of Lake Manitoba westerly to the Assiniboine River, thence northerly to Nut Lake; and from near Good Spirit Lake southeasterly to the G.T.P. Ry., between the Manitoba boundary and the second meridian. (Jan., pg. 19.)

Responsibility for Interlocking Crossing Accidents

In June, 1908, the G.T.R. made an application to the Board of Railway Commissioners for a decison that the senior company should not be responsible for all damages arising from acts of negligence by the man in charge of interlocking plant and that all orders for interlockers should contain a provision that permission for the junior company to cross at grade be upon the express understanding that the junior company assume full responsibility for damages to its employes' person or property or to the person or property of others using its railway and in any wise resulting from accidents occasioned by the negligence of the man in charge of the interlocking plant. The question came before the Board in July, 1908, when it was decided that the electric railway companies be heard. At a hearing on Oct. 6, 1908, the application was opposed by the Canadian St. Railway Association's counsel and also by the Canadian Northern Ry's counsel. It was again before the Board at a sitting in Toronto, Nov. 13, 1908, when judgment was reserved. On April 13, Chief Commissioner Mabee gave the following judgment:

"The senior roads complain that under the practice heretofore in force, an unfair burden is placed upon them when leave is granted to a junior road to cross their right-of-way and tracks. The senior road is in possession of the field, and although it is necessary in the public interest that under proper conditions and at proper points, junior roads should have the privileges of crossing, yet it strikes one at the outset that such privilege should not carry with it any burdens upon the senior company, other than those absolutely necessary as incidental to the crossing. Where an interlocking plant is established, an additional man is required to operate it, and the practice has been for the senior company to appoint this man. This imposes upon the senior company some additional risk that cannot be avoided; there must be at times delays in operation; the crossing itself is an added peril carrying with it dangers of collision and loss to the senior company, that it would not be subject to had the crossing not been permitted; but hitherto in most instances, I think in all cases where the Board has made crossing orders, the man in charge of the interlocker has been regarded as the employe of the senior company only, in which event if through his carelessness or negligence damages arose to the property or employes of the junior company, recovery could be had against the senior company. This seems absurd. The senior company may resist to the utmost the application to cross; this may be forced upon it; then a careful and skilful man may be selected to operate the interlocker, but through some fault or lapse of his, a train on the junior road is derailed, and the senior company is held for all the damage. The injustice of this situation is apparent. Before the establishment of this Board, the companies were fairer than that to one another, and agreements were provided where the junior company recognized that it was unreasonable to impose upon the senior company the liabilities above pointed out.

"When this application came up, I thought the electric railway companies should be notified; this was done, and their views were placed on record. The situation as to these roads is, I think, quite different from that of the steam roads. In most instances where they cross steam railways, these crossings are upon public highways where neither company owns its right-of-way, but as to which each has an easement only. Differences as to result in the event of collisions and many other matters that occur to one, make it necessary to eliminate all electric roads from the consideration of this application, and the conclusions arrived at will have application to the steam roads only. It is quite impossible to say how matters would work out upon the whole if left as they now are; the older roads are continually building new lines, which are junior to other trunk and branch lines, and I suppose all the roads have both senior and junior crossings at various places, but if the loss did in the end even up, it would be by accident only, and this is a risk that should not be permitted to continue.

"The senior company, while appointing the man to operate the plant, recognizes the interest of the junior company in the selection, and the latter company should have the right to require his dismissal for cause. It was suggested upon the argument that the junior company should be given the right to operate the plant. This, of course, would not be reasonable and would be an unjust interference with the property and franchise rights of the senior company. In some existing agreements, the signalman or operator of the interlocker is called a 'joint employe.' Now, if an accident happens upon the junior road, owing to the negligence of this signalman, and he is not a fellow servant of the trainmen upon the junior road, it is likely their damages against the senior company would be measured in a different scale than if the signalman were a joint employe of both companies. These damages should not be borne by the senior company, but should be thrown back upon the junior company, so this anomalous position would be the result. The junior company is paying all the expense of installing and operating a plant to protect its patrons, property and employes; the man in charge causes damage to the latter in permitting two trains to collide, and the junior company is compelled to compensate upon a common law basis, while if this same crossing is sanctioned by the Board without the installation of an interlocker, the employes of the junior road injured in a collision at the crossing, might, in some cases, be without redress. This signalman, although selected by the senior company, is always paid by the junior company; he is performing services for both. Sometimes the greater services are rendered to the junior company; the latter can, under certain circumstances, call for his dismissal; why do not all these elements establish a joint service? The whole situation is an artificial one, arising through terms and conditions imposed by the Board in the interest of the safety of the public, the employes, and the preservation of the property of the railway companies. The senior company is forced, by the necessities of the junior company, to engage this extra man, and if it exercises care in the selection, it seems to me it discharges its duty to the junior company and should not be liable to the latter company for the negligence of the man engaged; it has in addition to bear its chance of loss by reason of the negligence of this man, forced upon it by the junior road. The senior company probably, in most instances, has the most at stake at new crossings, so the engagement of the signalman is left in good hands. The junior company should not be placed in a position where it might be held for greater damages because it is called upon to provide protection, than it would were it at liberty to cross without protection. Again, the junior company should not be subjected to liability upon a higher scale, because it is prevented from selecting the man it has to pay for operating the protective plant it has been compelled to instal.

"I think from every point of view, in fairness to both roads, this signalman should be regarded as a 'joint employe' of each, and that where one steam road applies for leave to cross another at grade, permission for such crossing should be given where an interlocker is required to be installed, only upon condition that the companies placed in charge of the interlocker a competent joint signalman, who shall be the joint employe of both companies, selected by the senior company and liable to dismissal for cause upon complaint or objection by the junior company, and that then each company shall be liable for all the loss or damage suffered or sustained on its own lines by its patrons or employes, or to its property, caused by the negligence of the joint signalman, and in no event shall the companies, as between themselves, be liable for any loss or damage

of any nature or kind whatsoever happening upon the line or lines of the other, and caused by or arising from the negligence of such signalman.

"It was understood that the conclusions arrived at in this matter should apply to all interlockers ordered or established since Oct. 1, 1908, but, of course, as to any in existence before that time, or as to those covered by agreements between the companies themselves, and continuing upon foot these conditions will have no application.

"If the interested parties desire to speak to the settlement of a permanent and settled form of conditions to go in these orders in the future, it may be taken up at the next meeting. It might be well to embody the conditions that appear in, I think two, former orders regarding interlockers, with those above indicated, so the whole interlocker provisions may appear in each order as it issues."

The Board will hear at its sittings in Ottawa June 1, such representations as the parties interested desire to make in regard to the conditions to be inserted in orders of this nature in future.

Board of Railway Commissioners

The third report of the Board of Railway Commissioners has just been issued by the Dominion Government. In common with the other reports issued it is for the year ended Mar. 31, 1908. According to custom no reports are made public until after they have been presented to Parliament, and it is a regulation, apparently more honored in the breach than in the observance, that all reports shall be ready for presentation to Parliament at the opening of the session. The present session opened Jan. 20, and reports from the various departments have been issued at intervals ever since. The report of the Board of Railway Commissioners was presented to Parliament Mar. 17, fourteen days less than a year after the date of the closing of the report. If this, and any other of the Departmental reports are to be of any real service to the public they should be issued much more promptly. If the staffs in the departments are not sufficiently numerous to compile the reports at an earlier date, they should be increased, and if the delay originates with the printing bureau, then the King's Printer should have sufficient authority given him to do what is necessary in order to have all the reports ready for the opening of Parliament at any rate if the necessity of their being presented to the House before they are issued to the public cannot be dispensed with. This regulation is certainly the cause of ridiculous delay, and it causes a great deal of unnecessary inconvenience to the public who are the persons most directly concerned. Where the public interest and antiquated constitutional factions clash, to the detriment of the former, it is time that the latter were swept away.

The Ontario Government which issues reports about as bulky, and containing as many tables (with one or two exceptions) as those issued by the Dominion Government, manages to get them out much more promptly. The third annual report of the Ontario Railway and Municipal Board, which has also just been issued, is for the year ended Dec. 31, 1908. It contains a great deal of tabular matter with an index, and runs to 560 pages, while the Dominion report only extends to 244 pages.

PEERLESS
The Fence that saves Expense

It is the best fence you can buy because it is the cheapest, when measured by the years of good service it will give. PEERLESS FENCING is made of all No. 9 hard, springy wire, which is not easily affected by weather, wear or unruly stock. Just the fence suited to railroads. Neat in appearance, conforms to topography of ground and at the same time upright wires are perpendicular. It will pay you to get the free book we are sending to all who write us. A postal will do.

The
Banwell Hoxie Wire Fence
Company, Limited
Dept. 17 HAMILTON, ONT.
WINNIPEG, MAN.

STRONGER
Than Stock-Weather and Wear

THE
Farlow Twin Spring Draft Gear

Designed for Wooden or Steel Cars and Engines.
Pulling Strains Distributed Equally on the Three Cross Keys.
Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.
Baltimore, Md. Chicago, Ill.

Railway Rolling Stock Notes

The Halifax and Southwestern Ry. has ordered 2 cafe-parlor cars 59 ft. long, from Rhodes Curry & Co., Ltd., Amherst, N.S.

The Canadian Locomotive Co., Ltd., Kingston, Ont., delivered 4 Mogul locomotives to the G.T.P.R., between Mar. 27 and Apr. 19.

The Dominion Parliament has voted $95,800 for new machinery for locomotive and car shops on the line, and $2,500 to provide a 100-ton track scale at Aston Jct., Que., on the Intercolonial Ry.

The Commissioners of the New Brunswick Ry. and Coal Co. are enquiring for a second-hand combination baggage and first-class car. They are also preparing to equip the balance of their freight cars with air brakes.

The C.N.R., between Mar. 15 and Apr. 15, received 25 stock cars from the Crossen Car Mfg. Co., Ltd., Cobourg, Ont.

The I.C.R., between Mar. 15 and Apr. 15, received 3 second-class sleeping cars from the Crossen Car Mfg. Co., Ltd., Cobourg, Ont.

The Montreal Locomotive Works has delivered 2 saddle tank locomotives to Cavecchi and Pagano, N.T.R. contractors, in New Brunswick; 2 Mogul locomotives to the J. D. McArthur Co., contractors, Winnipeg, and 1 locomotive to the Dominion Coal Co.

The C.P.R., between Mar. 15 and Apr. 9, received the following additions to rolling stock: 232 wooden box cars, 49 flat cars, 2 first-class cars and one locomotive, class M4, from its Angus Montreal shops; and 129 steel frame box cars from the Dominion Car and Foundry Co., Montreal.

The Dominion Parliament has voted $170,550 in the supplies for the year for the Intercolonial Ry. It is proposed out of this vote to provide a commissary car; to equip 500 platform cars with racks to carry pulpwood; to increase the size of steam heating pipes in passenger cars; and to equip cars with new gas light apparatus.

The C.P.R., between Mar. 15. and Apr. 9, ordered the following rolling stock: 2 locomotives, class D.10; 1 baggage and express car, 1 mail and express car, 61 box cars and 1 stock car at its Angus, Montreal, shops; 1 van at its Farnham, Que., shops; 1 steel coal car and 1 Hart-Otis ballast car at the Dominion Car and Foundry Co., Montreal, and 3 60-ton cranes and 1 pile driver in the U.S.

The G.T.P.R., between Feb. 15 and Apr. 15, received the following additions to rolling stock: 474 box cars, Nos. 308350 to 308824, from the Canada Car Co., Montreal, and 400 box cars, Nos. 309625 to 310024, from Rhodes, Curry & Co., Amherst, N.S. In our Apr. issue we announced that the G.T.P.R. had ordered 8 sleeping cars from the Canada Car Co. We are advised that this order has been changed to 8 first-class cars, making 24 first-class, instead of 16 as then stated.

The C.P.R. freight locomotive 1850, illustrated on this page, which has just been turned out of the Angus, Montreal, shops, is believed to be the heaviest freight locomotive at present operating in Canada, having a weight of 195,000 lbs. on the drivers, and 25,000 lbs. on the truck, a total of 220,000 lbs. The driving wheels are 63" diar.; cylinders 24" by 32"; boiler pressure 180 lbs.; heating surface, flues, 2,630 sq. ft.; firebox, 180 sq. ft.; superheater tubes, 450 sq. ft.; total, 3,260 sq. ft. It is equipped with the C.P.R. type of Vaughan-Horsey superheater, and has a tender capacity of 5,000 gals. water and 10 tons coal. The weight of the tender loaded is 123,000 lbs.

The Montreal Locomotive Works is building two 4-wheel locomotives for the Quebec Contracting Co., of which the following are chief particulars:

Cylinders	10" by 16"
Drivers, diam.	30"
Boiler, type	Straight top.
" pressure	150 lbs.
Firebox	42" by 24"
Tubes, no. and diam.	98-1¾"
" length	8' 2"
Wheel base	5' 0"
Weight	36,000 lbs.
Capacity, water	600 U. S. galls.
" coal	600 lbs.

The International Ry. of New Brunswick has ordered one, and the Temiscouata Ry., two 10-wheel locomotives from the Montreal Locomotive Works, of which the following are chief particulars:

Cylinders	18" by 24"
Drivers, diam.	51"
Boilers, type	Extended wagon top.
" pressure	160 lbs.
Firebox	90" by 33¾"
Tubes, no. and diam.	198-2"
" length	12' 3"
Wheel base, driving	10' 6"
" " engine	20' 8"
" " engine and tender	49' 0"
Weight on tender truck	25,500 lbs.
" on drivers	83,000 lbs.
" total engine	108,500 lbs.
" total tender	89,000 lbs.
Capacity, water	3,500 imp. galls.
" coal	8 tons.

Following are chief dimensions and details of special equipment of the 500 Otis all steel dumping gondola cars, 1909 design, which the Dominion Car and Foundry Co., Montreal, is building for the C.P.R., as mentioned in our Apr. issue:

Length, inside	36' 9½"
Width "	9' 6"
Height "	5' 0"
Truck centres	26' 0"
Length over end sills	38' 10"
Wheel base of truck	5' 6"
Air-brakes	Westinghouse K. C. 1012
Couplers	Simplex.
Truck bolsters	"
Brake beams	"
Draft Springs	M.C.B. class G tandem.
Trucks	Arch bar.
Journal boxes	McCord malleable.
Wheels	C.P.R. standard.
" weight, each	750 lbs.
Side bearings	Susemihl roller.
Brake shoes	
	Am. Brake Shoe and Foundry Co.'s steel back.
Dust guards	Harrison.
Capacity	100,000 lbs.

Following are the chief dimensions and details of special equipment of one articulated compound locomtive (0-6-6-0) which the C.P.R. is building at its Angus, Montreal shops;

Total weight	250,000 lbs.
Cylinders	22" and 33"
Stroke	26"
Drivers, diam.	57".
Boiler, type	Straight top
" pressure	180 lbs.
Heating surface, total	4,000 sq ft.
Tubes	2" diam.
" lengths	328, 9' 3"; 401, 8' 6"
Firebox	10' 0" by 1' 11¾"

ONE OF THE LATEST CANADIAN PACIFIC RY. FREIGHT LOCOMOTIVES.

Grate area	58.3 sq. ft.
Capacity, water	5,000 imp. galls.
" coal	10 tons.
Air-brakes	Westinghouse.
Axles	Mild steel.
Brake beams	Simplex truss.
" shoes	C.P.R. standard.
Couplers	Tower.
Headlight	Pyle National Electric.
Journal bearings	Canadian Bronze Co.
Springs	C.P.R. standard crucible.
Wheel tires	Krupp crucible.
" centres	Cast steel
and C.P.R. re-heater in centre of boiler.	

Following are chief dimensions and special equipment of the ten 10-wheel locomotives for mixed traffic, which the C.P.R. is building at its Angus, Montreal, shops, as mentioned in our Apr. issue:

Weight on drivers	141,000 lbs.
" total	190,000 lbs.
Cylinders	22½" by 28"
Drivers, diam.	63"
Boiler, type	Wagon top.
" pressure	180 lbs.
Heating surface, total	2,418 sq. ft.
Tubes, no. and diam.	240-2"; 24-5"
" length	14' 3"
Firebox	8' 6⅛" by 5' 9⅞"
Grate area	49 sq. ft.
Capacity, water	5,000 imp. galls.
" coal	10 tons.
Airbrakes	Westinghouse, No. 6 E. T.
Axles	Mild steel
Brake beams	Single truss.
Brake shoes	C. P. R. standard
Couplers	Tower.
Headlight	Pyle National Electric.
Journal bearings	Canadian Bronze Co.

Springs	C. P. R. standard crucible.
Wheel, tires	Krupp crucible.
" centres	Cast steel.
Wheels, tender	Solid rolled steel.
Superheater	C. P. R.

Following are the chief dimensions and details of special equipment of the ten 10-wheeled simple superheater mixed traffic locomotives, which the C.P.R. is building at its Angus, Montreal shops, as mentioned in our Apr. issue:

Weight on drivers	141,000 lbs.
Total weight	190,000 lbs.
Cylinders	22½" by 28" stroke.
Drivers	63" diam.
Boiler, type	Wagon top.
" working pressure	180 lbs.
Heating surface, total	2,418 sq. ft.
Tubes, no. and diam.	240—2"; 24—5"
" length	14' 3"
Firebox	8' 6⅛" by 5' 9⅞"
" material	Otis steel.
Grate area	49 sq. ft.
Capacity, water	5,000 imp. gals.
" coal	10 tons.
Air brakes	Westinghouse, No. 6 E.T.
Axles	Mild steel.
Brake beams	Simplex Truss.
Brake shoes	C.P.R. standard.
Couplers	Tower.
Headlight	Pyle National Electric.
Journal bearings	Canadian Bronze Co.
Springs	C.P.R. standard crucible
Tires	Krupp crucible
Tender wheels	Solid round steel.
Wheel centres	Cast steel.
Superheater	C.P.R.

Following are chief dimensions and details of special equipment of the two 6-wheeled coupled switching locomotives, which the Canadian Locomotive Co. is building for the Temiskaming & Northern Ontario Ry., as mentioned in our Apr. issue:

Weight, total	128,000 lbs.
Wheel base, engine	11' 0"
" " engine and tender	41' 4"
Length over all, engine and tender	55' 3"
Width over all	10' 0"
Height "	14' 5"
Heating surface, firebox	131 sq. ft.
" " tubes	1,206 sq. ft.
Drivers	51" diam.
Wheel tires	cast steel.
Driving journals	8½" by 10"
Cylinders	19" by 26" stroke.
Boiler, type	Radial stay.
" working pressure	200 lbs.
Tubes	223, 2" diam.
" length	10' 6"
Brakes	Westinghouse E.T.
Tender, weight loaded	90,000 lbs.
" capacity, water	4,500 imp. galls.
" " coal	6 tons.
" truck	4-wheel.
" " bolsters	Simplex.
" " wheels	33" diam.
" "	cast iron.
" Brake beams	Simplex.

Following are chief dimensions and details of special equipment of the two Pacific type locomotives which the American Locomotive Co. is building for the C.P.R., as mentioned in our Apr. issue:

Weight on leading truck	40,000 lbs.
" " drivers	140,000 lbs.
" " trailing truck	34,000 lbs.
" of engine	214,000 lbs.
" " tender	131,000 lbs.
Wheel base, driving	13' 0"
" " engine	33' 7"
" " " and tender	60' 0"
Cylinders	21" by 28" stroke.
Drivers	69" diam.
Boiler, type	wagon top.
" working pressure	200 lbs.
" outside diam., front end	67½"
Firebox	94" by 70"
Tubes, boiler	193, 2¼" diam.
" superheater	22, 5" diam.
" length	19' 6"
Heating surface, tubes	2,765 sq. ft.
" " firebox	194 sq. ft.
Grate area	45.7 sq. ft.
Maximum tractive power	30,400 lbs.
Factor of adhesion	4.50
Tender	8-wheeled.
Capacity, water	5,000 imp. galls.
" coal	10 tons.
Tender, side bearings	Susemihl roller.
Brake beams	Simplex truss.
Headlight	Pyle National Electric.
Air-brakes	Westinghouse American.
Air-signal	Westinghouse.
Couplers	Washburn, pilot.
"	Tower, tender.

Railway Finance, Meetings, Etc.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales for Feb., $43,310, against $20,398 for Feb., 1908. Total net profits for 8 months ended Feb. 28, $293,436. Approximate railway traffic receipts for March, $27,627, against $15,746 for March, 1908.

Dominion Atlantic Ry.—Gross earnings for Feb. $59,850, against $60,260 for Feb., 1908. Total earnings for 2 months ended Feb. 28, $129,800, against $130,686 for same period 1908. The total gross earnings for 1908, were $1,259,300, against $1,294,741 for 1907.

Grand Trunk Ry.—The Dominion Parliament has passed the act with respect to the company's debenture and other stocks. (Mar. pg. 179.)

Maritime Coal, Ry. & Power Co.—Following are the officers and directors for the current year: President, Hon. W. Mitchell; Vice-President, A. E. Dyment. Other directors: N. Curry, E. Hanson, W. Ewing, A. McLarin, G. I. McMallory. The financial statement presented was considered satisfactory, and it is proposed to issue more of the company's bonds in order to provide for further development. The company owns about 25 square miles of coal areas in the Cumberland coal fields, collieries at Chignecto, and also on the Bay of Fundy; a railway from Maccan to the Bay of Fundy, and from Maccan to Chignecto, and an electric power plant at Chignecto, which supplies power to Amherst and other places.

Michigan Central Rd.—The report for the year ended Dec. 31, 1908, covers the operation of 1,746.46 miles, divided as follows; Main line, 270.07 miles; proprietary lines, 345.05 miles; leased lines, 1,117.34 miles, and lines operated under trackage rights, 14 miles. The mileage quoted includes the Canada Southern Ry., with 226.18 miles of double tracked main line, with 144.33 miles of sidings, and 153.86 miles of branch lines, of which 16.80 are double tracked, with 44.56 miles of sidings. The total earnings from operation were $24,918,487.95; expenses, $19,005,352.34; net earnings, $5,913,135.61; against, $28,547,109.94 total operating earnings, $23,131,750.65 expenses, $5,415,359.29 net earnings for 1907. There was an increase in the first charges, during the year, of $553,008.06, part of which was due by an increased rate on the Canada Southern Ry. first mortgage bonds. On Jan. 1, 1908, $14,000,000 of Canada Southern first mortgage 5% bonds were extended to Jan. 1, 1913, and the rate increased to 6%. The accounts show $141,291.45 on account of this extension. An agreement was entered into with the Pere Marquette Rd., modifying a previous agreement, reducing the annual rental payable by the latter company on account of its relinquishment of the right to use the St. Clair branch of the Canada Southern Ry., between the junction of the Lake Erie and Detroit River Ry., near Courtright, Ont., and St. Clair Jct.; and also that portion of the main line between St. Clair Jct. and the crossing of the London and Port Stanley Ry. The company's first charges include interest on Canada Southern 6% first mortgage bonds, $840,000; interest on Canada Southern 5% second mortgage bonds, $5,200; rental of Canada Southern leased lines, $375,000; taxes on real estate and property, including leased lines, in Canada, $50,760.61. The general balance sheet shows assets of $73,273,513.49, and liabilities of $64,532,499.43; $8,741,014.06 being taken to profit and loss account. The annual meeting is called for May 6.

Minneapolis, St. Paul & Sault Ste. Marie Ry.—It was reported recently that on the last day for depositing the Wisconsin Central Ry. preferred stock, about 114,000 shares had been handed in, and permanent receipts given. The balance of the stock can only be deposited on payment of a penalty of $1 a share, except where the holders are executors and administrators.

The new stock being issued by the M., St.P., & S.S.M.R. Co. is $2,016,000 preferred and $4,032,000 common, and is being offered to existing holders at par on the basis of 24 shares of new stock for each 100 shares of old capital stock, and the subscription must be for both kinds of stock in the ratio of one share of preferred to two shares of common. The subscription list closed April 30. The payments are 20% on application and instalments of 20% each on June 4, July 15, Aug. 31 and Oct. 15.

New Brunswick Coal & Ry. Co.—The Commissioners for this railway have presented their report on the operations of the line for the year ended Oct. 31, 1908, to the New Brunswick Government. The gross earnings were $61,479.06, and operating expenses $65,391.06, a deficit of $3,912.00. The total cost of the line to June 30, 1908, was $1,940,375.01, since which time there had been expended on ballasting $21,631.10, making a total cost to Oct. 31, of $1,962,012.11. This is an average cost of $30,900.00 a mile, including the 8.7 miles of branches and spurs to the various coal mines. The gross earnings for 1907-08 showed an increase of $18,989.61 over those for 1906-07. This increase is attributed to freight and passenger traffic in connection with the construction of the National Transcontinental Ry. The operating expenses for 1907-08 showed an increase of $24,012.73 over those of 1906-07. The freight carried was 50,821 tons, against 43,521 in 1906-07. During the year the railway paid to the Intercolonial Ry. $1,712.47 for locomotive rental, and $4,718.15 for car rental.

New Brunswick Southern Ry.—In our last issue we stated that this company had passed under C.P.R. ownership. We are advised that although the N.B.S.R. Co.'s securities are held in the C.P.R.'s interest, no transfer or lease of the property to the C.P.R. has yet taken place.

Prince Edward Island Ry.—Parliament has voted $10,000 additional on account of working expenses of the P.E.I.R.

Quebec Central Ry.—Gross earnings for Feb. $61,592.11; expenses, $54,780.52; net earnings, $6,811.59, against $70,419.35, gross earnings; $58,428.77, expenses; $11,990.58 net earnings for Feb., 1908. Aggregate gross earnings for 8 months ended Feb. 28, $668,940.24; expenses, $483,027.99; net earnings, $185,912.25, against $708,426.12 gross earnings; $502,016.00 expenses; $206,410.12 net earnings for same period 1907-08.

Temiscouata Ry.—Approximate gross receipts for Feb. $14,542.88; March, $19,571.74.

White Pass and Yukon Ry.—Gross earnings for Feb. $19,208; total for 8 months ended Feb. 28, $904,214.

Canadian Northern Ry. Construction, &c.

Canadian Northern Ontario Ry.—The new freight shed on the pier at the foot of York St., Toronto, has been completed, but rail connection with it has not been made, as permission will have to be obtained from the Toronto City Council, to carry a line across Lake St. The shed is 440 ft. long, and is metal sheathed with 13 doors on either side.

The Ontario Legislature has made a grant of 4,000 acres of land a mile for the construction of 500 miles of line from Selwood Jct., northerly and westerly towards Port Arthur, Ont. The land is to be granted in alternate blocks of one township of nine miles square, adjoining the line, throughout the clay belt. Any deficiency in acreage is to be set apart in such places and in such areas as may be directed by the Government. Construction is to be started within a year, and completed by Dec. 31, 1913, but the Government may grant an extension of time. The lands are to be sold at such times and prices as may be directed by the Government; the minerals and pine timber are reserved, but settlers should have the right to cut timber for building and fencing. The Government may set apart the lands earned on the completion of every 10-mile section of the line.

A delegation from Port Arthur, Ont., waited on the Dominion Government, Mar. 27, to urge the making of a grant in aid of construction of the 500-mile section between Selwood and Port Arthur.

The company's application to the Dominion Parliament for an act extending the time for the construction of a line from Sudbury to Port Arthur, with a branch from Sudbury to Little Current, is before the Railway Committee of the House of Commons. The proposal to construct the branch was not specified in the original notices, but supplemental notices having been given, the company was allowed to proceed with the bill.

Canadian Northern Ry.—In a discussion in the House of Commons on the Hudson Bay Railway recently the Minister of Railways stated that the C.N.R. to Pas Mission had not been fully inspected by the Government Engineers, and he understood that trains had been run on it. One of the members stated that trains could be run over the line during the winter when the ground was frozen, but that it was practically impossible to run trains over it in summer.

Tenders are being asked for the erection of a passenger station at Saskatoon, Sask. The new building is to be of brick and stone, and will be located at the foot of 21st St., on the same line as the freight sheds.

The company has a large force engaged upon the construction of the big approaches to the traffic part of the bridge on the north side of the river at Prince Albert, Sask. The ground is being blasted so that the piles can be driven, and the traffic part of the bridge was expected to be completed by May 1. The false work under the bridge has been removed, and the rivetting of the superstructure is being pushed forward. The swing span is being erected.

An Edmonton press despatch says: The C.N.R. is preparing to undertake the active construction of a line into Camrose and Calgary this season; that mines will run from Vegreville south, and another branch will be built from Camrose into Strathcona; that the company will also penetrate the northern wilds, and expects to have trains running into Athabasca Landing within a year, and that surveyors are now actively at work in the field.

The indications are that it is the intention in the very near future to complete the C.N.R. as a transcontinental line right through to the Pacific coast. About 1,000 men are already at work clearing right-of-way, grading, etc., from the C.N.O.R.'s Toronto-Sudbury line in the direction of Port Arthur. And while this start has been made on the eastern end preliminary work in British Columbia has also been put in hand. T. H. White, formerly Chief Engineer of Construction for Mackenzie, Mann & Co.'s eastern lines, has gone West to take charge of surveys in B.C., and will probably establish his headquarters at New Westminster. He is accompanied by C. F. Hannington and J. Irving, who will have charge of survey parties. It is probably the intention to make survey to connect the projected Pacific coast terminus with the line, which has been surveyed from present terminus at Edmonton, Alta., to the Rocky Mountains.

Edmonton & Slave Lake Ry.—The Dominion Parliament has been granted an extension of time within which the construction of this railway from Edmonton, Alta., to Slave Lake may be completed.

Railway Fencing and Cattle Guards.

The following memorandum by Chief Railway Commissioner Mabee has been sent to all railway companies under the Board's jurisdiction:

At every sitting of the Board from Winnipeg to Victoria complaints were made against the railway companies in connection with the fencing, or rather the defective and non-fencing of their rights of way, and that the law regarding cattle guards was not complied with. Claims innumerable for stock killed, and refusal to make compensation were disclosed. Many cases appeared where stock had been killed upon the tracks and farmers were afraid to ask for compensation for fear of being involved in endless litigation. It would seem, perhaps, that upon the whole the absence of fences along the right of way is a more fruitful source of loss to the rancher and farmer than defective cattle guards, or of their absence. Cases were given where those in charge of the construction of railways entered upon improved and enclosed land, threw down the fences, made no attempt to enclose the right of way, allowing stock to get out upon the highways, thus injuring crops, and in some instances these cattle were killed upon distant railway tracks. Whether these wrong-doers were independent contractors, or servants or officers of the railways under construction did not appear, but so far as this Board has power, it is determined that such high-handed and unreasonable conduct shall cease. The Railway Act is clear upon the questions of fencing and cattle guards, and the time has arrived when something must be done to compel the observance of its provisions. Sec. 254 provides as follows;

"1. The Company shall erect and maintain upon the railway (a) Fences of a minimum height of 4 ft. 6 in. on each side of the railway; (b) Swing gates in such fences at farm crossings of the minimum height aforesaid, with proper hinges and fastenings, provided that sliding or hurdle gates constructed before Feb. 1, 1904, may be maintained, and (c) Cattle guards on each side of th highway at every highway crossing at rail level with the highway.

"2. The railway fences at every such highway crossing shall be turned into the respective cattle guards on each side of the highway.

3. Such fences, gates, and cattle guards shall be suitable and sufficient to prevent cattle and other animals from getting on the railway.

"4. Wherever the railway passes through any locality in which the lands on either side of the railway are not enclosed and either settled or improved, the company shall not be required to erect and maintain such fences, gates, and cattle guards, unless the Board otherwise orders or directs."

There has been no order of the Board respecting fencing through unenclosed or unimproved lands, and the practice of the companies, so far as I can learn, has been to leave their rights of way entirely unfenced, until the adjacent owner or owners had erected side fences, when such owner or owners would be expected to call upon the company to erect its fences. Cases, however. were presented where the side fences had been long since erected, but yet the railway fences had not been erected. We have been furnished with no information by the railway companies of the amounts paid by them for cattle killed upon their lines, or of the number of claims they have disputed, but from the large number of cases that were brought to the attention of the Board where compensation has not been made, the better opinion perhaps is that the disputed claims vastly exceed those in which settlements have been made, if not, the companies have been paying out very large sums that would have been much better spent in protecting their rights of way. Now the statute defines clearly the kind of fence and cattle guard that must be provided; the fence must be at least 4 ft. 6 in. high, and it and the cattle guards must be "suitable and sufficient to prevent cattle and other animals from getting on the railway." It is just as incumbent upon the companies to fence against hogs as it is against horses, yet it is not pretended that any attempt has been made to do so, and instances were given where farmers had so many hogs killed that they were compelled to abandon any attempt to raise them.

It seems to be the practice in Manitoba, Saskatchewan, some parts of Alberta, and British Columbia to remove the cattle guards entirely in winter. This is done, it was said, to facilitate the operation of the snow ploughs. It was not shown by any railway expert that this practice is necessary, but it was shown by many Saskatchewan farmers that it was more important to them to have the cattle guards in place during winter than any other season, as during the other seasons their cattle were mostly pasturing in the hills in charge of herders. At any rate these cattle guards have been removed during the winter months without authority, and unless a great deal more can be shown than has yet appeared, the practice must cease. Furthermore, the railway companies must establish and maintain cattle guards that will prevent cattle and other animals from getting upon the railways. This is the requirement of the law, and I know

of no reason why it should not be complied with.

The provisions of clause 4 have been abused, and this statutory exemption from fencing has been used by the companies to free themselves from making compensation in innumerable cases of meritorious claims. This condition of affairs cannot be permitted to continue; it works great hardship upon the public, and is of little or no benefit to the railway companies. The conditions in the West have greatly changed since this exemption was granted to the companies, and as they are compelled at some stage of the undertaking to erect fences, I am clearly of the opinion that no hardship will be imposed if that stage is made the initial one. I am aware that in various parts of the country no necessity now exists, and possibly never will, for the erection of fences. The formal order may contain a provision that railway companies, the lines of which have already been constructed, may apply to exempt certain sections of the road from the operation of the order, when, if conditions are shown that such course will entail no hardship upon the public, the Board may so declare. The like course may be taken where railways are in course of construction, and as to such latter, when application is made to open the road for traffic, fences, cattle guards, highway and farm crossings and gates shall all form part of the work necessary to be complete according to the statute and the Board's regulations, before permission is given to operate the road. I am convinced that this course will, in the end, be less expensive for the railway companies, as the erection of fences, gates, etc., can all be carried on at the time of construction at less cost than later on, to say nothing of saving liability for damage claims for stock killed and law costs in defending, even if successful.

Many complaints were made that in the construction of the railway lines the highway crossings were left in an impassible state, causing endless inconvenience and trouble to the public. I confess I am at a loss to understand such disregard of the rights of others, and such selfish and inconsiderate conduct upon the part of those constructing the railways, or responsible for their construction. If these works are let out to contractors, the railway companies may as well at once understand that they must make some provision in their contracts that will compel their contractors to treat the public with ordinary decency. This Board has no control over the contractors and can deal only with the railway companies. These highway crossings can be constructed at less expense when the grading is being done than later on, after the road is completed; and with respect to roads not yet completed, they will not be opened for traffic until every highway crossing opened for travel is put into the condition called for by the Board's regulations. As to these railways now in operation, all highway crossings, opened for travel, must be put into the condition called for by the regulations within one year from this date.

A draft order embodying the foregoing may be sent to all the companies, and its settlement spoken to by them at the May meeting of the Board at Ottawa.

The Canadian Northern Prairie Land Co. has declared a dividend at the rate of 10 per cent. for 1908.

TRANSPORTATION APPOINTMENTS

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Algoma Central Steamship Line.—J. E. McLurg, heretofore chief clerk to Superintendent, has been appointed Superintendent, vice W. C. Barr, resigned. Office, Sault Ste. Marie, Ont.

Canadian Northern Ontario Ry.—See Canadian Northern Ry.

Canadian Northern Ry.—Z. A. Lash, K.C., heretofore General Counsel, has been appointed Consulting Counsel. He is also a director.

F. H. Phippen, who recently resigned his position as one of the judges of the Manitoba Court of Appeal, has been appointed General Counsel. Office, Toronto.

F. A. Young, heretofore Travelling Agent, Northwestern Line, Winnipeg, has been appointed Travelling Passenger Agent, C.N.R. Headquarters, Toronto.

P186

G. W. VAUX,
General Passenger Agent, Grand Trunk Railway.

F. L. Mitchell, heretofore in the Toronto local freight agent's office, has been appointed Contracting Freight Agent, C.N.R. and C.N.O.R., Toronto, vice J. B. Sheppard, transferred.

J. B. Sheppard, heretofore Contracting Freight Agent, Toronto, has been transferred to Winnipeg.

J. M. Horn, heretofore Contracting Freight Agent, Winnipeg, is reported to have been appointed District Freight Agent at Edmonton, Alta.

T. H. White, formerly Chief Engineer of Construction, Mackenzie, Mann & Co's. eastern lines, has been placed in charge of surveys for the C.N.R. from the Pacific Coast to the Rocky Mountains. He has as assistants C. F. Hannington and J. Irving. The surveys office will probably be at New Westminster, B.C.

Canadian Government Railways.—The Secretary of the Railway Department issued the following circular April 21: Notification is hereby given that by an order-in-council dated Apr. 20, the position of General Manager of Government Railways of Canada, on the Intercolonial and P.E.I. Rys., has been abolished, and a Managing Board, entitled The Government Railways Managing Board, has been constituted for the supervision and direction of all departments of the said railways. The members of such board are M. J. Butler, Deputy Minister and Chief Engineer of the Department of Railways and Canals, Chairman of the Board; D. Pottinger, I.S.O.; E. Tiffin, General Traffic Manager; F. P. Brady. The above will come into effect on May 1.

Canadian Pacific Ry.—D. W. Newcombe, heretofore Superintendent, district 2, Atlantic Division, has been appointed agent, West St. John, N.B., vice R. King, transferred.

R. King, heretofore agent, West St. John, N.B., has been appointed Superintendent, district 2, Atlantic Division, vice D. W. Newcombe, appointed agent West St. John. Office, Woodstock, N.B.

W. B. Cronk, heretofore Superintendent, district 2, Eastern Division, has been appointed Superintendent, district 1, Eastern Division, vice T. Williams, assigned to other duties, and will continue to supervise Smith's Falls section, district 2, until further notice. Office, Farnham, Que.

T. Williams, heretofore Superintendent, district 1, Eastern Division, has been appointed in charge of train service on the Nomining section, Que., at present under construction.

V. A. Harshaw, heretofore Assistant Superintendent, district 3, Ontario Division, has been appointed acting superintendent, district 1, Ontario Division, vice J. R. Nelson. Office, Toronto.

H. C. Grout, heretofore Resident Engineer, Ontario Division, Toronto, has been appointed Assistant Superintendent district 3, Ontario Division, vice V. A. Harshaw, appointed acting superintendent district 3. Office, West Toronto, Ont. The position of Resident Engineer has been abolished.

Duluth, Rainy Lake and Winnipeg Ry. M. H. McLeod, General Manager, who is also General Manager of the Canadian Northern Ry., announces that J. R. Cameron, General Superintendent Canadian Northern Ry., has also been appointed General Superintendent D.R.L. & W. Ry. Office, Winnipeg.

M. A. Murphy has been continued in his position as Superintendent. Office, Virginia, Minn.

The following Canadian Northern Ry. officials have had their jurisdiction extended over the D.R.L. & W.R.; A. Shields, Master Mechanic; J. P. Driscoll, Superintendent of Car Service; W. Pratt, Jr., Superintendent of Sleeping and Dining Cars and News Service; H. McConkey, Superintendent of Telegraph Maintenance; C. R. Stovel, Claims Agent. Offices, Winnipeg, Man.

Grand Trunk Pacific Ry.—W. P. Hinton, heretofore Assistant General Passenger and Ticket Agent, G.T.R., Montreal, has been appointed General Passenger Agent, G.T.P.R. Office, Winnipeg.

The position of acting Locomotive foreman, Portage la Prairie, Man., heretofore held by G. Robinson, has been abolished. T. Wooley, machinist, will have charge of such locomotive and car work as is necessary to be done there.

G. Robinson, heretofore acting Locomotive Foreman, Portage la Prairie,

Man., has been appointed Locomotive Foreman, Watrous, Sask., vice C. E. Brooks, assigned to other duties.

See also Grand Trunk Ry.

Grand Trunk Ry.—G. T. Bell, heretofore General Passenger and Ticket Agent, G.T.R. and G.T.P.R., has been appointed Assistant Passenger Traffic Manager of both lines. Office, Montreal. The title of General Passenger and Ticket Agent is abolished.

G. W. Vaux, heretofore Assistant General Passenger and Ticket Agent, Chicago, Ill., has been appointed General Passenger Agent. Office, Montreal.

H. G. Elliott, heretofore Assistant General Passenger and Ticket Agent. Montreal, has been appointed First Assistant General Passenger Agent. Office, Montreal.

H. R. Charlton, heretofore Advertising Agent, G.T.R., has been appointed General Advertising Agent, G.T.R. and G.T.P.R.

W. P. Fitzsimons has been appointed Commissioner of Industries. He will have, in connection with the Freight and Traffic, Express and Transportation Departments, special supervision of the work of locating new industries, and general development of the resources of the territory served by the G.T.R. Office, Montreal.

W. S. Cookson, heretofore Chief Clerk Assistant General Passenger and Ticket Agent's office, Chicago, has been appointed Assistant General Passenger Agent, G.T.R. Office, Chicago, Ill.

The following agents have been appointed: Port Colborne, Ont., F. Lye; St. Polycarpe, Que., A. C. St. Amour; Caldwell, Ont., G. A. Thurston; Barry's Bay, S. N. Milligan.

Quebec Central Ry.—G. M. Robins has been appointed Master Mechanic, vice J. Sievewright, who resigned on account of failing health and has since died. Office, Sherbrooke, Que.

When Railroads Were New

This is the title of a very interesting volume written by C. F. Carter, and published by H. Holt & Co., New York. The book does not profess to be a history of the development of railway transportation on this continent, it is rather the romance of early railway construction. It contains a lot of interesting facts about the struggles of the early railway promoters to get a hearing from financiers and others for their projects; of the development of the old wooden rail gravity lines from quarries and collieries to the wharves, into iron and steel lines operated by steam power; of the importation of locomotives from Great Britain, which were never operated, and of the beginning of the present great locomotives—a distinctive production of the United States; and of a hundred and one stories of the beginnings of railways in the Far West. There are many stories too of the early operation of trains. The last chapter headed, "Romance of a Great Railroad," deals with the construction of the C.P.R., and gives an interesting story of the adventures of E. W. Jarvis, and his party in making a survey between Quesnelle River and Edmonton in 1874-75; and another of the discovery of the Kicking Horse Pass by Major Rogers, together with a rapid survey of the construction. The illustrations are numerous and include the driving of the last spike at Craigalachie, Nov. 7, 1885, which appeared in the Railway and Marine World several years ago. The price of the book is $2, and it may be obtained from the Railway & Marine World's book department.

In his preface, the author says that "it seems as if every statement ever made about the history of the railroad by any one has been disputed by some one else," and as an instance of this adds that "dates that vary a whole year are given for so recent an event as the running of the first through passenger train over the C.P.R." No doubt this is the case, but such sources of information should not be depended on or availed of. It may be added that the first through passenger train on the C.P.R., that is on the whole route from Montreal to Vancouver, left Montreal June 28, 1886, and reached its destination in 5 days and 19 hours. The first through train from Port Moody reached Montreal July 12, 1886.

In the text of the work, referring to the early history of the C.P.R. it is stated that, "W. C. Van Horne, of Illinois, who had risen from telegraph operator to the presidency of the Chicago, Milwaukee and St. Paul, was engaged as General Manager." Mr. Van Horne was General Superintendent of the C., M. & St. P., not President.

P 187

W. P. HINTON,

General Passenger Agent, Grand Trunk Pacific Railway.

The B.C. Public Works Department received tenders Apr. 27 for the erection and completion of a reinforced concrete wharf with timber superstructure at Prince Rupert.

During Feb. one navigation employe was killed and 3 were injured in the course of their work. The death was due to a fall into the hold, and of the other accidents, 2 were due to falls and one to falling material.

The House of Commons has voted $55,000 for salaries of the Board of Railway Commissioners, authorized by statute, the actual amount required being $54,500. It has also voted $107,000 for salaries of officials and office expenses of the Commission.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-08. from July 1, 1908:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July	$ 728,500	$525,600	$202'900	$159,000—
Aug.	747,400	561,300	186,100	30,400—
Sept.	901,700	650,600	251,100	42,000+
Oct.	1,172,700	752,600	420,100	110,200+
Nov.	1,156,900	744,300	412,600	144,300+
Dec.	927,900	642,800	285,100	42,400+
Jan.	526,200	425,900	100,300	15,400—
Feb.	502,600	409,200	93,400	9,700+
	$6,663,900	$4,712,300	$1,951,600	$143,800+
Inc. or Dec.	$ 292,200	$ 148,400	$ 143,800	.....

Approximate earnings for March, $738,700 and for 2 weeks ended April 14, $358,300; against $825,500 and $332,800 for same periods 1908.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-8, from July 1, 1908:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
July	$6,292,889.82	$4,018,207.57	$2,274,573.24	$232,279.41 –
Aug.	6,385,956.69	3,807,057.98	2,578,898.71	8,623.56+
Sept.	6,391,672.48	4,277,064.71	2,114,607.77	36,745.58 –
Oct.	7,381,970.41	4,726,703.70	2,655,266.71	25,050.93 –
Nov.	7,303,303.20	5,082,223.85	2,221,079.35	223,954.86 –
Dec.	6,955,874.11	4,759,122.54	2,196,751.57	119,561.99+
Jan.	4,761,859.93	4,372,110.10	389,749.83	234,241.95 –
Feb.	4,966,208.14	4,204,063.36	762,144.78	405,048.17+
	$50,439,725.78	$35,246,653.81	$15,193,071.97	$219,039.01
Inc.	$926,624.82	$1,145,663.83	.....	.....
or Dec.	.....	.....	$219,039.01	.....

Approximate earnings for March, $6,441,000, and for 2 weeks ended April 14, $3,045,000; against $5,374,000 and $2,621,000 for same periods 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross revenue for Feb., $201,666.19; net, $47,660.36, against $190,613.83 gross, and $41,320.73 net for Feb., 1908. Aggregate gross revenue for 8 months ended Feb. 28, $1,856,668.57; net, $553,042.65, against $2,177,235.92 gross, and $592,089.57 net for same period. 1907-08. Approximate gross earnings for Mar., $216,747, and for 2 weeks ended Apr. 14, $98,898, against $218,698, and $97,283 for same periods, 1908.

MINERAL RANGE RD.—Gross revenue for Feb., $60,756.09; net, $873.32; against $57,600.25 gross revenue, and $786.65 deficit for Feb., 1908. Aggregate gross revenue for 8 months ended Feb. 28, $552,821.67; net, $94,246.82; against $539,675.23 gross revenue, and $93,143.29 net for same period 1907-08. Approximate gross earnings for March, $68,647, and for 2 weeks ended Apr. 14, $28,685, against $65,703, and $28,772 for same periods, 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross revenue for Feb., $776,653.05; net, $247,287.33, against $680,365.15 gross, and $168,033.06 net for Feb., 1908. Aggregate gross revenue for 8 months ended Feb. 28, $8,578,093.88; net, $3,852,032.46, against $8,215,783.69 gross and $3,241,847.95 net for same period 1907-08. Approximate gross earnings for Mar., $943,096, and for 2 weeks ended Apr. 14, $449,301 against $956,406 and $432,428 for same periods, 1908.

Grand Trunk Ry. Earnings, Expenses, Etc.

The following figures give the earnings of the G.T.R., the C.A.R., the G.T. Western Ry., and the D.G.H. & M. Ry., separately, for Feb., as compared with Feb., 1908:

GRAND TRUNK RAILWAY.

	1909	1908
Earnings	$1,964,900	$1,789,725
Expenses	1,643,800	1,633,885
Net earnings	$ 321,100	$ 155,840

CANADA ATLANTIC RAILWAY.

	1909	1908
Earnings	$106,700	$102,270
Expenses	120,800	143,178
Def.	$ 14,100	$ 40,908

GRAND TRUNK WESTERN RAILWAY.

	1909	1908
Earnings	$351,900	$359,893
Expenses	321,700	311,680
Net earnings	$ 30,200	$ 48,213

DETROIT, GRAND HAVEN & MILWAUKEE RAILWAY.

	1909	1908
Earnings	$105,900	$106,653
Expenses	101,500	104,218
Net earnings	$ 4,400	$ 2,435
Approximate earnings for Mar.,	$3,167,451.	
and for 2 weeks ended Apr. 14,	$1,462,946.	

against $3,016,259 and $1,350,104 for same periods 1908.

TRAFFIC RECEIPTS OF THE SYSTEM

Aggregate from Jan. 1 to Mar. 31.

	1909	1908	Inc.	Decr.
Grand Trunk	£1,310,610	£1,262,536	£48,074	
Canada Atlantic	11,702	68,958	2,744	
G. T. Western	258,354	268,658	.....	£10,304
D. G. H. & M.	72,485	72,957	.....	472
Total	£1,713,151	1,673,109	40,042	

W. W. Williamson, heretofore accountant and Superintendent of Tariffs, Canadian Ex. Co., has been appointed General Auditor, vice R. Burkinshaw, deceased, and will continue to act also as Superintendent of Tariffs. The position of Accountant has been abolished.

The Minister of Railways, in reply to a question in the House of Commons recently, said that up to June 30, 1896, there had been 1,772 miles of railway constructed in Alberta and Saskatchewan, while on Dec. 31, 1908, there were 3,404 miles in these two provinces.

Press reports state that Sir Thomas G. Shaughnessy, in a recent letter to the Premier, pointed out that during the period from 1902 to 1908, the C.P.R. added to its rolling stock at the rate of 14 freight cars a day, 1 passenger car every two days, and 1 locomotive every three days, and yet it had the utmost difficulty in keeping pace with the demands made on it, owing to the increasing volume of traffic offering over its lines. It is said that a calculation has been made showing that the C.P.R. combined freight cars have a deadweight capacity equal to the weight of the population of England.

CANADA SOUTHERN RAILWAY COMPANY

The Annual General Meeting of the Canada Southern Railway Company, for the election of Directors and other general purposes, will be held on Wednesday, the 2nd day of June, 1909, at the hour of eleven o'clock in the forenoon, at the Company's head office, in the City of St. Thomas.

NICOL KINGSMILL,
Secretary, C.S. Ry. Co.

Dated at St. Thomas,
20th April, 1909.

NIAGARA GRAND ISLAND BRIDGE COMPANY

The Annual General Meeting of the Niagara Grand Island Bridge Company, for the election of Directors and other general purposes will be held on Wednesday, the 2nd day of June, 1909, at the hour of eleven o'clock in the forenoon, at the Company's head office in the City of St. Thomas.

NICOL KINGSMILL,
Secretary, N.G.I.B. Co.

April 26th, 1909.

NIAGARA RIVER BRIDGE COMPANY

The Annual General Meeting of the Niagara River Bridge Company, for the election of Directors and other general purposes, will be held on Wednesday, the 2nd day of June, 1909, at the hour of eleven o'clock in the forenoon, at the offices of the Canada Southern Railway Company, in the City of St. Thomas.

NICOL KINGSMILL,
Secretary, N.R.B. Co.,

April 26th, 1909.

— THE —

N. L. Piper Railway Supply Co.

Limited

314 Front St. West

TORONTO

PARK, STATION, DECK OR CABIN SEATS

HARDWOOD BARS. MALLEABLE IRON LEGS.

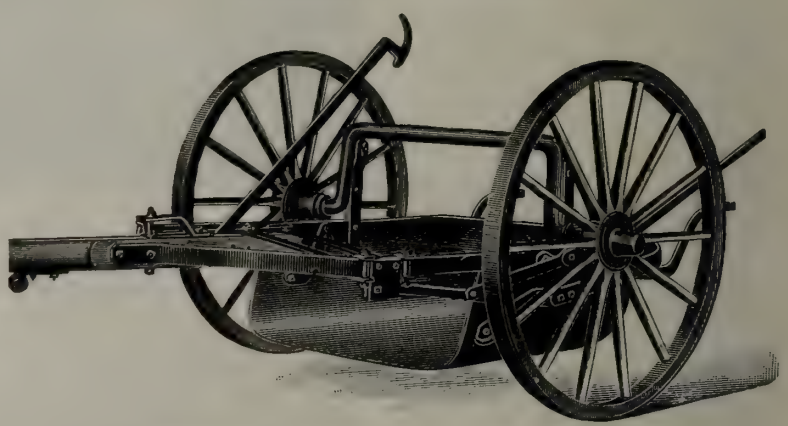
SPECIAL LENGTHS TO ORDER.

Our Station Seats are made of thoroughly seasoned Hardwood and perfectly annealed Malleable Iron Legs. Finished in Natural Wood or painted Red or Green and fastened together with Bolts.

Everlasting Comfortable Good Value

THE TORONTO PRESSED STEEL CO. LIMITED

TORONTO, CANADA



Our SOLID PRESSED BOWL DRAG and WHEEL SCRAPERS are the most satisfactory in the market. They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies including

PLOUGHS DUMP CARS
DUMP WAGONS DUMP CARTS
WHEELBARROWS TRUCKS
CEMENT MIXERS WAGONS
etc., etc.

PROMPT SHIPMENTS SEND FOR CATALOGUE

Canadian Freight Association

At the annual meeting in Montreal Apr. 16, the election of officers and standing committees resulted as follows: President, J. J. Mossman, Wabash Rd., Buffalo, N.Y.; 1st Vice-President, M. H. Brown, C.P.R., Toronto; 2nd Vice-President, C. A. Hayes, G.T.R., Montreal.

Advisory Committee—W. R. MacInnes, J. Pullen, G. C. Ransom.

Executive Committee—W. B. Bulling, C. A. Hayes, F. F. Packus.

Classification Committee—W. B. Bulling, S. P. Howard, C. A. Hayes, W. Phillips, F. J. Watson, W. M. Kirkpatrick, L. Macdonald, H. E. Macdonell, A. E. Rosevear.

Inspection Committee—R. W. Long, G. Tombs, F. Conway, R. W. Youngs, J. Paul, G. T. Pettigrew, M. H. Brown, B. R. Hepburn, S. P. Howard, W. B. Bamford.

It was decided to hold the next quarterly meeting at Halifax, N.S.

Railway Lands Patented.—Letters patent covering lands in Manitoba, Saskatchewan, Alberta and British Columbia were issued to railways during Dec., 1908, as follows:

	Acres.
Alberta Ry. and Irrigation Co.	4,644.00
C.N.R.	206.46
C.P.R. grants.	.07
G.T.P.R.	444.51
Manitoba and Northwestern Ry.	13.89
	5,308.93

Duluth, Winnipeg & Rainy Lake Ry.—The provisional directors of the company which has been incorporated to construct a railway from Virginia Lake, the present southerly terminus of the D.W. & R.L.R., to Duluth, Minn., are W. H. Cook, President; J. L. Washburn, Vice-President; W. D. Bailey, Secretary; L. C. Feetham, Treasurer, and J. F. Walsh. (April, pg. 267.)

A meeting of G.T.R. shareholders was held in London, Eng., April 21, to assent to the Grand Trunk Act, with respect to its debenture and other stock, and to authorize the necessary security being given to G.T.P.R. bonds to be issued to secure the $10,000,000 loan from the Dominion Government.

The Senate for the fourth year in succession has defeated the bill known as the Lancaster bill for the protection of level crossings, by adopting in its stead a bill introduced by Senator Beique, giving authority to our Railway Commission to look after the crossings. The Lancaster bill, which has been regularly passed by the House of Commons, fixes the rate at which trains shall pass over level crossings in cities, towns and villages at 10 miles an hour.

Speaking before the House of Commons Committee on the Preservation of National Resources recently, Hon. C. Sifton, M.P., stated that the railways had been responsible for denuding the country of a great deal of valuable timber, and it was decided that he should see the National Transcontinental Ry. Commissioners with a view of inducing them to clear the right-of-way of all combustible material, so that the danger of forest fires might be eliminated. It was also proposed to apply to the Board of Railway Commissioners for a similar order with respect to the C.P.R., and to confer with the Provincial Governments with a view of securing more adequate and uniform measures for protection against forest fires.

ELECTRIC RAILWAYS

Halifax Electric Tramway Co.

The annual report for the year 1908 shows a net increase in earnings of $13,397.00. The percentage of operating expenses 55.29, compared with 56.54 the previous year, is the most favorable showing for many years past. These economies in operating are largely due to the efficient condition of the plant and rolling stock, on which permanent outlays of $45,563.88 were made during the past year, in addition to which $11,958.42 was expended on track and other necessary improvements. An expenditure of $110,000 in paving, double-tracking and otherwise improving streets, is covered by $60,000 due banks, and the sale of 500 shares of stock at par. Arrangements are being made, on favorable terms, for a "use and occupancy" insurance, whereby, in case of fire, and consequent loss of earning power, the company will receive a sum equivalent to its daily net receipts.

ASSETS.

Property	$2,399,085.95
Accounts receivable	41,357.05
Supplies	10,214.14
Suspense account	10,722.39
Real estate	7,849.15
Cash on hand	37,791.73
	$2,507,020.41

LIABILITIES.

Capital stock	$1,400,000.00
5% bonds	600,000.00
Accounts payable	41,738.37
Notes payable	60,000.00
Mortgages	7,000.00
Tickets outstanding	1,817.60
Bond interest	15,000.00
Dividend due Jan. 1, 1909	21,000.00
Surplus account	360,464.44
	$2,507,020.41

INCOME ACCOUNT.

Passenger receipts	$ 184,046.89
Light and power earnings	182,437.06
Gas earnings	57,145.19
Sundry earnings	989.61
	$ 424,618.75
Operating expenses	$ 234,713.67
Coupons	30,000.00
Net earnings	159,905.08
	$ 424,618.75

SURPLUS ACCOUNT.

Balance, 1907	$ 300,326.30
Net earnings 1908	159,905.08
	$ 460,231.38
Three dividends paid	$ 60,750.00
Dividend due Jan. 1, 1909	21,000.00
Interest	6,058.52
Renewals	11,958.42
Balance	360,464.44
	$ 460.231.38

Following are some comparisons of the chief items for the years 1908 and 1899:

	1908	1899
Railway earnings	$184,927.51	$120,697.24
Total "	424,618.75	203,935.86
Operating expenses	234,713.67	112,137.19
Net earnings	159,905.08	61,798.67
Surplus	72,846.56	21,798.67
Percentage of operating expenses to income	55.29	55.15
Passengers carried	4,162,986	2,616,231
Car mileage	814,375	613,942

The directors for the current year are: Hon. D. MacKeen, President; J. Y. Payzant and W. B. Ross, Vice-Presidents; A. Kingman, J. Hutchison, J. C. Mackintosh, H. S. Poole, C. C. Blackadar, F. B. McCurdy.

D. Hawthorne has been appointed assistant auditor of receipts; J. R. Brown, assistant auditor of transportation, and W. T. Walmsley, assistant auditor of way-bills, Canadian Ex. Co.

Sandwich, Windsor and Amherstburg Ry.

The annual meeting was held in Windsor, Ont., Mar. 18. Following are the officers and directors for the current year: President, J. C. Hutchins; Vice-President, F. W. Brooks; Secretary, A. E. Peters; Treasurer, J. Bampton; other directors, A. E. Edwards, A. Pack, Detroit, Mich.; E. W. Moore, Cleveland, Ohio; J. Anderson, Windsor. Mr. Anderson, who is Manager of the S.W. & A.R., was elected to succeed H. A. Everett, of Cleveland, who retired owing to ill-health.

The Windsor and Tecumseh Electric Ry. Co., whose line is operated in connection with the S.W. & A.R., held its annual meeting on the same day. Its officers and directors are: President, F. W. Brooks; Vice-President, J. Anderson; Secretary, A. E. Peters; Treasurer, J. Bampton; other director, J. C. Hutchins.

The S.W. & A.R. does not issue a report, its operations being included in those of the Detroit United Ry., by which it is controlled. The following figures respecting it are taken from the D.U.R. report. Mileage Jan. 1, 1908, 35.443 miles; added in 1908, .370 miles; revenue passengers during year, 2,807,766; transfer passengers, 362,493; employe passengers, 23,776; car mileage, 754,495; earnings car mile, .2047; expenses car mile, .1197; net earnings car mile, .850. During the year $16,931 were expended on extension of lighting plant and new paving. In the D.U.R. statement of assets under investments, the S.W. & A.R. is put down for $253,134.91, and under accounts current for $265,015.19. Following are the balance sheets:

SANDWICH, WINDSOR AND AMHERSTBURG RY. CO.

Capital stock		$ 297,000.00
Mortgage bonds		490,000.00
Bills payable		15,000.00
Detroit United Railway		265,015.19
Windsor & Tecumseh Electric Ry.		5,026.77
Accounts payable		1,948.15
Unredeemed tickets		2,321.36
Profit and loss		33,518.00
Accrued interest on bonds		2,120.84
Insurance reserve		737.86
Injuries and damages reserve		394.26
Investment	$ 921,299.64	
W. & T. E. Ry. Co., stock	10,000.00	
Treas. bonds (W. & T.E. Ry. Co.)	172,000.00	
Accounts receivable	763.12	
Prepaid expenses	2,470.44	
Stores	1,968.66	
Cash	4,580.57	
	$1,113,082.43	$1,113,082.43

WINDSOR AND TECUMSEH ELECTRIC RY. CO.

Capital stock		$ 100,000.00
Mortgage bonds		189,000.00
Investment	$ 283,973.23	
Sandwich, Windsor and Amherstburg Ry.	5,026.77	
	$ 289,000.00	$ 289,000.00

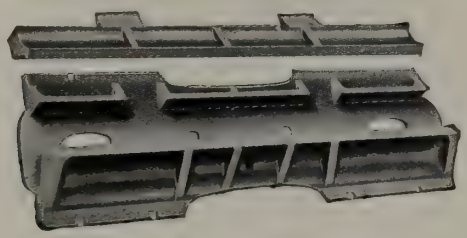
The earnings and expenses of the W. & T.E.R. Co. are included in the operations of the S., W. & A.R., which latter company owns all the capital stock of the W. & T.E.R. Co.

Electric Railways in 1907-08.

On June 30, 1908, there were 992.03 miles of electric railways in the Dominion, against 814.52 on June 30, 1907, the number of reporting lines being 53, against 49. The total paid-up capital was reported to be $87,903,231, against $75,195,475. The capital included $118,400 Dominion subsidies; $306,945.50 Provincial subsidies, and $151,000 municipal subsidies. The floating debt of the various companies totalled $5,363,319.70, against $7,567,024.90 at June 30, 1907. The total receipts were $14,007,049, made up as follows: Passengers, $13,233,724; freight, $346,021; mails and express, $54,883; other sources, $372,421; against a total of $12,630,430 in 1906-07. The operating expenses were $8,695,879.91, against $7,737,251, in 1906-07. The proportion of operating expenses to gross earnings was 62.08%, an in-

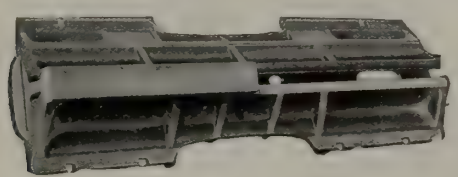
Have You Seen Williams Boltless Rail Joint?

The joint was first put in trial service on the Pecos River line of the Santa Fe at Roswell, N. Mex., where it remained for 11 months, and when removed at the end of that time it showed neither corrosion nor bright spots indicating wear. These joints have been in service for 10 months on the Fort Wayne division of the Pennsylvania Lines West, for 9 months in the yards of the St. Paul Union Depot Co., and for 8 months on the Wisconsin division of the Chicago & North Western Ry. in Chicago, where they are carrying the heavy North Shore suburban traffic of the road, as well as the through traffic for



the Wisconsin & Milwaukee division, which amounts to 316 trains every 24 hours.

The joints are made of malleable iron and have on the bottom a series of transverse ribs for strength, the outer ones of which come against the tie and prevent longitudinal movement. To prevent rail creeping, there is a round hole through the joint midway of the outer side, in which a 1-in. round bolt is inserted, the rail flanges being cut away at the adjacent corners the slight amount necessary to permit the insertion of the bolt. The joints weigh the same as a yard of the rail to which applied; the joint for an 80-lb. rail, for example, weighing 80 lbs.



"I want to ride on a railroad equipped with the W.B.R.J. and the 20th Century Steel Ties."

We also Solicit Earnest investigation of

THE 20th CENTURY STEEL TIE

WILLIAMS BOLTLESS RAIL JOINT MANUFACTURING CO., INC.

503 Manhattan Bldg., CHICAGO, ILL.

Get exactly the Cap you want at Allan's

We have spent a lifetime gathering cap knowledge, and we are using it in the biggest cap output of any firm in Canada. Our specialty is Uniform Caps.

We make them in every required style—at any price you want to pay. We can work up to any specification and make them quickly.

"Railroad"

Write—just telling what you want—to

A. A. ALLAN

& CO., LIMITED

51 Bay Street

TORONTO - CANADA

"Steamboat"

PROVINCIAL STEEL CO., LTD.

COBOURG, ONT.

crease of 0.83%. The net earnings of $5,311,169.57 showed a betterment of $412,515,99, and were equal to 6.04% upon the total capital. The number of passengers carried was 299,099,309, an increase of 26,099,905; and the quantity of freight carried was 732,475 tons, against 252,744. The car mileage was 56,964,881 miles, of which 56,412,035 were made by passenger cars and 552,846 by freight cars; there were also 303,391 miles made by locomotives. There were 237 cars added to the rolling stock during the year, 178 of Canadian and 59 of foreign manufacture. The total number of persons employed by the companies was 9,954, and the amount paid in wages was $5,757,578, against 9,031 and $5,291,585 during 1906-07.

The return of accidents show that 67 persons were killed and 1,883 persons injured, a decrease of four in the number killed, but an increase of 147 in the number injured over the year 1906-07. Of those killed, 18 were passengers, and six employes; while of the injured, 1,156 were passengers and 188 employes.

Ontario Electric Railway Taxation.

The Ontario Government collected $11,122.75 taxes from the electric railway companies operating in the province during the year 1908, divided as follows:

Berlin and Bridgeport E. Ry.	$ 23.80
Chatham, Wallaceburg and L.E. Ry. (1907)	215.00
Cornwall St. Ry. L. and P. Co.	40.00
Galt, Preston and Hespeler St. Ry.	77.00
Hamilton, Grimsby and Beamsville E. Ry.	245.00
Hamilton St. Ry.	405.54
Hamilton and Dundas St. Ry.	84.50
Hamilton Radial E. Ry.	136.44
International Ry.	169.42
International Transit Co.	33.70
Kingston, Portsmouth and Cataraqui E. Ry.	120.54
London St. Ry.	451.20
Niagara Falls, Wesley Park and Clifton Tramway Co.	76.60
Oshawa Ry.	67.50
Ottawa Electric Ry.	1,027.00
Peterborough Radial Ry.	102.24
Preston and Berlin St. Ry.	72.50
Port Dalhousie, St. Catharines and Thorold E. Ry.	85.80
Sandwich, Windsor and Amherstburg Ry.	397.06
Sarnia St. Ry.	70 00
Toronto Ry.	5,690.70
Toronto and York Radial Ry.	1,067.25
Toronto Suburban Ry.	94.32
Windsor, Essex and Lake Shore Rapid Ry.	324.64
Woodstock, Thames Valley and Ingersoll Ry.	45.00

Sunday Electric Car Service

The following act to amend The Ontario Railway Act, 1906, was passed by the Ontario Legislature at its recent session:

1. The Ontario Railway Act, 1906, is amended by adding thereto the following as section 193a:

193a.—(1) Subject to sub-sections 2 and 3 and notwithstanding anything in this act or any other act contained street railways may be operated on Sunday within a city having a population of over 50,000 after a majority of those voting of the electors qualified to vote at municipal elections have voted in the affirmative in answer to the question: "Are you in favor of operating street railways on Sunday?" but no person shall be entitled to vote more than once on such question.

(2) The question shall not be submitted until the Lieutenant Governor in council has declared that the population of the city is over 50,000, and the Lieutenant Governor in council may require a census to be taken and may prescribe the nature of the census and the time and manner of taking the same.

(3) When the Lieutenant Governor in council has declared that the population of the city is over 50,000 the question may be submitted at the annual municipal election, provided the municipal council shall have decided on or before the 1st of December preceding the date of such election to submit the question to the electors, and shall not later than the 15th of December, have given due notice of such decision by public advertisement for at least one week in each issue of some daily newspaper published in the municipality.

(4) All the provisions of The Consolidated Municipal Act, 1903, relating to the imposition of penalties and prevention of corrupt practices in connection with elections shall apply to any vote taken under the provisions of this section. (5) No employe shall be required or permitted to work for more than six days of ten hours each in any one week, nor upon any Sunday when he worked the previous Sunday.

(6) For each day on which a breach of sub-section 5 is committed the city or company shall incur a penalty not less than $25 and not exceeding $100 recoverable at the suit of any person in any court of competent jurisdiction and any judgment for a penalty shall form a first lien on the property, assets, rents and revenues of the street railway.

(7) Nothing in this section contained shall entitle any street railway company, which has entered into an agreement with any municipal corporation not to run cars on Sunday to run any of their cars on any Sunday unless and until such company shall have received permission from the council of such corporation by by-law to run their cars on Sunday, and then only under and subject to such terms, conditions, stipulations, regulations, obligations, provisoes and things as may be contained in such by-law, and also under and subject to such terms, conditions, stipulations, regulations, obligations, provisoes and things as may be contained in an agreement to be first made and entered into by such company with such corporation before such company shall be entitled to run any car on any Sunday.

(8) This section shall apply to all railways operated by electricity and street railways whether they are operated on a highway or on a right of way owned by the company.

Projects, Construction, Betterments, Etc.

The Belleville Radial Ry. Co. has been incorporated by the Ontario Legislature. (Apr., pg. 281.)

British Columbia Electric Ry.—A press report states that the company is preparing plans for an office building and terminal station to be erected on the corner of Hastings and Carroll Sts., Vancouver, and that the building will cost $200,000. (Apr., pg. 281.)

Bullocksville and Alix Electric Ry.—The Alberta Legislature has passed an act authorizing the construction of an electric railway in the districts of Bullocksville and Alix.

Chatham, Wallaceburg and Lake Erie Electric Ry.—A press report states that arrangements are being made for the extension of this railway so as to connect with Blenheim and Ridgetown to the south, and Petrolia and Sarnia to the north.

Cobourg, Port Hope and Havelock Electric Ry.—An act has been passed by the Ontario Legislature incorporating a company with this title, with power to construct an electric railway from Port Hope to Cobourg, thence to Havelock, passing through any or all of the towns and villages lying in its route, with a branch line from Cobourg to Gore's Landing, Rice Lake, and connected with the main line and other branches. The head offices are to be at Cobourg, the capital is fixed at $500,000, and the provisional directors are; W. J. Crossen, B. McAllister, T. C. Clapp, S. Huycke, Cobourg; H. T. Bush, Port Hope; J. Knox, Havelock. Special power is given for the purpose of purchasing land and to erect and operate hotels, parks and sanitariums in connection with the railway and branches. (Apr., pg. 281. See also Cobourg Radial Ry.)

Cobourg Radial Ry.—The Ontario Legislature has passed an act incorporating a company with this title instead of the Cobourg, Peterborough and Kawartha Lakes Ry., as the application read, with power to construct an electric railway from Cobourg to the C.P.R. near Havelock, Ont., passing through the townships of Hamilton, Haldimand, Percy, Seymour and Belmont, and the towns or villages of Campbellford, Trent Bridge, Warkworth, Burnley, Centreton and Baltimore; also a line from Cobourg to Lake Chemong or Stoney Lake, passing through the townships of Hamilton, South Monaghan, Otonabee, Douro and Smith, and the villages of Coldsprings, Plainville, Bewdley, Baillieborough, Centreville and the city of Peterborough; together with a branch line from Burnley to Hastings, passing through the village of Roseneath, and the townships of Haldimand, Alnwick and Percy. The head office of the company is to be at Cobourg, the capital $40,000, and power is asked to issue bonds for $25,000 a mile. The provisional directors are; F. W. Coolbaugh, R. C. Coolbaugh, Philadelphia, Pa.; J. E. Skidmore, A. L. Jex, G. Greer, N. F. MacNachtan, Cobourg. (See Cobourg, Port Hope and Havelock Electric Ry. Apr., pg. 281.)

Comox Harbor District, B.C.—The British Columbia Government is being asked to incorporate a company under the Tramway Co. Incorporation Act, with the object of constructing a tramway from 750 east from the southeast corner of lot 82, Comox harbor, thence northwesterly for about 20 miles, to the northeasterly end of Campbell's Lake, together with such branch lines, spurs, side tracks and feeders to connect with the said tramway as may be necessary in connection with the same. The provisional directors are: A. D. McRae, T. McLarty, R. L. Craig.

Des Jardins Interurban Ry.—Application was made to the Ontario Legislature for an act incorporating a company with this title, for the purpose of constructing an electric railway from Hamilton to Guelph by way of the Des Jardins Canal, through or over the Burlington heights, along the Griffin Road, by the Grindstone Creek, through Waterdown, continuing therefrom in two divisions—one by way of Flamboro Centre, Carlisle and Freelton, the other by way of Kilbride and the C.P.R. Guelph Junction; and from Hamilton to Galt and Guelph, by way of Dundas and Bullocks Corners; from Hamilton to Burlington by a branch from the first section; and from Waterdown to Aldershot by way of the G.T.R. station. The offices of the company were to be at Hamilton; its capital is $100,000, and it asked power to issue bonds to the amount of $25,000 a mile. The provisional directors were to be; J. O. McGregor, W. Attridge, H. Thompson F. J. Shaidle, Waterdown, Ont.; J. A. Griffin, Hamilton, Ont.; J. K. Griffin, Toronto. The application was opposed before the Railway Committee of the Legislature, and was withdrawn. (Jan., pg. 51.)

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.

The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.

THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

American Brake Shoe and Foundry Company

NEW YORK MAHWAH, N.J. CHICACO, ILL.

THE HOLDEN CO., Limited, Agents, 302 St. James St., MONTREAL

THE JAMES SMART MANFG. COMPANY LIMITED

ESTABLISHED 1854
INCORPORATED 1881

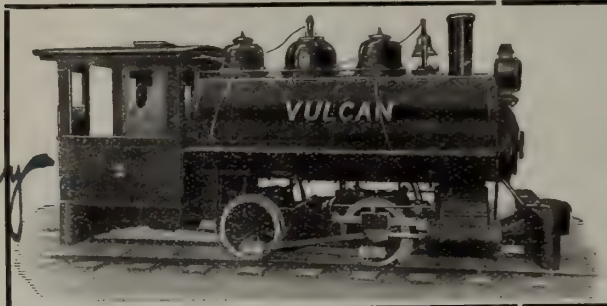
WORKS
BROCKVILLE, ONT.
WESTERN WAREHOUSE
131 Bannatyne Ave.
WINNIPEG, MAN.

MAKERS OF HIGH GRADE

Our TRADE MARK
A Guarantee of Excellence

Machinists' Hammers Drilling Sledges Copying Presses
Track Chisels Chopping Axes Bench Axes
Nail Hammers Jack Screws Spike Mauls
Traversing Jacks Trucks, Pumps Stoves, etc.

Purchasing Agents are invited to send for our Catalogues and Discount Sheets, which will be furnished Promptly.



EVERYBODY IS GOING into heavier cars and equipment, and of course heavier Dinkeys. Come along. We are ready for you. All sizes in stock.

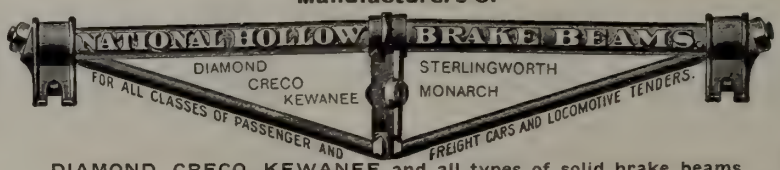
VULCAN IRON WORKS
WILKES-BARRE, PA., U.S.A.

Canadian Representative - MUSSENS LIMITED, MONTREAL

E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES
46th, Robey and Lincoln Streets.
General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.
Manufacturers of



DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:
22 St. John Street
MONTREAL, QUEBEC

I. A. YOUNG,
AGENT

Dunnville, Wellandport and Beamsville Electric Ry.—The Ontario Legislature has passed an act authorizing the company to construct an extension of its proposed railway from Beamsville to Jordan Harbor. The company by its original act of incorporation was authorized to construct a railway, to be operated by electricity, from Port Maitland to Beamsville, with a branch through Gainsborough, Clinton and Pelham townships to Fenwick. A by-law granting a bonus of $5,000 to aid in the construction of this railway was lost at Dunnville, Mar. 30, owing to the fact that, although there was a majority of votes cast in its favor, it lacked 15 of the necessary total vote. (Feb., pg. 135.)

The Eastern Ontario Electric Ry. Co.'s application to the Ontario Legislature for an act of incorporation has been passed. (Feb., pg. 135.)

Fundy Tidal Power Co.—Application is being made to the Dominion Parliament for an act incorporating a company with this title, to develop and utilize the tidal power of certain rivers emptying into the Bay of Fundy, and to supply electric energy therefrom. Among the powers asked for in connection with the operation of the company is the right to construct electric tramways and railways.

The Heaps Lumber Co., which has powers under its charter of incorporation to construct tramways, proposes to construct a tramway to be operated by steam, electric power, water, or such other motive power as the company may deem expedient, from lot 438, group 1, New Westminster district, B.C., northerly and easterly to the northeast corner of sec. 25, tp. 15, New Westminster district.

Huron and Ontario Ry.—The Dominion Parliament has granted the company an extension of time within which it may start and complete the construction of the extensive system of electric railways which it is authorized to construct. (Mar., pg. 215.)

Moncton Street Ry., Heat and Power Co.—An agreement between the City Council of Moncton, N.B., and the Moncton Street Ry. Co., with respect to the construction and operation of a street railway in the city has been approved. It is provided that the company is to complete the construction of the line within three years from the date the charter is obtained. For 20 years the company will not pay anything to the city for the use of the streets; for the succeeding 10 years the company will pay 1% of the gross earnings, and for a subsequent period 2% of the gross earnings. The question of whether the city should take over the line at the end of 40 years was not taken into consideration. The N.B. Legislature is being asked to confirm the agreement. (Feb., pg. 135.)

Montreal and Southern Counties Ry.—A number of business men of Montreal were taken over the route of the railway now under construction between Montreal and St. Lambert, Que., April 5. W. B. Powell, on behalf of the company, stated that cars would be running from McGill St., Montreal, to St. Lambert, by July 31. (Apr., pg. 281.)

Montreal St. Ry.—Press reports state that the company is preparing to make a number of additions to its city lines. (Jan., pg. 53.)

Montreal Terminal Ry.—The Dominion Parliament has granted an extension of time within which the company may construct its authorized lines. The sections of the bill asking for power to construct an elevated railway were withdrawn. The company is owned by the Montreal St. Ry. (Apr., pg. 281.)

Morrisburg Electric Ry.—The Ontario Legislature has authorized the company to construct additional lines in extension of those previously authorized. (Apr., pg. 281.)

Niagara Gorge Rd.—Owing to an ice jam in the Niagara River near Lewiston, N.Y., the water has been raised to such a height that the N.G.R. has been seriously damaged at a number of points, and covered with ice to a considerable height. On April 12 a gang of 300 men were set to work clearing the line preparatory to the necessary repairs being undertaken.

It was stated April 13, as a result of a preliminary examination of the line, after the first break-up of the ice jam that considerable portions of the line will have to be entirely reconstructed, and that when the remainder of the ice goes out, it will be found that so much additional damage has been done, that the whole line from just below the whirlpool rapids to the Lewiston bridge will practically have to be reconstructed. It has been found that whole sections of the line, including ties, rails, telegraph lines, and overhead equipment have been carried away. The guard rail at the brink of the chasm, designed to prevent the cars running over the edge, which cost $150,000 to install, will be a total loss. It is estimated that it will take between two and three months to reconstruct the line.

Niagara, Lockport and Ontario Power Co.—A U.S. press report states that this company's right of way will be used for the construction of a railway to connect Canadian railway lines with the Lehigh Valley Rd. The interests said to be cooperating with the N.L. & O.P. Co. in the project are the G.T.R. and the Pere Marquette Rd. The proposal is said to provide for the construction of a double track third rail line.

Nipissing Central Ry.—The Haileybury, Ont., Town Council has granted a franchise to this company to construct an electric line within the town. Construction is to be started by May 15, and the line is to be completed in the fall. The company has secured a franchise in Bucke tp., and is applying for one in Cobalt. The company proposes to construct a line from Cobalt to the head of the lake, viz.; New Liskeard. The other company desirous of obtaining a franchise at Haileybury was the Cobalt Range Electric Ry. J. W. Fitzpatrick and S. A. Jones are interested in the N.C.R. (May, 1908, pg. 353.)

Ontario Interurban Ry.—An extension of time for the construction of the railways authorized to be constructed by 7 Edward VII, chap. 103, has been granted by the Ontario Legislature. A section provides that sub-sec. 1, sec. 8, of its original act shall be repealed, and it is provided that the company shall have and enjoy all the powers and privileges conferred upon companies by the act respecting companies for supplying steam, heat, electricity, or natural gas for light, heat and power, but the powers conferred by this section shall not be exercised after the extension of five years granted by the bill unless at least four miles of the railway shall have been constructed and placed in operation. (Feb., pg. 136.)

Ontario West Shore Ry.—When this company's bill was before the Railway Committee of the Ontario Legislature, it was decided not to give legislative approval of the company's application to confirm an agreement to take over the Maitland Power Co. The name of the company was changed as above, the word "electric" having been struck out of the title previously used. (Feb., pg. 136.)

The Ottawa & St. Lawrence Electric Ry. Co. has been incorporated by the Ontario Legislature. (Apr., pg. 281.)

People's Ry.—The Ontario Legislature has passed an act incorporating a company with this title, with power to construct an electric railway from Woodstock by way of Plattsville, New Hamburg, Baden, Berlin, Guelph, Fergus and Elora to Arthur, with a branch from near New Hamburg, via Tavistock, to Stratford. The head offices are to be at Berlin, Ont.; the capital stock is fixed at $1,000,000, and it asks power to issue bonds for $20,000 a mile. The provisional directors are; W. A. Bugg, A. N. Warfield, J. McNeel, Toronto; J. H. Wood, Hereford, Eng.; J. C. Madden, Calgary, Alta.; N. R. Bugg, Bright, Ont.; R. E. MacNeel, Delphi, Ind.

A plan of the route of the projected line shows a line from Guelph to Stratford, passing through Mosborough, Breslau, Berlin, Petersburg, Baden, New Hamburg and Tavistock, with branches from Petersburg southerly through New Dundee to Ayr; from Baden northerly to Wellesley, and from New Hamburg southerly through Plattsville, Bright and Innerkip to Woodstock. A line is also projected from Guelph northerly through Elora and Fergus to Arthur.

The taxpayers of New Hamburg passed a by-law Mar. 29 to take $20,000 of stock in the company. (Mar., pg. 215.)

Rupert District, B.C.—Application is being made to the British Columbia Government for the incorporation of a company, under the provincial Tramway Co. Incorporation Act, for the purpose of constructing a tramway in Rupert district, Comox Division, Vancouver Island, B.C. The route of the projected line is described as follows: Commencing on the east shore of Nimpkish Lake on sec. 20, thence northerly to May's Bay, on Broughton Straits, in sec. 2, tp. 1, Rupert district, about six miles. The provisional directors are: A. H. Stracy, M. N. Garland and C. F. Dickinson, Vancouver, B.C.

Simcoe Ry. and Power Co.—The Ontario Legislature has incorporated a company with this title with power to construct an electric railway from Penetanguishene through Victoria Harbour, Sturgeon Bay, Tannerville, Waubaushene, Fesserton and Midland to Coldwater, to develop water power at the Big Chute on the Severn River, and to distribute electric energy. The company has secured a lease from the Crown of the water power and the rates to be charged are to be fixed by the Hydro-Electric Commission. The provisional directors are: J. Playfair, D. L. White, W. Finlayson, Midland, Ont.; C. H. Sheppard, W. H. F. Russell, Waubaushene, Ont.; W. J. Lovering, Toronto. (Apr., pg. 283.)

Stratford and St. Joseph Radial Ry.—The Ontario Legislature has extended the time within which this projected electric railway to connect Stratford with St. Joseph, Lake Huron, may be constructed. (Apr., pg. 283.)

Sydney and East Bay Ry.—Application is being made to the Nova Scotia Legislature for an act incorporating a company with this title to construct an elec-

BALDWIN LOCOMOTIVE WORKS

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND

LOCOMOTIVES

Mine, Furnace and Industrial Locomotives
Electric Locomotives with
Westinghouse Motors and Electric Trucks

BURNHAM, WILLIAMS & COMPANY
PHILADELPHIA, PA., U.S.A.
Cable Address;—"Baldwin," Philadelphia

STANDARD STEEL WORKS CO.

Harrison Building, Philadelphia, Pa., U.S.A.

THE BRYDGES ENGINEERING AND SUPPLY CO.
WINNIPEG, MAN. Limited Representatives

Wheels mounted on axles fitted with motor gear
ready for application to equipment

STANDARD

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

THE CANADIAN BRIDGE CO., LIMITED

WALKERVILLE, ONTARIO

LOCOMOTIVE
TURNTABLES
ROOFS
STEEL BUILDINGS

Manufacturers of
Railway and Highway
BRIDGES

STRUCTURAL
IRON WORK
OF ALL
DESCRIPTIONS

The McConway & Torley Co.

PITTSBURG, PA.

Manufacturers of the

JANNEY,
JANNEY "X"
AND
PITT FREIGHT COUPLERS

BUHOUP 3-STEM EQUIPMENT
BUHOUP VESTIBULE EQUIPMENT

MALLEABLE IRON AND STEEL CASTINGS
FOR RAILROAD USE

NEW AND RELAYING
RAILS

FOR RAILWAYS, TRAMWAYS,
GIRDERS, ETC.

LOCOMOTIVES, CARS AND
OTHER EQUIPMENT.

John J. Gartshore

83 Front Street West - TORONTO

THE PRESTON CAR & COACH CO.

PRESTON, ONT. Limited

—MANUFACTURERS OF—

Steam and Electric Railway Cars

tric tramway, or a tramway or railway operated by any other motive power, from Sydney to East Bay, with power to extend through districts eight and 13 of Cape Breton County, and to construct branch lines. The capital is to be $500,000, and power is asked to increase this to $1,000,000; provision is also made so that the County of Cape Breton may grant aid at the rate of $2,000 a mile for 17 miles, in addition to one-half the cost of the right-of-way, when the same is not along the public highway. The provisional directors are: T. Cozzolino, J. C. Larder and J. B. McCormack. (See Dominion Ry. and Plaster Co., Mar., pg. 214.)

Tillsonburg and Southern Counties Radial Ry.—The Ontario Legislature has passed an act incorporating a company with this title, with power to construct an electric railway from Tillsonburg and from Port Burwell, or at one or more of these points simultaneously, and radiate therefrom into and through the townships of Middleton, Houghton, North Walsingham, Bayham, South Dorchester, and Westminster. The railway may also be extended to London, Woodstock and Ingersoll, with the consent of the municipalities, or with the approval of the Ontario Railway and Municipal Board, should the company and the municipalities fail to reach an agreement. The company is authorized to use steam as a motive power for construction purposes. The capital of the company is fixed at $150,000, with power to increase by $15,000 per mile of line constructed, and authority is asked to issue bonds to the amount of $30,000 a mile for the line between Tillsonburg and Port Burwell, and of $25,000 a mile for the other lines. The provisional directors are; W. S. Law, E. Law, J. Smith, Tillsonburg; S. S. Clutton, Vienna, Ont.; C. Law, Toronto. (Mar., pg. 215.)

Toronto and York Radial Ry.—The Legislative Committee of York Township Council passed a resolution April 10, to apply to the T. & Y.R. Co. to ascertain if something could not be done to establish markets at North Toronto, Sunnyside and Kingston Rd., to help producers who claim that the city market is of no benefit to them. (Feb., pg. 137.)

Toronto, Niagara and Western Ry.—The Dominion Parliament has granted an extension of time for the construction of the projected electric railway from Toronto to Niagara and from Niagara westerly to Brantford and other points. (Apr., pg. 283.)

The Toronto Ry. Co. started laying new rails on sections of Yonge St. on April 14, and similar work is in progress on other lines in the city. The question of the new lines to be constructed is still undecided, although the Mayor stated recently, after a conference with the company's officials, that about 15 miles would be constructed this year. The Board of Control decided later to recommend that the city bear the expense of constructing the sub-structures on the streets where new rails are being laid by the company. (Apr., pg. 283.)

Toronto Suburban Ry.—The Ontario Legislature has extended the time within which the company may construct extensions from Weston and Lambton, Ont. The extension of the Weston line will be to Brampton, 13 miles, thence to St. Catharines and Port Colborne, Ont., and the other from Lambton Mills to Niagara Falls. A. H. Royce, President, informed the Railway Committee of the Legislature that the company proposed to erect a bridge at Lambton which would cost $100,000. The committee was also given to understand that the company proposed to proceed with construction on the Weston-Brampton extension this year. (Mar., pg. 215.)

Yarmouth and Digby Electric Ry.—Application is being made to the Nova Scotia Legislature for an act incorporating a company with this title to construct an electric tramway or railway from Yarmouth through the Yarmouth and Digby Counties to Bear River, with all necessary powers incidental to carrying on the business of an electric railway company. The provisional directors are B. G. Burrill, B. B. Law, J. M. Lovett, Yarmouth; J. A. Dickey, F. B. McCurdy, Hon. B. F. Pearson, Halifax; Hon. A. H. Comeau, Meteghan River, N.S.

Yarmouth and Eastern Ry.—The Nova Scotia Legislature has under consideration an act for the incorporation of a company with this title with power to construct a railway, to be operated by steam, electricity or any other motive power, from Yarmouth to Tusket Wedge, with such branch lines as may be necessary. It is provided that the portion of the line in Yarmouth shall be constructed and operated only by permission of, and arrangement with the Yarmouth St. Ry. The company asked power to generate electric energy, and to supply power and light in places along the railway route. The capital is fixed at $100,000, but power is asked to increase it to $250,000. The provisional directors are; B. G. Burrill, B. B. Law, Yarmouth; J. A. Dickie, Halifax, N.S.

Eleetric Ry. Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for Feb., $181,638; operating expenses, $99,969; net operating earnings, $81,669; renewal funds, $13,958; net earnings, $67,711; approximate income from investments, $13,550; net income, $81,261; against, $163,961 gross earnings; $84,670 operating expenses, $79,291 net operating earnings; $10,750 renewal fund; $68,541 net earnings; $11,036 approximate income from investments, $79,577 net income for Feb., 1908. Aggregate gross earnings for 8 months ended Feb. 28, $1,525,557; net earnings, including approximate income from investments, $711,266, against $1,331,921 gross and $662,619 net for same period, 1907-08.

The Edmonton, Alta., St. Ry. during the three months ended Mar. 31, carried 316,605 passengers, and showed gross earnings of $13,831.30. The line was only opened in Nov., 1908.

Halifax Electric Tramway.—Railway receipts for Mar., $13,558.21, and for 2 weeks ended Apr. 14, $6,686.16, against $12,718.27 and $6,028.71 for similar periods 1908. Total receipts for 3 months ended Mar. 31, $39,880.82 against $37,910.73 for same period 1908.

London St. Ry.—Gross earnings for Mar., $18,080.01; expenses, $13,411.91; net earnings, $4,668.10; against $16,907.90 gross earnings; $13,015.97 expenses; $3,891.93 net earnings for Mar., 1908. Aggregate gross earnings for 3 months ended Mar. 31, $52,314.84; expenses, $39,121.40; net earnings, $13,193.44; against $50,287.14 gross earnings; $38,731.69 expenses; $11,555.45 net earnings for same period 1908.

Montreal St. Ry.—Total earnings for Mar. $298,727.87; expenses $206,832.03; net earnings $91,895.79; city percentage on earnings $20,540.26; interest on bonds and loans $14,861.91; rent leased lines $498.67; surplus $55,994.95; against $288,674.07 total earnings; $202,389.80 expenses; $86,284.27 net earnings; $19,794.64 city percentage on earnings; $17,879.57 interest on bonds and loans; $444.43 rent leased lines; $48,165.63 surplus for Mar., 1908. Aggregate gross earnings for 6 months ended Mar. 31, $1,813,342.55; net $646,958.83; total charges $181,242.58; surplus $465,716.25; against $1,747,136.88 gross earnings; $691,271.15 net earnings; $186,253.32 total charges; $415,017.83 surplus for same period 1907-08.

Quebec Ry. Light and Power Co.—The proposed reorganization of the company, it is stated, will include the introduction of new capital in order to provide for the construction of increased mileage, additional rolling stock, and further developments of power plant. It has been officially stated that although the C.P.R. has an unexpired option on a controlling interest, it is not now negotiating for control, but that the new capital is to be introduced by a syndicate of British and French capitalists.

St. John, N.B., Ry.—Negotiations are in progress between the company and the city council for a new agreement for the operation of the railway.

Toronto Ry.—Gross earnings for Feb. $275,244; expenses $148,950; net earnings $126,294; against $261,234 gross earnings; $150,977 expenses; $110,257 net earnings for Feb., 1908. Aggregate gross earnings for 2 months ended Feb. 28, $563,625; net earnings $262,624; against $530,959 gross, and $222,512 net for same period 1908. Approximate gross earnings for Mar. $297,742.61; against $272,407.85 for March, 1908.

Toronto Suburban Ry.—The Ontario Legislature has approved and confirmed the deed of mortgage to the National Trust Co., to secure a mortgage of $30,000 a mile in respect of additional lines to be constructed from Weston to Brampton, Ont., from Lambton to Hamilton and other points.

Electric Railway Notes

No, the Gorge Railway is not a road solely devoted to dining cars.—Toronto Globe.

The Halifax Electric Tramway Co., recently received from the Ottawa Car Co. two semi-convertible pay-as-you-enter cars, 21 ft. long.

The Hamilton St. Ry. and its employes have arranged a new schedule of hours, and conditions of work, which went into effect, April 1.

The Calgary St. Ry. has ordered 8 semi-convertible pay-as-you-enter, 10 cross seat cars, 40 ft. long, for early delivery, from the Ottawa Car Co., Ltd.

The Ottawa Electric Ry. recently received from the Ottawa Car Co. 6 semi-convertible pay-as-you-enter cars, 21 ft. bodies, and has ordered six more similar cars for early delivery.

The B.C. Electric Ry. has ordered in England three 50-ton locomotives, of 640 h.p., complete with electrical equipment, suitable for operating on a 600-volt circuit, for its Fraser Valley branch.

The Winnipeg Electric Ry.'s employes have asked for the appointment of a conciliation board to enquire into the

claims made by them against the company. They are asking for a 9-hour day, at the same rate of pay as for the present 10-hour day.

The Montreal St. Ry. is enforcing a by-law to prevent spitting on the floor, platform or any part of a car. The by-law provides a fine of $40 for each offence. The first two offenders were each fined $1, with the option of 8 days' imprisonment, Apr. 4.

G. W. Lang, Assistant Superintendent Ottawa Electric Ry., was presented with a purse of gold Mar. 26, on his leaving the company after 18 years' service. He and his family subsequently left for Calgary, Alta., where he intends entering the real estate and insurance business.

The Board of Railway Commissioners has ordered the Grand Valley Ry. Co. to equip all its cars, including electric freight motors, as well as passenger motors and trailers, and the cars of any companies controlled or operated by it, except the Brantford St. Ry., with air brakes by July 1, next.

The campaign against that most objectionable habit of spitting in cars—or elsewhere—is being prosecuted by the London St. Ry., by the handing of a card by the conductor to the offender, reading as follows: "You are violating the law against spitting. You are subject to a fine of $50, by order of the City Council."

The Montreal Recorder in giving judgment, Mar. 31, in the case of the city against the Montreal St. Ry., wherein the city alleged that the company was not giving a satisfactory service in St. Denis St., said the evidence showed that the company was giving a far better service than it was required to under its contract.

The B.C. Electric Ry., which recently undertook a survey of Sumas district, with the view of dyking the land for reclamation purposes, has decided, in view of the prohibitive cost, to abandon the scheme. This abandonment will not, it is stated, affect the construction of the company's Chilliwack extension which is being pushed to completion.

The Hull Electric Co. has ordered from the Ottawa Car Co. two semi-convertible cars, 21 ft. bodies, of which the principal dimensions are: Length, over all, 30 ft.; over vestibule, 29 ft.; width,, inside, 6 ft. 2 in.; over all, 7 ft. 6 in.; height, inside, 8 ft. 2 in.; weight of car body, 13,000 lbs.; wheel base, 8 ft. 0 in.; seating capacity, 28; for delivery in June.

The Winnipeg Electric Ry. has been allowed to amend its statement of defence in the actions brought against it by the City Council. The city seeks to recover penalties alleging that the cars are not being operated in accordance with the agreement, and that the company is distributing electric energy in the city without having obtained Council's consent.

The Toronto and York Radial Ry. has purchased from the Fairmount Transportation Co., of Philadelphia, Pa., eight cars for use on the Glen Grove Division of the Metropolitan Ry., and for other divisions. These cars, which have only been in use about 4 months were built in 1906, are 31 ft. long inside of corner posts, 41 ft. long over all, and have a seating capacity for 44 persons. They are of standard specification and finished in oak, with 18 walk-over seats covered with rattan, and longitudinal seats at each end.

Champion Revolving Dump Car

The CHAMPION CAR is radically different from any now on the market. It is simple, strong, compact and being built entirely of iron except the bed, is extremely durable. The bed revolves and may be dumped on either side or end. Write for catalogue of cars and drums.

The Canadian Road Machine Co., Limited
HAMILTON, CANADA

KERR'S GLOBE AND GATE VALVES

STRICTLY HIGH GRADE. TESTED & PACKED

THE KERR ENGINE CO. LIMITED
VALVE AND HYDRANT MANUFACTURERS
WALKERVILLE, ONT.

Grain Elevator Notes

The Saskatchewan Western Elevator Co., Ltd., is arranging to erect an elevator at Tugaske, Sask.

The work of excavating for the erection of the G.T.P. elevator at Fort William, Ont., is reported to have been nearly completed.

The G.T.R. elevator at Port Colborne, Ont., was damaged during a wind storm, Apr. 7, the north side being blown down.

The Farmers' Elevator Co., Ltd., is said to be arranging to erect a 30,000 bush. elevator at Melita, Man., alongside its present one.

The National Elevator Co., organized in Buffalo, N.Y., is stated to be planning to build a number of elevators throughout the Canadian grain provinces.

J. C. White, of Duluth, Minn., is reported to have purchased about 400 ft. of water frontage at Eburne, B.C., on which he proposes to erect an elevator.

The C.P.R. is reported to be negotiating with T. Henshaw, Vancouver, B.C., for the purchase of a site for the construction of an elevator there during the year.

The Ogilvy Milling Co.'s elevator at Willow Range, Man., together with 13,000 bush. of grain, was destroyed by fire recently. The loss is estimated at $20,000.

The National Elevator Co., Ltd., has been registered under the Northwest Territories Ordinance respecting foreign companies, to carry on business in Saskatchewan.

The Thunder Bay Elevator Co., Ltd., has let a contract to Barnett and McQueen, Fort William, Ont., for the erection of a 1,000,000 bush. elevator at Port Arthur, Ont.

The Thunder Bay Elevator Co., has applied to the Governor-General-in-Council for approval of a plan and site for the construction of a grain elevator, docks and trestle, at Port Arthur, Ont.

A contract has been let to the Barnett and McQueen Co. for the erection of a 600,000 bush. elevator at Fort William, Ont., for the Western Elevator Co. The building, which will comprise a steel working house and tile storage, is to be completed by the fall.

J. E. Dalrymple, Assistant Freight Traffic Manager, G.T.P.R., on his return to Winnipeg from an inspection trip to Battle River, Sask., is reported to have said: "There will be between 30 and 35 new elevators under construction along the G.T.P.R. in a few weeks."

The Alberta Grain Co., which controls 14 elevators in that province, is about to remove its headquarters from Strathcona to Calgary. The company absorbed the old Dominion Elevator Co., some time ago, and is closely allied with the Northern Elevator Co., of Manitoba.

The Thunder Bay Elevator Co., Ltd., incorporated under the Dominion Companies Act, has been licensed under the Act respecting extra provincial corporations, to carry on business in Ontario, with J. P. Jones, Elevator Superintendent, Port Arthur, Ont., as its attorney.

A delegation representing Manitoba, Saskatchewan and Alberta farmers waited on the Minister of Trade and Commerce at Ottawa recently to urge their views regarding Government control of terminal elevators, and also called on the Minister of Railways, respecting some proposed amendments to the Railway Act, regarding car supply, etc.

Government Ownership of Elevators.

The Manitoba Premier moved the following resolution in the Legislature Mar. 4:

"That a memorial be presented to the Governor-General in council setting forth that: Whereas the farmers of Manitoba are dissatisfied with the present arrangements for storing grain at initial points, the elevators being in the hands of the grain dealers; and, whereas farmers believe that it would be in their interests and in the interests of the public generally that the initial elevators be publicly owned and controlled; and whereas, under our constitution, the power to control and regulate the storage and handling of grain, the weights and grades, the power to control and regulate the transportation companies and make the provision for the granting of elevator sites on railways as well as the distribution of cars, and generally all matters relating to the grain trade of Canada, rests in the Federal Parliament and not in the provinces, as provided in the British North America Act. Therefore, this assembly begs to call your Excellency's attention to the desirability of the Government of Canada dealing with the initial elevator situation either by making provision for government ownership and operation of the grain elevators in Manitoba; or, by having conferred upon this province, either by Dominion or Imperial legislation, the power to fully deal with the question of storage, transportation and grading of grain."

After considerable discussion, in the course of which an amendment was ruled out of order, as it was considered as dealing with the expenditure of public money, the resolution was carried without a division.

Grain Elevators and Warehouses.

Following are particulars of the licensed grain elevators and warehouses in the Manitoba Grain Inspection Division, including the provinces of Manitoba, Saskatchewan, Alberta, and British Columbia, with Ontario terminals and eastern transfer elevators on the C.P.R., C.N.R., G.T.P.R., I.C.R. and Alberta Ry. and Irrigation Co.'s Ry.:

	Stations	Elevators.	Warehouses	Capacity, bush.
MANITOBA DIVISION—				
C.P.R.	355	949	28	29,810,900
C.N.R.	206	386	12	10,853,500
G.T.P.R.	39	47	1	1,409,000
G.N.R. (U.S.)	22	23	..	670,000
A. Ry. & I. Co.	7	11	..	294,000
ONTARIO TERMINALS—				
C.P.R.	3	10	..	13,152,700
C.N.R.	1	2	..	7,000,000
	633	1,428	41	63,190,100
EASTERN TRANSFER ELEVATORS—				
C.P.R.	5	8	..	5,877,000
G.T.R.	6	7	..	7,449,000
C.N.R.	1	1	..	500,000
I.C.R.	2	2	..	1,000,000
	14	18	..	14,826,000
Total	647	1,446	41	78,016,100

Arranged according to provinces the figures are:

	Stations	Elevators.	Warehouses.	Capacity bush.
Manitoba	307	689	13	20,852,500
Saskatchewan	254	615	14	17,924,500
Alberta	65	109	14	4,092,400
Brit. Columbia	3	3	..	168,000
Ontario Term'ls.	4	12	...	20,152,700
	633	1,428	41	63,190,100
EASTERN TRANSFER ELEVATORS—				
Ontario	9	11	..	9,745,000
Quebec	2	4	..	3,081,000
N. Brunswick	2	2	..	1,500,000
Nova Scotia	1	1	..	500,000
	14	18	..	14,826,000
Totals	647	1,446	41	78,016,100

MARINE DEPARTMENT

Lake Freight Line Changes

Mackenzie, Mann & Co., Ltd., who hold a controlling interest in the Canadian Lake & Ocean Navigation Co., Ltd., decided recently to take over the management of the company, and the offices have been removed from 10 Wellington St. East, Toronto, to the Canadian Northern building, 9 Toronto St. J. H. Plummer, President, and Frank Plummer, General Manager, have resigned from the board, their places being taken by D. B. Hanna, Third Vice-President, and F. H. Phippen, General Counsel, Canadian Northern Ry., Mr. Hanna succeeding J. H. Plummer as President. The other directors are: Z. A. Lash, Director and Consulting Counsel, C.N.R.; Hugh Sutherland, Executive Agent, C.N.R.; L. Lukes, of Mackenzie, Mann & Co's. staff; F. Nicholls, of the Canadian General Electric Co., and Sir Henry M. Pellatt. F. Plummer has also retired from the General Managership. Capt J. Foote remains at Marine Department. W. Phillips, General Eastern Agent, C.N.R., has been placed in charge of the C.L. & O.N. Co's. traffic matters, and A. J. Mitchell has been appointed Secretary-Treasurer of the latter company.

As a result of the change in management, the C.L. & O.N. Co's three freight steamships, A. E. Ames, H. M. Pellatt and J. H. Plummer, will not run this season in the Canadian Lakes Line, but will become part of the Merchants' Mutual Line, to which reference is made further on. The C. L. & O. N. Co's other four vessels, the Scottish Hero, Turret Cape, Turret Chief and Turret Court, will continue to run in the bulk ore, coal and grain carrying trade, on the Great Lakes as heretofore.

The Canadian Lake Line will operate this year with seven vessels, instead of nine as heretofore. This line succeeded the Montreal Lake Superior Line, which was organized in 1902, the vessels operated by it being owned by the Canadian Lake & Ocean Navigation Co., R. O. and A. B. Mackay and Capt. Fairgrieve. In 1907 the Mackay boats were withdrawn, and the Canadian Lake Line was formed, comprising boats owned by the Canadian Lake & Ocean Nav. Co., the Canadian Lake Transportation Co. and Capt. Fairgrieve. This year the line will operate the Canadian Lake Transportation Co's. five vessels, the Corunna, Kenora, Nevada, Regina and Tagona, Capt. Fairgrieve's Arabian, and J. B. Miller's Seguin. The Canadian Lake Transportation Co. is managed by C. H. F. Plummer. F. Plummer will retain his connection with that company, and with the Canadian Lake Line. The other officials of the line are H. A. Young, Tramc Manager, Toronto; E. C. Boland, City Freight Agent. Toronto; J. J. Nelligan, General Agent, Montreal; E. J. Jordan, City Freight Agent, Hamilton; E. C. Philpott, General Agent, Cleveland, Ohio; W. Askin, Western Agent, Winnipeg.

The Merchants' Mutual Line will this season comprise the following 11 vessels: Ames, Plummer and Pellatt, owned by Canadian Lake & Navigation Co.; Acadian, Canadian, and Wasaga, owned by Mutual Steamship Co.; Alliance, owned by Montreal Transportation Co.; Beaverton and Mapleton, owned by Merchants' Steamship Co., Edmonton, and Haddington, owned by Mathews' Steam-

FENCE TALK NO. 4

Before you buy or recommend your company to buy any fence wire—even Page Fence—make it prove up its value. Then you'll know what you're getting. Test it two ways, thus:

Insist on being supplied with a piece of high carbon from the horizontal wire from a roll of Page fence and a like piece of hard drawn wire from any other fence. Now for the fire-test. Heat both pieces cherry-red; cool them in cold water, and start to bend them.

The high carbon wire will have taken such a temper that after breaking off a piece the fresh end will cut glass—because it is "high-carbon" steel that takes a temper. That proves its toughness, its hardness, its power to stretch farther, stay tighter, and sag never.

The other wire will bend like copper wire—because it is only hard drawn steel, that won't take a temper. That shows it up as soft, weak—breaks at 1,800 lbs., compared with Page "High Carbon" wire that stands 2,400 lbs. tensile strain. Shows it up, too, as sure to sag, hard to make tight, certain to give but sooner by far.

And then the eye-test—look at the locks of the other fence. Cut one apart. Study it where the wires cross; look for marred surface where the cross comes—that means weakness. Then look at the cut-apart Page lock—positive. Cannot slip a little bit, shows no sign of squeezing or pinching.

Look, too, that the running wires are wavy enough to allow amply for expansion and contraction—as the Page does.

Last, the third test—the cost-test. A Page "High Carbon" Fence stands up and stands tight on two posts to any other wire's three. Figure the fence-posts saved, digging labor saved, and the time saved in putting up the fence.

Apply every test—and you will choose Page Fence every time. Send now for valuable free book that teaches how to make sure of fence value before you buy. Write for it to the Page Wire Fence Co., Ltd., Walkerville, Toronto, Montreal, St. John, Vancouver, Victoria, and find out why.

"Page Fences Wear Best"

SHERIFFS
MANUFACTURING CO.

MILWAUKEE, WIS., U.S.A.
ESTABLISHED 1854

CAR FITTINGS
For Electric and Steam Railway Equipment

Door Fixtures, Steel Steps, Couplers, Anti-Rattlers, Steel Gongs, Sash Springs, Fenders, Car Trimmings, Etc.

Wallace Supply Company
CHICAGO—NEW YORK

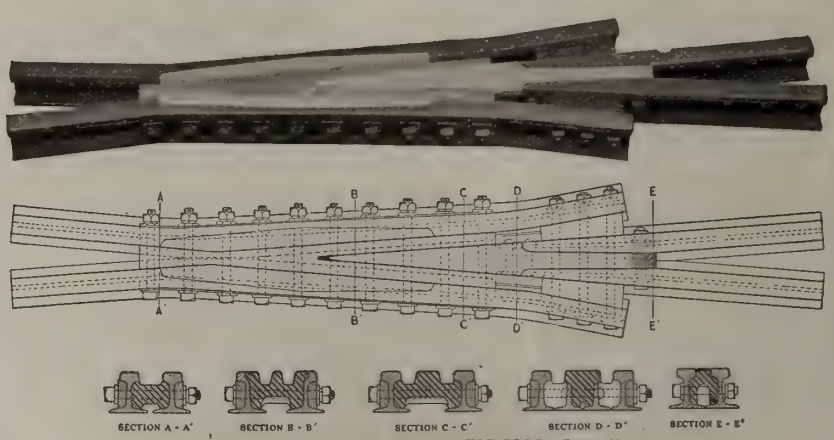
NOVO
HIGH SPEED STEEL

INTRA
A TOOL STEEL
Between High Speed Steels and the Best Grades of Carbon Tool Steels

NOVO and INTRA
Milling Cutters, Twist Drills, etc.

Hermann Boker & Co.
332 ST. JAMES ST. - - MONTREAL

FOR HARD SERVICE, USE



RAMAPO MANGANESE HARD CENTER FROG.—Design No. 1.

CORRESPONDENCE SOLICITED

MANUFACTURED BY **CANADIAN RAMAPO IRON WORKS, LIMITED**
NIAGARA FALLS, ONT.

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS MACHINERY, address

THE ROBERTSON MACHINERY CO.
WELLAND, ONT. Limited

ship Co.; Bickerdike, owned by Montreal & Great Lakes S.S. Co. The Merchants' Mutual Line has offices at 8 Wellington St. East, Toronto, J. W. Norcross & Co. being General Agents. The other officials are: W. E. Burke, Traffic Manager, Toronto; C. A. Jaques, General Eastern Agent, Montreal; G. Somerville, Local Agent, Toronto; Percy Grant, Agent, Hamilton, Ont.; L. H. Tucker, Agent, Cleveland, Ohio; H. Browning, Travelling Freight Agent, Detroit, Mich.; W. H. Hall, Agent, Port Arthur; L. H. Wolvin, General Western Agent, Winnipeg.

Atlantic and Pacific Ocean Marine

The C.P.R. s.s. Empress of Japan has been equipped with Marconi wireless telegraph apparatus.

The Government s.s. Lady Grey arrived at Montreal Apr. 19, and reported that there was a clear channel in the St. Lawrence River to the sea.

The total value of exports to Mar. 31, for the winter season from St. John, N.B., was $17,393,588, of which Canadian goods were valued at $12,262,582; the remainder being produced in the U.S.

We are officially advised that the statement recently made in the daily press, which we mentioned in our Apr. issue, to the effect that the keels of two vessels had been laid at Govan, Scotland, for the C.P.R., is incorrect.

The Dominion Department of Agriculture, which recently received offers for a steamboat required for the quarantine service at Halifax, N.S., has not accepted any of them, as the vessels offered did not come up to the requirements.

It was recently reported that the R. A. Alley Steamship Co. was about to withdraw its vessels from the route between Vancouver and New Zealand, but this has not been confirmed. The vessels are being operated under a contract, and it is said that no proposal has been made to cancel it.

In the British House of Commons, Apr. 5, in response to questions regarding the progress of the "all red" route scheme, the Parliamentary Secretary to the Board of Trade, referred the questioner to previous replies on the same subject, from which it was gathered that no progress was being made.

Capt. Maas, of the German cadet ship Freya, has been exonerated from all blame for running down the U.S. schooner Mary and May, near Halifax, N.S., in Aug., 1908. The Board of Inquiry at Berlin, Germany, declared that he had manœuvred correctly in all respects and that the accident was unavoidable.

H. Wiegand, General Director, North German Lloyd, died at Hamburg, Prussia, Mar. 29, after a long illness. The North German Lloyd is part proprietor of the Canada Line, which inaugurated its service between Canada and German ports, by the arrival of the s.s. Prinz Oskar, at St. John, N.B., Apr. 5.

It is stated that the first ocean-going vessel to be equipped with a wireless telegraph apparatus was the C.P.R. s.s. Lake Champlain, in 1891, then owned by the Elder Dempster Co., and operated by the Beaver Line. This was probably done for experimental purposes only, as the installation was not maintained.

The Quebec Steamship Co., Ltd., held its annual meeting at Quebec Apr. 5. Following are the officers and directors for the current year; President, W. Price, M.P.; Vice-President, J. T. Ross; Secretary, A. Ahern; other directors, Hon. J. Sharples, G. D. Davie, Sir George Garneau, G. H. Thomson, and H. E. Price.

The C.P.R., which during the past year, has had under charter, the steamships Lennox and Glengarry, will not, it is stated, renew the charters, but has made arrangements with the Bank Line, Ltd., of Seattle, Wash., to operate a service between Vancouver and Hong Kong. The vessels to be used in this service are the Gymeric, Kumeric, Inveric and Suveric.

The Union Steamship Co., which receives a subsidy of about $330,000 a year, contributed by Canada, Australia and Fiji for a mail service, is pressing for an increase of about $95,000 when the present contract expires in July. In return for this, the company would provide a 14-knot service, by which the voyage from Vancouver to Brisbane would take 22½ days.

The White Star-Dominion Line s.s. Laurentic sailed from Liverpool, Eng., Apr. 29, for Quebec and Montreal, thus inaugurating the new service between Great Britain and Canadian ports. This is the Laurentic's maiden trip, the results of which will be of considerable interest owing to the adoption for the first time of the combination of turbine and reciprocating engines on an ocean-going vessel.

The C.P.R. is increasing its harbor accommodation at Vancouver by the construction of four large piers, one of which is nearing completion, being about 600 ft. long. On this pier will be built two freight sheds, with rail tracks between. The other piers will be longer than the first one and will be fully equipped with sheds and tracks, chiefly for handling the increasing through Oriental traffic.

Maritime Provinces and Newfoundland.

The name of the steam tug Planet has been changed by order in council to Racey.

Capt. W. H. Kent, of the Dominion Government fisheries cruiser Petrel, died at Liverpool, N.S., Apr. 4.

The Newfoundland sealing steamer Vanguard was abandoned in the ice near St. John's, Apr. 14, with her main shaft broken. The whole of her season's catch of 9,000 seals went down with her.

The name of the schooner Peerbastah, built at Bath, Me., and purchased from U.S. owners, has been changed by order-in-council to Myrtle Mack, and her registry at Richibucto, N.B., in that name, under No. 116,687, as given in our April issue, has been confirmed.

The port of St. Andrew's, N.B., formerly under the survey of St. Stephen, has been declared a warehousing port, and the outports of Campobello, North Head, and Lord's Cove, and the preventive stations at Grand Harbor and Wilson's Beach, have been detached from St. Stephen and attached to St. Andrew's.

The Dominion Government has erected a lighthouse tower, at Eatonville, Chignecto Channel, in the Bay of Fundy, which will be operated from May 1. The tower, which is placed 85 ft. south of the breakwater on the south side of the Eatonville River mouth, and 132 ft. from the shore at high water, is 22 ft. high, with a fixed red light 24 ft. above high water mark. The illuminating apparatus is dioptric of the fifth order, and the light will be visible at 6 miles from all points.

The Governor-General-in-council has declared Freeport, N.S., to be a public harbor, under the provisions of the Canadian Shipping Act, cap. 113, R.S.C. 1906. The area covered is as follows: All the waters of Grand Passage and its tributary bays and streams east of a line following midchannel between North Point, Brier Island, and Cow Ledge Shoal, between Passage Shoal and Long Island, and between Peter Island and Long Island, south of a line drawn due east from the extremity of North Point, Brier Island; north of a line drawn due east from the north limit of Hog Yard Cove, Brier Island; and continuing up the St. Mary's bay shore of Long Island inside the line of 20 fathoms water to a line drawn due east from the north point of Plumb Cove.

Province of Quebec Marine

The Crown Exploration and Development Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $1,000,000 and office at Montreal, with power, among other things, to build, purchase or otherwise acquire, and operate steam and other vessels. R. Reford and W. I. Gear, steamship agents, are among the provisional directors.

The Fraserville Navigation Co., Ltd., has been incorporated under the Dominion Companies Act with a capital of $50,000, and office at Fraserville, Que., to carry on a general navigation business in Canada and elsewhere. The provisional directors are: A. de St. Aubin, L. Fortin, J. Hamel, C. Boucher, G. G. Grundy, Superintendent, Temiscouata Ry., all of Fraserville, Que.

The Department of Marine has established a lighthouse on the extremity of St. Pancras Point, on the east side of English Bay, north shore of the St. Lawrence. The tower which is erected 120 ft. from the water's edge, is 37 ft. high, exhibiting a fixed white light 82 ft. above high water mark. The illuminating apparatus is dioptric of the fifth order, and the light is visible at 14 miles distance.

The Keystone Transportation Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $100,000 and office at Montreal, to purchase, build, deal in, and operate steam and other vessels, and to carry on the business of ship-owners, wharfingers, etc., and general carriers by land and water. The provisional directors are: R. C. McMichael, R. O. McMurtry, F. G. Bush, M. J. O'Brien, H. H. W. Jackson, Montreal.

Ontario and the Great Lakes.

A council of the National Association of Marine Engineers of Canada has been formed at Midland.

The Inland Navigation Co.'s steamboat, at present building at Detroit, Mich., will be named Stawacona.

A scheme is on foot in Owen Sound to form a company to construct and operate a drydock there at a cost of about $100,000.

The name of the steamboat D. C. Whitney, No. 122435, Sault Ste. Marie, has been changed by order-in-council to Gargantua.

FOR SALE

Passenger and Freight Steamer in first-class condition, practically new, built of oak

DIMENSIONS:

Length, 90 ft. 5 in.; Breadth, 21 ft. 6 in.; Depth in Hold from tonnage deck to ceiling at amidships, 5 ft. 4 in.; Fitted with compound engine, 13 1-2 N.H.P.; Gross tonnage, 222 tons; Net tonnage, 141.95 tons.

For further particulars apply

LEHIGH PORTLAND CEMENT CO., LIMITED, BELLEVILLE, ONT.

THE INTERNATIONAL MARINE SIGNAL CO.

OTTAWA, CANADA

Manufacturers of

Automatic Acetylene Gas Buoys, Beacons and Fog Signals

Mariners describe our lighted buoys as "floating lighthouses."

ESTABLISHED 1849

BRADSTREET'S

Capital and Surplus $1,500,000

Offices throughout the Civilized World

Executive Offices:

NOS. 346 and 348 BROADWAY, N. Y. CITY, U. S. A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

Correspondence Invited.

OFFICES IN CANADA:

Halifax, N.S.; Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.; Toronto, Ont.; Vancouver, B.C.; Calgary, Alta.; Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

The Parry Sound Lumber Co.
Limited
..13-15 Traders Bank Bldg., Toronto..
Manufacturers of
PINE, HEMLOCK, LUMBER, BRIDGE TIMBER, RAILWAY TIES, TELEGRAPH POLES, LATH, SHINGLES, BOX SHOOKS.

The name of the steamboat Harrison, No. 61,153, registered at Owen Sound, has been changed by order-in-council to Churchill.

Capt. J. McInnes, owner of the fishing tug Primrose, of Meaford, fell overboard, Apr. 10, while bringing the vessel from Owen Sound, and was drowned.

The Northern Navigation Co.'s s.s. Huronic, left Sarnia Apr. 17 and arrived at Port Arthur Apr. 19, this being the earliest opening of navigation in recent years.

The Ontario Government is reported to have acquired the steamboat Navark, owned by A. J. Burge, Windsor, for use in the fishery service in the Bay of Quinte.

The name of the steamboat Brockville, No. 101,254, Montreal, owned by the Richelieu & Ontario Navigation Co., has been changed by order-in-council to Rapids Queen.

J. E. McLurg, heretofore chief clerk to Superintendent, Algoma Central Steamship Line, Sault Ste. Marie, has been appointed Superintendent, vice W. C. Barr, resigned.

A recent press despatch states that J. F. Luncen, formerly mate of the C.P.R. s.s. Manitoba, has been appointed master of the Dominion Government fisheries steamer Bayfield.

The steam barge Capt. Hinckley arrived at Prescott, Ont., from Oswego, N.Y., Apr. 16., being the first boat of the season to come from the St. Lawrence through the islands.

It is announced that 29 vessels will be engaged in the package freight trade between Montreal and Fort William this year, thus being able to perform a daily service between these ports.

The Western Navigation Co.'s s.s. Kaministiquia, recently built in England, is expected on the lakes early in May, being en route, with a cargo of pig iron for Montreal and Fort William.

The name of the steamboat Owen, No. 116,318, registered at Amherstburg, recently purchased from Detroit, Mich., by F. J. Trotter, has been changed by order-in-council to Marion E. Trotter.

The Richelieu and Ontario Navigation Co. is considering the question of equipping its vessels with wireless telegraphy, but no definite decision as to the system to be adopted has been arrived at.

The Niagara Navigation Co. has had the question of installing wireless telegraph apparatus on its vessels under consideration, but we are advised that no steps have been taken in that direction as yet.

L. G. McCarthy, K.C., Toronto, was recently presented with a cabinet of silver and cutlery by members of the National Association of Marine Engineers, for services rendered in the passage of the recent bill through Parliament, benefitting the marine engineers of the Dominion.

It is announced that the Dominion Government proposes to stake the St. Clair River during the present season, thus marking the up and down channels, with a view to the prevention of accidents. Up-bound vessels will pass on the Canadian side and down bound vessells on the U.S. side.

The International Waterways Commission, which has been enquiring into the possibility of raising the levels of the Great Lakes, by the construction of a dam in Lake Erie and piers in the connecting rivers, for the past two years, is preparing a report on the subject, which will be issued shortly.

The Lehigh Portland Cement Co., Ltd., Belleville, Ont., is offering the passenger and freight steamboat Salaberry for sale. Her dimensions are, length 99 ft. 5 in.; breadth, 21½ ft.; depth in hold from tonnage deck to ceiling at amidships 5⅓ ft., fitted with compound engine 13½ n. h.p.; gross tonnage 122 tons, net tonnage 141.95 tons.

Harrison and Sons, Owen Sound, launched the steamboat Harrison, which they are building there, recently. The vessel is 121 ft. long, 23 ft. beam, and 13 ft. deep. She will be equipped with a fore and aft compound engine, with cylinders 19 in. and 32 in. diar., by 26 in. stroke, supplied with steam from a Scotch boiler, 11 ft. by 13 ft., made by Polson Iron Works, Ltd., Toronto.

A U.S. press report states that a company is being formed at Sault Ste. Marie, to purchase the steamboat Minnie M. from the Algoma Central Ry., and to operate her between that port and Munising. She was built at Detroit in 1884, her dimensions being: Length, 140 ft.; breadth, 30 ft.; depth, 10 ft.; tonnage, 613 gross; 276 register, and she is equipped with an engine of 38 h.-p. driving a screw.

The Richelieu and Ontario Navigation Co.'s vessel, at present under construction at Detroit, Mich., some particulars of which were given in our Apr. issue, will be of the following dimensions; Length, over-all, 256 ft.; breadth of beam, over-all, 44 ft.; depth of hull, moulded, 14.9 ft. 2 She will be equipped with 4-cylinder triple expansion engines balanced on the Slick system, developing 2,000 i. h.-p., supplied with steam from four boilers 11.6 ft. by 11.6 ft. fitted with heated draught. The engines will develop a speed of 18 miles an hour.

The Dominion Marine Association has for some years past asked the Department of Marine to provide black spar buoys and red spar buoys with distinctive tops. This year the Association's counsel, F. King, made the suggestion that the Department adopt the simple device of pointing one spar and sawing another square across. The Deputy Minister states that directions have been given to carry out this suggestion in the Montreal-Kingston division. The starboard hand buoys will be pointed to correspond with conical buoys and the port hand buoys will be sawed off square to correspond with can buoys.

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING MAR., 1909.

Name	No.	Where and When Built	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
A. Weston	126,268	Mt. Clemens, Mich., 1882	Screw 48 N.H.P	164.0	31.3	13.0	672	303	Toronto	Conger Coal Company, Limited, Toronto.
Advocate	126,118	Lunenburg, N S., 1909	" 3 "	68.4	19.8	8.6	61	51	Lunenburg, N.S.	J. W. McLachlan, M. O., Lunenburg, N. S.
City of Haileybury	121,401	Kippewa, Que., 1908	" 8 "	67.0	12.3	6.7	38	26	Ottawa	Temiskaming Navigation Co., Ltd., Haileybury, Ont.
Esprit	126,335	Vancouver, B. C., 1909	" 1 "	30.8	8.3	4.3	8	6	Vancouver, B.C.	A. Langlois, Vancouver, B.C.
Falken	121,459	Christiania, Norway, 1895	" 35 "	86.5	17.0	9.1	94	38	Montreal	T. Gauthier, Montreal.
J. G. Cox	126,237	Victoria, 1908	" 7 "	44.0	8.0	4.0	10	5	Victoria	E. B. Marvin, M. O., Victoria.
J. H. Upham.	126,046	(Buffalo, N. Y., 1880 / Duluth, Minn., 1908)	" 7 "	48.0	12.0	7.0	26	14	Port Arthur, Ont.	G. H. Fineout, Port Arthur, Ont.
Percher	126,332	Vancouver, B.C., 1909	" 1 "	28.5	7.6	3.0	7	5	Vancouver B. C.	E. Easthope, Vancouver, B. C.
Sadie Hiltz	126,336	" "	" 3 "	38.7	10.1	3.9	17	12	" "	P. Hiltz, Vancouver, B. C.
Skwala	126,334	" "	Paddle 6 "	92.7	19.2	5.0	165	104	" "	Rat Portage Lumber Co., Ltd., St. Boniface, Man.
Strathlorne	126,138	Mahone Bay, N. S., 1909	Screw 24 "	94.4	20.2	8.9	135	81	Halifax	Halifax and Inverness Steamship Co., Ltd., Halifax.
*Velma W.	126,271	Whatcom, Wash., 1902	" 3 "	39.4	8.8	3.6	11	8	New Westminster, BC	J. Broder, New Westminster, B. C.

*Formerly Welcome (U.S.)

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING MAR., 1909.

Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
E. C. E. No. 12	126,333	Vancouver, B. C., 1906	Scow	77.5	27.0	7.3	153	Vancouver, B. C.	G. Coleman, Vancouver, B. C.
Kingsford	122,551	Buffalo, N. Y., 1895	Dredge.	85.7	30·0	8.2	270	Collingwood, Ont	C. S. Boone, Toronto.
Laura E. Melanson	122,033	Plympton N. S., 1908	Schr	88.0	26.0	8.0	100	Weymouth, N. S.	D. J. Melanson, Gilbert's Cove, N S.
Pan Jam	126,025	North Sydney, N. S., 1907	Scow	101.4	28.2	6.2	41	Sydney, N. S.	H. McDonald, Sydney, N. S.
Pansy	72,316	Canning, N. B. (1877 / 1899)	Schr	73.8	26.3	6.8	76	Parrsboro, N. S.	W. A. McGrath, Parrsboro, N. S.
V. T. B. 6	126,337	Vancouver, B. C., 1909	Scow	83.6	30.4	8.2	183	Vancouver, B. C	Vancouver Tug and Barge Co., Ltd., Vancouver, B.C.
Vie No. 3	126,338	" " "	"	62.8	18.3	2.8	61	" "	C. H. Cates, North Vancouver, B. C.
Wingfield	122,552	Buffalo, N. Y., 1895	Dredge.	73.0	26.0	7.3	191	Collingwood, Ont	C. S. Boone, Toronto.
Yakata	126,238	Victoria, 1908	Barge	56.0	12.0	2.8	12	Victoria	J. Nishimoto, Victoria.

THE CLIFTON HOTEL

NIAGARA FALLS, CANADA.

Rates $4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

The only Hotel that Commands an Unrivalled View of Both Falls.

HOW TO REACH THE CLIFTON HOTEL.

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes. Arriving on Michigan Central Rd., Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make Canada plain in the address.

C.P.R. LANDS

The Canadian Pacific Railway Company have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally)	8.00 to per acre.
Map No. 5 South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160	Acres at	$ 8.00	per acre,	cash payment	$191.70	first year's interest	$ 65.28	and nine instalments of	$160.00
"	"	9.00	"	"	213.70	" " "	73.46	" "	180.00
"	"	10.00	"	"	239.70	" " "	81 62	" "	200.00
"	"	11.00	"	"	263.60	" " "	89.78	" "	220.00
"	"	12.00	"	"	287.60	" " "	97.96	" "	240.00
"	"	13.00	"	"	311.55	" " "	106.10	" "	260.00
"	"	14.00	"	"	335.60	" " "	114.32	" "	280.00
"	"	15.00	"	"	359.50	" " "	122.44	" "	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-selected districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

JAMES T. GARDNER

RAILWAY EQUIPMENT

615 Railway Exchange

CHICAGO, ILL.

Has on hand at all times

First-Class Freight and Passenger Locomotives

Also

Contractors' Locomotives Cars, Rails, Etc.

Specifications with Prices on Application

CRUCIBLE SAW AND SHEET STEEL

MADE BY

JESSOP STEEL CO.

Washington, Pa., U.S.A.

TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools.

Jessop's "Ark" High Speed Air Hardening Steel

is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings.

WILLIAM JESSOP & SONS, Limited, SHEFFIELD, ENG.

CHAS. L. BAILEY, Agent, 80 BAY STREET, TORONTO, ONTARIO

E. L. DREWRY

REDWOOD BREWERY

WINNIPEG, MANITOBA

MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE, EXTRA STOUT AND REDWOOD LAGER

Also the GOLDEN KEY BRAND AERATED WATERS

FOR TICKET CASES AND COMMERCIAL FURNITURE

of all descriptions to stock or special design, apply to

The Canadian Office & School Furniture Co. Limited

Preston Ontario

B. C. and Pacific Coast Marine.

The name of the steamboat Welcome, No. 126,271, New Westminster, B.C., has been changed by order in council to Velma W.

The Vancouver longshoremen struck work recently, demanding 40c an hour, and 50c for overtime, against 35c and 40c respectively, as before.

The fog horn at Carmanah on the west coast of Vancouver Island, will be discontinued at a date to be announced, in order that the signal may be changed to a more powerful diaphone installation.

Application is being made to the Governor-in-Council for approval of the construction of a wharf at Deep Cove, on the north arm of Burrard Inlet, plans for which have been deposited with the Minister of Public Works.

It is reported that a line of sailing vessels between Vancouver and Great Britain has been inaugurated by the sailing of the ship Wray Castle from Liverpool recently. R. Ward & Co., Victoria, and C. Gardiner Johnson, Vancouver, are said to be interested.

The North British Columbia Navigation Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $35,000, to acquire and operate steam and other vessels for the conveyance of passengers, freight, etc., and for the towing of other vessels, between B.C. ports.

The Okanagan Lake Boat Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $25,000 to carry on the business of public recreation caterers, and in connection therewith to own and operate vessels of all descriptions and to act as carriers of passengers and freight.

We are officially advised that press reports to the effect that the G.T.P.R. had completed arrangements for a strong shipping service between Prince Rupert and Northern Pacific coast ports; and that the company had acquired land for terminal and dock accommodation at Vancouver, are incorrect.

The Fort George Lumber and Navigation Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $50,000, to deal in lumber of all kinds, and to act generally as stevedores, etc., to purchase or otherwise acquire and operate vessels of every description, and to act as carriers by land and water, shipping agents, etc.

The North Coast Towing Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $15,000, to purchase or otherwise acquire from D. M. Moore, C. W., G. L., and H. Peck, of Port Simpson, the steam tugs Topaz and McCulloch and the steam launch Hopewell, with power to acquire and operate steam and other vessels, and to carry on a general business as ship owners and shippers.

W. Moore, a pioneer steamboat man on the B.C. coast, and the founder of Skagway, died recently, aged 85. He arrived at Queen Charlotte Islands in 1852 in the brig Tepic, an old time smuggling vessel, and in 1859 built the steamboat Henriette. In 1869 he made the first trip up the Stikine River in the steamboat Flying Dutchman, which was built in Victoria. He left navigation business several years ago for mining.

We announced in our Mar. issue that the C.P.R. had decided to add another vessel to its B.C. coast service, and since then daily and other papers have published various items to the effect that the company will build two and possibly three vessels, and that contracts for two vessels have been let. The facts are exactly as we have already given. The company has decided to add one vessel for the B.C. coast service, and up to the date of our last advice no decision had been reached as to where the vessel is to be built, nor had the plans been passed.

The Department of Marine is changing the system of lights on the railway swing bridge over the Fraser River at New Westminster to conform to the system generally in use throughout Canada to mark the swing of bridges across navigable rivers. In future a white light will be shown at each end of the swing protection and a similar light on each side of the navigable channel, while the draw will be surmounted by a red light showing up and down the channel, when the passage is closed, and a green one when it is open. The signal to open the draw is three long blasts of the whistle.

Notices to Mariners

The Dominion Department of Marine has issued the following notices;

No. 21. Mar. 25. 45. Ontario, Georgian Bay, west side, Cape Croker light station, new lighthouse, change in character of light. 46. Ontario, River St. Mary, Sault Ste. Marie canal, upper entrance, gas buoy placed. 47.—Ontario, River St. Mary, Vidal shoal, gas buoys established, change in gas buoy light. 48. United States of America, Lake Ontario, Thirty-mile Point light, change in characteristic. 49.—United States of America, Lake Erie, Ashtabula harbor range front light station, change in fog signal.

No. 22. Mar. 27. 50. Quebec, River St. Lawrence, Father Point, new lighthouse, change in character of light. 51. Quebec, River St. Lawrence, Bicquette Island, intended change in character of light. 52. Newfoundland, southwest coast, Cape Ray, temporary light. 53. United States of America, Maine, Portland Harbor, Brooklyn ledge, buoy established.

No. 24.—Apr. 14.—55.—Quebec, River St. Lawrence, entrance to Saguenay River, hydrographic notes.

No. 25.—Apr. 15.—56.—Quebec, River St. Lawrence, chart, White Island to Orignaux Point, issued. 57.—Quebec, River St. Lawrence, chart, Berthierville to Lake St. Peter, issued.

No. 26.—Apr. 15.—58.—Quebec, River St. Lawrence, Lake St. Louis, Chateauguay lightship replaced temporarily by gas buoy. 59.—Ontario, Lake Erie, northeast point of Pelee Island, light to be discontinued. 60.—Ontario, Lake Huron, False Detour Channel, Kitchener Island, light discontinued.

No. 27.—Apr. 17.—61.—Nova Scotia, Bay of Fundy, Cumberland Basin, Amherst Point wharf, light established. 62.—Bay of Fundy, Cumberland Basin, Minudie wharf, light established. 63.—Nova Scotia, Bay of Fundy, Minas Basin, Cobequid Bay, Shubenacadie River, Maitland, light established. 64.—Nova Scotia, Bay of Fundy, Parker Cove, lighthouse established. 65.—Nova Scotia, south coast, Halifax approach, change in color of Devil Island westerly lighthouse for experimental purposes. 66.—Nova Scotia, south coast, Fisherman Harbor lighthouse, dates when light will be shown each year. 67.—Nova Scotia, Cape Breton Island, Great Bras d'Or, McKenzie Point, new lighthouse.

No. 28.—Apr. 20.—68.—Ontario, Lake Huron, south end, Point Edward, front range lighthouse burnt down, temporary light.

No. 29. Apr. 21. 69. Nova Scotia, south coast, Liverpool Bay, gas and bell buoy established. 70. Nova Scotia, north coast, Northumberland Strait, Pictou harbor, change in positions of Fraser Farm range lighthouses.

No. 30. Apr. 22. 71. Quebec, River St. Lawrence, mouth of Saguenay River, Prince shoal, lightship replaced by gas and bell buoy. 72. Quebec, River St. Lawrence below Quebec, Traverse of St. Roch, lower end, lightship replaced. 73. Quebec, River St. Lawrence, Cap Sante, buoyage.

Coast, Lake and River Officers for 1909.

The following appointments have been made by the principal navigation companies engaged in the coast, lake and river routes for their various steam vessels, tugs and barges, for the current year in addition to those published in our April issue. In the first column is given the name of the vessel, in the second that of the captain, and in the third that of the chief engineer:

B.C. SALVAGE CO., VICTORIA, B.C.

Maude	Anderson	Dixon
Salvor	Harris	Rennie
William Jolliffe	Stratford	Rankin

BROCKVILLE TRANSPORTATION CO., LTD., BROCKVILLE, ONT.

Bermuda	H. M. Russell	W. J. Brown

C.P.R. UPPER LAKE SERVICE, OWEN SOUND, ONT.

Alberta	J. McCannel	C. Butterworth
Assiniboia	L. Pyette	A. Cameron
Athabasca	A. Brown	W. Lockerbie
Keewatin	M. McPhee	W. Lewis
Manitoba	J. McIntyre	J. Gregg

M. CHEW, MIDLAND, ONT.

Audrey C.	N. Cloutier	F. Rutherford
Reliever	F. Burke	A. Johnston

CONGER COAL CO., LTD., TORONTO.

A. Weston	W. R. Wakely	J. G. McKean

HUNTSVILLE, LAKE OF BAYS AND LAKE SIMCOE NAV. CO., HUNTSVILLE, ONT.

Algonquin	W. Sangelin	E. Goldthorpe
Emp. Victoria	J. T. Burk	J. O. Noys
Iroquois	J. St. Armour	J. C. Smith
Mohawk	W. Parsons	J. Logan
Phœnix	N. Longfield	E. Farnsworth

OGDENSBURG COAL AND TOWING CO., MONTREAL.

Avon	G. P. Clifford	C. Cotter
G. D. Seymour	P. J. McGrath	T. O'Neill
Myra	W. McKenna	P. J. McKenna
Nicaragua	J. Owens	F. Axtell
W. L. Proctor and 9 barges.	A. McDonald	S. Topping

IMPERIAL OIL CO., SARNIA, ONT.

Imperial	N. Scott	W. Tweedy

INLAND NAVIGATION CO., HAMILTON, ONT.

Donnacona	J. W. Mawdesley	E. Shaw
Dundee	H. Zealand	J. L. Campbell
Dundurn	R. Cooney	J. M. Morris
Dunelm	—. Albinson	J. A. Nicol
Glenellah	G. Mackey	J. Robertson
Neepawah	J. Woolner	G. Fryar
Rosedale	J. L. Baxter	A. Forbes
Strathcona	J. Irving	— Phillips
Wahcondah	H. Mawdesley	S. Jones
Winona	B. Garvie	C. C. Smith

INTERNATIONAL TRANSIT CO., SAULT STE. MARIE, ONT.

Algoma	H. A. Pocock	J. Sutherland
Fortune	H. A. Pocock	D. B. Smith

LE NORD CO., CHICOUTIMI, QUE.

Roberval	J. Brown	O. Croteau

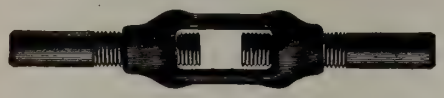
NOVA SCOTIA STEEL & COAL CO., NEW GLASGOW, N.S.

Wabun	J. Meikle	J. Somers
Wasis	J. Ritcey	A. D. Cameron
Wawa	J. McKenzie	

PORT HURON & SARNIA FERRY CO., PORT HURON, MICH.

Grace Dormer	F. Duffy	J. Kinirie
Hiawatha	E. M. Thomas	T. Horgan
James Beard	G. Waugh	O. Durant
O. D. Conger	W. S. Meyer	W. Waugh

TURNBUCKLES



FORGINGS
OF ALL KINDS

CLEVIS NUTS

CLEVELAND CITY FORGE & IRON CO.
CLEVELAND, OHIO, U.S.A.

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.
BRIDGES
TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

The Most Economical and Safest Staybolt on Earth

FOR LOCOMOTIVE, MARINE AND STATIONARY BOILERS
DOUBLE THE ENDURANCE OF SOLID STAYS

AN AUTOMATIC INSPECTOR

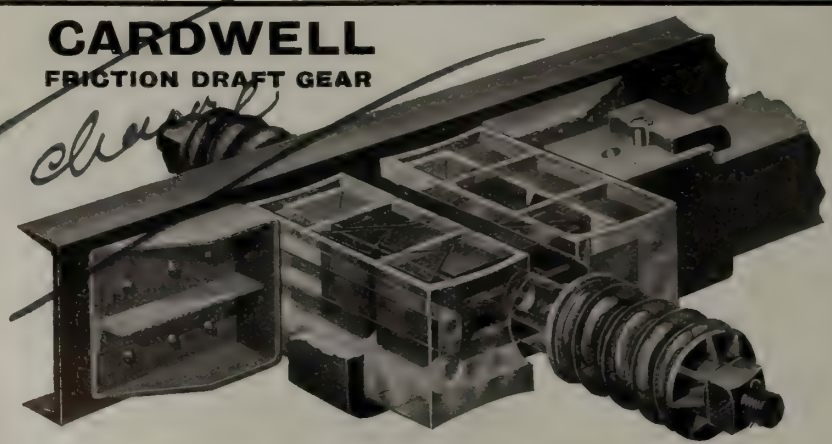
Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO

CARDWELL
FRICTION DRAFT GEAR



Furnishes greatest protection to cars and locomotives.
CARDWELL MFG. COMPANY, CHICAGO, ILL.
Manufacturers of CARDWELL ROCKER SIDE BEARINGS.

OCEAN STEAMSHIP OFFICES

AMERICAN LINE

Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.

Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSFORT LINE

New York—London

Sailing from New York Saturdays.

WHITE STAR—DOMINION LINE

Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Docks (Bristol and Antwerp)

RED STAR LINE

New York—Antwerp—Paris
Sailing from New York Saturdays.

WHITE STAR LINE

New York—Liverpool—Queenstown
Sailing from New York Saturdays

N.Y.—Plymouth—Cherbourg—Southampton
Sailing from New York Wednesdays.

Boston—Queenstown—Liverpool
Regular Departures.

NEW YORK AND BOSTON MEDITERRANEAN SERVICE

Azores—Gibraltar—Naples—Genoa

Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured.

H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO
41 KING ST. EAST, TORONTO.

QUEBEC TRANSPORTATION AND FORWARDING CO., QUEBEC, QUE.

Aberdeen	J. C. Perron	
A. D.	M. Logue	
Diamond	Z. Monette	
F. D. Ewen	A. Monette	
Florence	W. J. Stitt	H. Kerr
J. H. Hackett	J. Thibault	J. Asselin
Katie H.	G. Hurteau	
Klondyke	H. Letour	
Wm. Hackett	W. Allison	J. Pitrie
Zapopee	A. DeRepentigny	

J. RICHARDSON & SONS, KINGSTON, ONT.

Glengarry	A. Robineau	A. Legendre

RICHELIEU AND ONTARIO NAVIGATION CO., MONTREAL.

Belleville	J. P. Stephenson	W. S. Parker
Berthier	A. Mondor	G. Guguen
Boucherville	A. Laviolette	C. Hamel
Kingston	H. Esford	J. Conlin
Laprairie	J. Lacouture	J. St. Michel
Longueuil	H. Mandeville	H. Noel
Montreal	F. X. Lafrance	G. Gendron
Murray Bay	W. Gagne	N. Beaudoin
Prescott	J. McGrath	G. Beurret
Quebec	L. R. Demers	J. Hamelin
Rapids King	G. Batten	W. Johnston
Rapids Queen	J. P. Stephenson	W. Charbonneau
Ste. Irenee	J. E. Dugal	C. Gendron
Tadousac	J. Simard	M. Latulippe
Terrebonne	C. Laviolette	E. Beaucage
Three Rivers	J. Faubert	
Toronto	E. A. Booth	J. W. Hazlettt

STEAMER CASCADE LTD., VICTORIA, B.C.

Cascade	H. Bilton	D. Webster
Leebro	J. Hunser	A. Lees
Oscar	A. McDonald	

Vessels Removed From the Register

During March the following vessels were removed from the register for the reasons assigned: Steam:—Hero, Hamilton, Ont., 37 tons, supposed to be out of existence; John P. Douglass, Vancouver, B.C., 149 tons, burnt; L. Boyer, Halifax, 49 tons, broken up; Lapwing, New Westminster, B.C., 98 tons, dismantled; Otranto, Quebec, 24 tons, lost; Picton, Montreal, 502 tons, burnt; Rheata, Midland, Ont., 18 tons, burnt; Santa Cruz, Owen Sound, Ont., 97 tons, broken up; Tecumseh, Sarnia, Ont., 530 tons, burnt; Varennes, Montreal, 228 tons, broken up. Sailing:—Arabia, Lunenburg, N.S., 80 tons, transferred to Newfoundland; Bobs, Parrsboro, N.S., 97 tons, wrecked; Canning Packet, Annapolis Royal, N.S., 98 tons, broken up; Esperance en Marie, Quebec, 23 tons, broken up; Ethel Blanche, Pictou, N.S., 17 tons, broken up; Grilse, Pictou, N.S., 38 tons, transferred to Newfoundland; Hispaniola, Lunenburg, N.S., 91 tons, transferred to Newfoundland; M. A. Nickerson, Barrington, N.S., 37 tons, transferred to Newfoundland.

Proposed Drydock af Montreal

G. W. Stephens Chairman, Montreal Harbor Commission, who has recently returned to Montreal after an extended trip through Europe, in the course of which he visited many of the more important ports, states that, in order to take full advantage of her waterway, Montreal is confronted with those problems, which were receiving the attention of the Commissioners. He said; "The deepening of the ship channel and the buoying and lighting, has made the St. Lawrence route within the past 5 years a revelation to those in the shipping business. At the same time the commerce has doubled. While it is gratifying to record that the marine insurance rates on ships and cargoes have been halved, yet, despite these improvements and the satisfactory results obtained, the marine insurance rates on Canadian business and the conditions governing marine insurance on the St. Lawrence are not what they should be. There are ships in the St. Lawrence trade that are coming from the ocean to Montreal of such a size that no drydock accommodation in the whole thousand miles of waterway is able to take charge of them. No efficient repair equipment exists from Montreal to the sea, to provide that confidence to the shipping trade that any modern port must supply.

"The third problem is economy in the terminal costs within the port itself. If these three problems can be satisfactorily solved, the prestige of the St. Lawrence route as an international avenue of trade will be unassailable. The safety of the waterway, the reduction of marine insurance rates and economy in terminal charges are the three principal factors in developing the great natural advantages of Canada's waterway.

"The further reduction of marine insurance rates cannot be brought about until the St. Lawrence River is provided with adequate dock accommodation to protect her shipping. Two feasible proposals for supplying drydock facilities to the St. Lawrence will be laid before the commissioners very soon."

Mutual Steamship Company Bonds.

The Mutual Steamship Co., Ltd., Toronto, has issued through Aemelius Jarvis & Co., Toronto, $70,000 1st mortgage 5½% serial gold bonds, dated May 1, 1909, interest payable half yearly. Each bond is for $500. They mature $7,000 a year on May 1, 1910 to 1919, both inclusive and are redeemable on any interest date at the company's office at 102 and interest. They are secured by a first mortgage on the s.s. Acadian. The following facts are also taken from the prospectus. The life of a steel-clad vessel is estimated at 60 years. The classification societies will give such a steamship an A1 rating for 20 years, and upon the observation of certain conditions will renew the rating for a like period. Insurance is carried which amply protests the bondholders against the hazards of navigation, all polices being made payable to the trustee for the bondholders. It covers not only the ordinary marine dangers of fire, collision, stranding, sinking, etc., but also affords protection against claims for damage done to other vessels, to docks, bridges, floating or other property. The insurance also covers any breaking of machinery, or bursting of boilers, and any damage to the vessel or any other thing through the negligence of the master. Besides this full general insurance provision, the vessel carries a heavy "protection and indemnity" insurance against liability for loss of life or personal injury. The Acadian cost about $144,000, and carries $144,000 of general insurance and protection and indemnity insurance. The mortgage provides that the insurance must at all times amount to at least 25% more than the outstanding bonds. The mortgage requires that the vessel be operated on practically a cash basis by providing that it shall not become indebted to an amount more than 5% of the first mortgage bonds.

The Acadian is a steel-clad steamship, completed April, 1908. Her dimensions are as follows: Length, 257 ft.; breadth, 43 ft. 6 in.; depth, 26 ft. 6 in. She has a capacity through to Montreal of 80,000 bush. and a capacity on the Upper Lakes of 120,000 bush. She is also adapted to the carrying of package freight. She is lighted by electricity, steam heated, has a double bottom, and is otherwise thoroughly modern in all equipments. On an economical consumption of coal she can maintain a speed of 13 miles an hour light and 11 miles an hour loaded.

The Mutual Steamship Co. was organized in the fall of 1907, with a paid-up capital of $153,000, to construct steamships and to operate a line between Fort William, Port Arthur and Montreal, or other ports, by way of the Great Lakes and the Welland and St. Lawrence Canals. Owing to the steady growth of the Canadian Northwest, the demand for transportation via the Great Lakes has increased much more rapidly than the facilities. The managers of the company are thoroughly familiar with transportation on the Great Lakes, and are most favorably situated to secure full cargoes in both directions. They estimate the earnings on such a vessel as the Acadian as follows:

Down cargo of wheat to Montreal....	$4,000.00
Up cargo of package freight.....	3,000.00
	$7,000.00
Operating expenses round trip, 24 days	3,000.00
	$4,000.00

About nine trips can be made during the season.

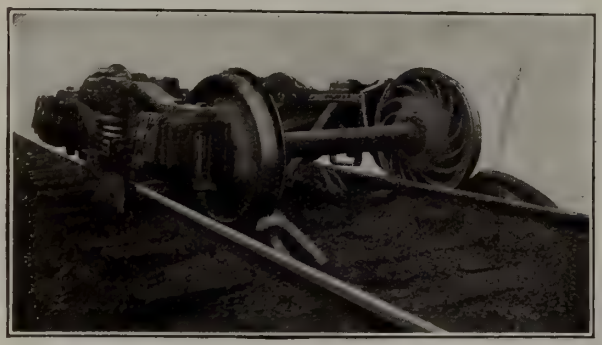
Total net profit $36,000.00

Lake Carriers' Grievances

The following memorandum was presented to the Ministers of Trade and Commerce and of the Interior in Ottawa recently, on behalf of the Dominion Marine Association, by A. A. Wright, chairman of the grain section, and F. King, Counsel, the Winnipeg Grain Exchange, Montreal Corn Exchange, Toronto Board of Trade, and Dominion Millers' Association being also represented:

From 1888 to 1898 approximately, a vessel arriving at Fort William, Ont., up to 2 p.m. loaded and left on the same day. Presumably on account of terminal elevators being so profitable to operate, the number has grown steadily until in 1908, there were 11 working houses and three more were either building or projected. The present elevator capacity is over 17,000,000 bush., and although at no time between Sept. 1, 1908, and the close of navigation was there over 5,000,000 bush. distributed among these elevators, yet three more houses are projected with a capacity of about 5,000,000 bush. more. It costs as much to let a steamer lie at a dock as to run her in a lake, less 2-3 of the fuel consumed on a trip. Thus a steamer of 10,000 tons, carrying 300,000 to 320,000 bush., and which can earn $400 a day carrying coal one way at a total fuel cost of $530 for the trip, or $100 a day running time, loses $300 at least every day she is delayed in loading and running from elevator to elevator. The actual time of loading such boats now varies from two to six days. On an average of four days she thus loses $1,000 in round figures, or 1-3c per bushel. On a canal sized steamer the actual excess of cost now as compared with formerly is 1-4c to 1-2c per bush., all of which must come out of the producer eventually because competition (caused by the growth of Canadian tonnage from 600,000 bush. a trip in 1898 to 6,500,000 bush. a trip in 1908) has cut rates down to a minimum, leaving no margin of profit to provide for this additional cost above mentioned. The all water rate from Fort William to Montreal, now averages 5c or less per bush., while the rail rate from Buffalo to New York is 5 1-2c plus 9-10c or 6.40c per bush. One can see that this all water rate will have to be increased to provide for the additional expense caused by de-

The Alexander Car Replacer



60,000 PAIRS IN USE.

Manufactured at

Montreal, Que., and

Scranton, Pa.,

of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY

F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

Delaware & Hudson

RAIL AND STEAMER LINES

Shortest, Quickest and Best Rail Line between

MONTREAL AND NEW YORK

Trains leave Montreal 8.45, 10.55 a.m., and 7.40 p.m. Steamers through Lake Champlain the Magnificent and Lake George the Beautiful, which connect with trains to Albany via Saratoga Springs.

D. I. ROBERTS, Gen. Can. Pass. Agent.

W. H. HENRY, Can. Pass. Agent, 286 St. James St., Montreal, P.Q.

A. A. HEARD, Gen. Pass. Agent, Albany, New York.

JAMES THOMSON, Pres. and Mang. Director. J. G. ALLAN, Vice-President. JAMES A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED

MANUFACTURERS OF

CAST IRON PIPE

3 inches to 60 inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER

HAMILTON, ONT.

Ticket Agents — ILLINOIS CENTRAL RAILROAD — CENTRAL MISSISSIPPI VALLEY ROUTE — Please Note

Where ILLINOIS CENTRAL RAILROAD COMPANY has through car service both Coach and Sleeper and Free Chair Cars.

Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas, and all California.

NEW ORLEANS ROUTE TO THE PACIFIC COAST.

Tourist rates to Arizona, Mexico, and California, liberal stopover privileges. Rates via New Orleans as low as via any other route.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Passenger Agent.
305 Ellicott Square, Buffalo, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

OUR RAILROAD FENCES

We can furnish Light or Heavy Fencing, Hinge or Straight Stay, to meet all conditions.

We are adding to and improving our plant each year, and our customers can depend on securing something better than we had previously furnished.

We are prepared to furnish all material and labor, and turn out to the Railroad a complete job, as we have a number of experienced fence builders always in our service.

Send us your Specifications and we shall be pleased to furnish prices either by mail or otherwise.

Steel and Wood Frame Gates for Railroads at special prices.

New Brunswick Wire Fence Company, Limited

Moncton, New Brunswick

1909

ONTARIO JOCKEY CLUB

TORONTO - - CANADA

SPRING MEETING

MAY 22ND TO JUNE 5TH

The King's Plate will be run on Saturday, May 22nd

J. E. Seagram, President — W. P. Fraser, Sec'y-Treas.

JAMES PLAYFAIR, Pres. & Gen'l Mgr. D. L. WHITE, Vice-President. J. W. BENSON, Sec'y-Treas.

MIDLAND TOWING & WRECKING CO., LIMITED, MIDLAND, ONT., CANADA

FIRST-CLASS TUGS FOR WRECKING, RAFT TOWING, ETC.
STEAM PUMPS, DIVERS, JACKS, HAWSERS AND LIGHTERS

lays, and this will of course ultimately come out of the producer. A vessel of 200,000 bush. capacity has been loaded a full cargo at C.P.R. elevator "B" in 1 hour and 58 minutes. A vessel of 120,000 capacity has been loaded full at the C.N.R. elevator while her captain was simply reporting, clearing customs and visiting his vessel agent. The Empire elevator can do as well as these and these three houses could handle all the grain if no others were there and could thus save the time of the boats, as a vessel may get into port and begin loading at one house, while two or three boats may get ahead of her at the next house and thus cause her delay. Two boats reaching Fort William together last spring, one for Georgian Bay (a two days' run) and the other for Kingston (a six days' run) were loaded, but under such different conditions that the Kingston boat was unloaded a day ahead of the Bay boat. A vessel last summer unloaded at Fort William the same day as another unloaded at Jack Fish, which is 36 hours from Duluth. The Jack Fish boat went to Duluth for her load of grain and reached Kingston before the boat from Fort William simply because she arrived at Duluth at 7 a.m. and was able to leave again at 11 a.m. the same day, while the Fort William boat was four days in loading. This economic waste can certainly be avoided and a corresponding saving can be made for the producer of the grain. The establishment of a clearing house will bring about a very great saving and assist as much as anything in preventing these delays.

SHORTAGE IN OUT-TURNS.

These have been continually getting worse until vessel owners in self-protection have been forced to limit their liability to 1-2 bush. in the thousand, just as they have heretofore limited it in shipments of flax. In 1905 Fort William grain unloaded in Buffalo overran 20 lbs. per 1,000 bush. on 4,500,000 bush. delivered. In 1908 Fort William grain unloaded in Buffalo fell short 44 lbs. per 1,000 bush., an increase of 74 lbs. for the worse in three years. In 1908, Chicago grain unloaded at the same elevators in Buffalo shows a net shortage of only 10 lbs. per 1,000 bush. and Duluth grain only 15 lbs. per 1,000 bush., Fort William weights being thus 4 1-2 times worse than Chicago and three times as bad as those from Duluth. Statistics compiled by the Dominion Marine Association show the same increase as above. In 1906 net shortages ascertained by returns from members of the Association were approximately 10,000 bush. In 1908 from a partial return this net shortage has grown to over 42,000 bush. on about 32,000,000 bush. carried; and including companies not reported has grown at least to 50,000 bush. on about 40,000,000 bush. carried. This shortage is net after crediting all overages. This continued increase has alarmed vessel owners and has forced the adoption of a new bill of lading which limits the vessel liability to 1-2 bush. in the thousand. This is twice the ascertained shortage from Duluth to Buffalo or on experienced shortages of Duluth and Chicago grain unloaded at Canadian ports. The vessel owners have given these facts to exporters and shippers generally, and while these parties have admitted the vessel owners' grievance they are afraid to do business and trade is at a dead stop. They admit there is no reason why the vessel owner should accept the liability, but someone should as shippers put their grain into a terminal elevator and sell it f.o.b. ocean steamer Montreal or foreign port, and feel naturally they should get their full quantity on board steamer at Montreal. instead of possibly 100 up to 5.000 bush. short weight. Some years ago the steamboat Iroquois was 5,000 bushels short, and it took three months to obtain an admission of this, upon the clearest evidence, as Fort William insisted that its records, as usual were absolutely perfect. Last fall the steamboat Iroquois was reported to have received 120,000 bush. at the C.N.R. elevator and when unloaded at Meaford she was 1,339 bush. short in the afterhold and 110 short in the forward hold, a total of 1,449 bush. Instead of getting $2,000 net freight after paying elevator charges she only got $400, a net cash loss in operating of over $1,000, besides the profits she would have had. Meaford furnishes car numbers and affidavits as to the correctness of their weight. The C.N.R. elevator and Mr. Gibbs claim their record is perfect. The vessel suffers the loss. The average shortages have thus grown from practically nothing in 1898 to about 1 1-4 bush. per thousand in 1908, and it is expected that unless radical changes are made, 1 1-2 or 2 bush. per thousand may be the shortage this year. As the number of elevators increase this shortage will increase and a further tax on the grain will be added, and come off the value of the grain to the producer. One and a quarter bush. on the thousand is virtually 1-8c per bush. to be added to the freight rate, and this often represents the exporter's profit.

The Government is asked to enforce the Manitoba Grain Act and to compel the elevators to weigh up and ascertain the actual surplus, if any, at least once a year when the stocks in elevators are at their lowest point. That if necessary the Act be amended to make it clear that no terminal elevator has any title or ownership in grain passing through the house. That all screenings taken out in cleaning grain to pass the grade of inspection be the property of the Inspection Department as well as all surplus grain, which, of course, can only be found as a result of errors in weighing in and out. That the proceeds of this grain at all terminal or transfer elevators, either at the head of Lake Superior, Georgian Bay, Lake Huron, Kingston or Montreal, should be used by the Government to pay the cost of inspection and weighing and to reimburse shippers for shortages ascertained at Montreal, Kingston and other terminals when all grain has been delivered by the vessel in good order. The adoption of this method, by eliminating any chances for profit by the elevator companies from screenings or from the accumulation of grain, would naturally have a tendency to abolish the shortages entirely. The contention is that all services rendered by terminal elevators should be liberally paid for so that all interests, producer, railway, vessel carrier and terminal elevators may all have reasonable profit, but so that no one should benefit at the expense of the other, and the gamble on the outturn may thus be eliminated. If it is found that a tax of 30c per thousand bush., or 50c or any other reasonable amount is required to enable the Government to handle this plan without loss, the vessel owners are willing to pay their fair share, for no matter what it is, the grain must eventually pay for it, and the lower all these costs are kept the more will be returned to the producer..

COST OF WATER CARRIAGE FOR GRAIN.

Following are comparative rates on coal, ore and wheat in 1908:

Coal.—The minimum rate on coal from Lake Erie to Lake Superior ports was 30c per ton of 2,000 lbs. The open rate last trip was 50c per ton. From Lake Erie to Lake Michigan the minimum rate was 40c per ton of 2,000 lbs.

Wheat.—Fort William to Georgian Bay (without deduction for shortages in outturn). The minimum rate on wheat from Fort Wliliam to Georgian Bay may be taken as 1c per bush. or $10 per 1,000 bush. The cost per ton may then be figured as follows:

Per 1,000 bushels		$10.00
Less trimming charges per thousand bushels	.70	
Less shovelling charges	3.00	3.70
		6.30
Or at 30 tons per thousand bushels the rate per ton would be 1-30 of this or		.21
At 1¼c. per bushel the rate would be		$12.50
Less		3.70
		8.80
At 1¼c. per bush. the rate would thus be per ton 29⅓c.		.29⅓
At 1½c. per bushel the rate will be		$15.00
Less		3.70
		11.30
or the rate per ton would be		.37⅔

The foregoing shows rates carried on the same bills of lading, but it is important that the vessel is not liable for shortage in coal nor is there any risk of damage to a coal cargo. One must, therefore, deduct from these figures the vessel's liability for shortage in outturn and the net rate to the carrier will then appear as follows: Wheat, with limited liability for 1-2 bush. in 1,000, according to new bill of lading. On a limitation of 1-2 bush. per 1,000 with wheat at $1 a bush., one must deduct 50c per 1,000 bush., or 1 2-3c per ton from the rates shown above. The net rates will then be:

	cents
At 1c.—21c. less 1⅔c.	19⅓
At 1¼c.—29⅓c. less 1⅔c.	27⅔
At 1½c.—37⅔c. less 1⅔c.	36

If, however, we take shortages as they were in 1908 we find they average 1 1-4 bush. per 1,000 or 1.25 per 1,000 bush. This would mean a further deduction from the last named rates of 75c more. The rates would then appear: Wheat, with deduction of average shortage of 1908:

At 1c.—19⅓c. less 2½c.	.16⅝
At 1¼c.—27⅔c. less 2½c.	.25⅛
At 1½c.—37⅔c. less 2½c.	.35⅛

for 75c. per 1000 bushels is 2½c. per ton, hence the above deduction.

These rates on wheat under varying deductions for shortage are the rates which can be earned as against 30c or 40c on coal and 45c on ore; the rate on ore from Lake Superior to Lake Erie being 45c as a contract was 65c less 20c for unloading last year, prior to 1908 the rate being 75c less 20c, or 55c net.

Similar comparisons on rates to Montreal: The minimum rate on wheat to Montreal would be say 3 1-2c from Fort William.

Per 1000 bush.		$35.00
Less elevator charges		
at Montreal	5.00	
Shovelling	2.50	
Trimming	1.00	8.50
		26.50
Less the limited liability of ½ bush. per 1000		.50
		$26.00
Or per ton 1-30 of this		.86⅔

DOMINION BUREAU

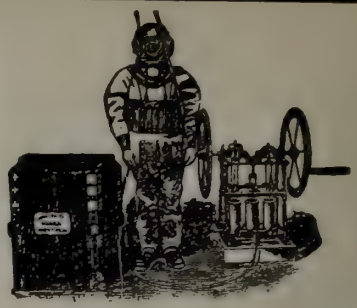
ROBERT W. HUNT & CO.
ENGINEERS

BUREAU OF INSPECTION
TESTS AND CONSULTATION

Chemical and Cement Laboratories, Montreal

NORFOLK HOUSE, CANNON ST., LONDON

CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH



JOHN DATE
MANUFACTURER OF
DIVING APPARATUS
FOR SALE OR HIRE
Brass Founder & Coppersmith
152 Craig St. West, Montreal

GASOLINE ENGINES

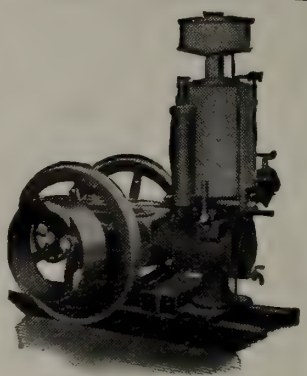
The "STICKNEY" ENGINE is something unique

The most ECONOMICAL ENGINE for RAILWAY PUMPING

The GOVERNOR is so sensitive that it never wastes fuel

Constructed without any useless frills but made to stand hard work.

Sizes from 1 H.P. to 25 H.P.



We state size of Cylinder, and are prepared to guarantee power developed.

ONTARIO WIND ENGINE AND PUMP CO. LIMITED

WINNIPEG, MAN. TORONTO. MONTREAL, QUE.

RAILWAY AND
STEAMSHIP PRINTING

SOUTHAM PRESS TORONTO

SUCCESSORS TO
THE MAIL JOB PRINTING CO.

FOR STREET PAVING MATERIAL

SCORIA BLOCKS are the cleanest, most noiseless and, durability considered, the cheapest yet discovered. And the supply is unlimited.

FOR ALL INFORMATION ADDRESS
W. H. KNOWLTON
Aberdeen Building, Toronto,
or Merchants Bank Building, Montreal

The "DILLON"

is a Hinge-Stay fence made of extra quality wire, either all No. 9, or lighter if required.

"MONARCH"

fence is made of No. 9 Hard wire throughout, and is of the regular straight-stay style

ENQUIRY SOLICITED

The Owen Sound Wire Fence Co. LIMITED

OWEN SOUND, ONTARIO

STEEL, PEECH & TOZER
Limited,
SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada

Sole Agents:
James Hutton & Co., Montreal

SESSIONS-STANDARD
Friction Draft Gear
Simplest and Best

Both
Made by
Standard Coupler Co.
2 RECTOR STREET NEW YORK

STANDARD STEEL PLATFORMS
Used by all Canadian Railways

If, instead of deducting only 1-2 bush. per 1,000, we deduct the average shortage of 1908, this will mean as in the previous tables 2 1-2c less per ton, and the rate to the carrier will be 86 2-3c, less 2 1-2c, or 84 1-6c. Coal, on the other hand, carried from Lake Erie to Montreal or only half the distance which this wheat has to travel realizes $1.15 ton, showing a very substantial advantage in favor of coal cargo. Even if wheat is put up as high as 5c per bush. through from Fort William to Montreal, it will be found that the net rates per ton on wheat would figure out $1.36⅔, and after deduction of liability for shortage $1.34⅙. This computation would be as follows;

At 5c. 1000 bush.	$50.00	
Less as above	8.50	
	41.50	
Less limited shortage	.50	
	$41.00	
or per ton 1-30 of this		1.36⅔
or with 1908 liability		1.34⅙

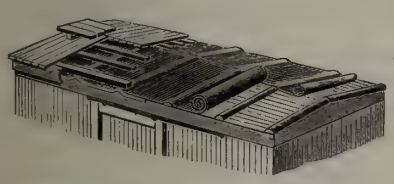
It is also to be noted that in the matter of despatch the average time of loading at Fort William in grain is three days; on ore it is 6 to 12 hours. On coal it is 8 to 12 hours. Unloading ore at Lake Erie or South Chicago is 6 to 12 hours. Coal is 12 to 24 hours. Grain is 12 to 36 hours, according to the size of the vessel and the elevator.

At 30c a ton, no canal sized steamer with marine insurance at 6% and at the present cost of operating can return $1 to its owners or shareholders as dividends on money invested, to say nothing of loss of time for accidents, etc., which freight rates should cover. It is, therefore, manifest that the vessel owner cannot continue to pay these shortages and remain in business, and it is therefore absolutely necessary to devise some remedy for the difficulty at once. Shippers have had notice for over a year of the intention of vessel owners to limit their liability for shortage, but evidently they have relied on past experience of the inability of vessel owners to take uniform action, not realizing that present rates and conditons if continued would eventually result in the bankruptcy of the majority of Canadian vessel owners. No reason can be advanced why a vessel owner should pay a shipper for grain which has either never been put on board his vessel or else is stolen by the unloading elevator. There is absolutely nothing in the shipper's contention that the carrier should have some one to check the weights. The captain of the vessel is a skilled sailor, but does not and cannot know anything about elevators. The shippers on the other hand have their agents who, in some cases, have been old elevator experts, and if anyone should check the weights it should be the shipper. As a matter of fact, however, no one or two men no matter how expert, can guarantee in some elevators either that all grain weighed at the loading house has gone into the vessel, or that all grain passes through the scales at the unloading house.

It is suggested that the master of a vessel could tell the quantity of grain loaded by measuring the volume in the hold of his vessel. This has been tried repeatedly, however, and no estimate has been found to be in the slightest reliable except in discrepancies of 1,000 bush. or upwards. The other suggestion that the quantity of grain could be estimated by the draught of water is answered at once in the same way. Canal sized vessels carry from 20 to 25 tons per inch, or 600 to 800 bush., and as there is always more or less motion of the water it is impossible to read the vessel's draught closer than say half an inch at best and seldom that. On a large vessel of 300,000 bush. capacity, carrying 2,000 bush. per inch of draught, it is clear that any estimate would be useless. Yet even if this is granted that a captain protests before sailing or before signing bills, that either volume in hold or draught in water leads him to believe the quantity billed is not on board, what is the result? Simply this, the vessel must sail without bills of lading as the shipper will not give her any, and when she unloads and is brought out short, on the one side the captain and the unloading elevator will say the grain is not there, and on the other side the loading elevator and the Government weighman will say the grain was put on board. It is a safe gamble that the result of litigation would be that the vessel would suffer as usual. On the other hand, granting that the courts might hold after years of litigation that the grain was not put on board, and the vessel was loaded at 2, 3, 6, 8, 10, or 11 elevators, who can say which elevator failed to put it on. Another 5, 10, or 50 years would be required to settle the question as to which one of these elevators was responsible. Surely, it has been shown that only one remedy exists namely, that the Government remove all incentive to dishonesty by preventing any terminal house from owning or selling any grade of grain, and that the Government by an insurance fund or some other method make a charge against the grain or the shipper and carrier to cover the ascertained loss, which in 1908 averaged about 1-8c per bush. It is clear, too, that after the present and suggested amendments have been put in force, it is quite likely that no charge may be

JOHN S. METCALF CO.
ENGINEERS AND CONTRACTORS FOR
GRAIN ELEVATORS ONLY
CONCRETE—STEEL—WOOD
Plans and Specifications our Specialty
MIDLAND, ONTARIO CHICAGO, ILL.

Largest Dealers Rebuilt Equipment in United States
TWO SEPARATE PLANTS
EAST PLANT
Capacity, 25 New Freight Cars per day
10 New Coaches per month
WEST PLANT
Capacity, 10 Heavy Repairs Locomotives per month
Besides Coach and Freight Car Repairs
PROMPT DELIVERY—New Passenger and Freight Equipment—Rebuilt Locomotives, Passsenger and Freight Equipment
HICKS LOCOMOTIVE AND CAR WORKS, = = Chicago, Ill.


ASPHALT CAR ROOFING
WILL LAST THE LIFE OF ANY CAR WITHOUT REPAIRS OR ATTENTION
2 AND 3-PLY PLASTIC CAR ROOFS
CHEAPER AND MORE DURABLE THAN STEEL
THE DRAKE & WIERS CO., = CLEVELAND, O.

necessary, for the surplus grain, which must exist somewhere if intake weights from cars are correct, would pay for all the shortages and a considerable portion of the expense.

This opportunity should be taken to point out that one of the charges above mentioned, which now falls upon the vessel is an absolutely unnecessary one, and that another equally unjust burden, not included in the above deductions from the freight rate, is suffered at the port of Montreal. The first item referred to is the trimming charge. This is not a legal obligation but the fact cannot be disputed that if this charge is not paid, the vessel suffers the penalty of greatly increased delay in loading. The charge is paid whether the trimming is taken or not and it is paid under pressure to the foreman who controls the gang of trimmers, simply because if it is not paid, the vessel has been proved to suffer a very greatly increased delay in getting her load. This statement seems to involve an accusation of collusion between the trimmers and the other employes. It has been brought to the notice of the elevator authorities and some investigation is promised. Trimming is optional at Duluth and Chicago. The other item is a charge of $5 imposed upon the vessel as a pilotage tax every time she moves in any way from one point to another in Montreal harbor. This results from the repeal of what was known as the Fitzpatrick clause in the Canada Shipping Act at the last session of the Dominion Parliament. That clause exempted from the compulsory payment of pilotage dues at Montreal, all vessels not drawing over 16 ft. Vessels with Ontario cargoes which have passed down the St. Lawrence canals thus become subject to pilotage dues and also to this extra tax of $5 every time they move at Montreal, a tax which is imposed by a by-law of the authorities. The tax goes into the funds of the Branch Pilots' Association and the vessel receives absolutely no benefit, for her captain is left liable for her safety by another section in the statute, and consequently looks after the navigation himself while the pilot sim-

---

NOTICE is hereby given that application will be made to the Parliament of Canada at its present session, on behalf of the Canadian Northern Ontario Railway Company for an Act authorizing the construction, by it of a line of railway from a point on its constructed line at or near Sudbury southwesterly to a point at or near Little Current.

GEO. F. MACDONNELL,
Assistant Solicitor.

Toronto, Ontario, 26th March, 1909.

NOTICE is hereby given that application will be made to the Parliament of Canada at its present session, on behalf of the Canadian Northern Quebec Railway Company for an Act authorizing the construction by it of a line of railway from a point on its line at or near Hedleyville, thence in a generally easterly direction to a point on the Montmorency River, and fixing the limit of securities which may be issued in respect of its lines at $30,000 per mile.

GEO. F. MACDONNELL,
Assistant Solicitor.

Toronto, Ontario, 26th March, 1909.

RAILWAY SPRINGS

ELLIPTIC
SEMI-ELLIPTIC
AND SPIRAL SPRINGS
OF EVERY DESCRIPTION

MANUFACTURED BY
B. J. Coghlin & Co., 432 St. Paul St., Montreal, Can.

NO. 1 WIRE ROPE

GREENING

All Kinds and Sizes and for All Purposes.
Standard and Lang's Patent Lay.
PRICES RIGHT.
PROMPT SHIPMENTS.

Rope Fittings—Rope Grease.

THE B. GREENING WIRE CO., Limited
HAMILTON, ONT. MONTREAL, QUE.

LEHIGH VALLEY RAILROAD

BEST LINE FROM TORONTO AND ONTARIO POINTS
— TO —
NEW YORK, PHILADELPHIA AND SOUTH

For particulars, write to or call on
MR. ROBERT S. LEWIS
Canadian Passenger Agent
54 King St. East - - - - Toronto

REAMERS ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

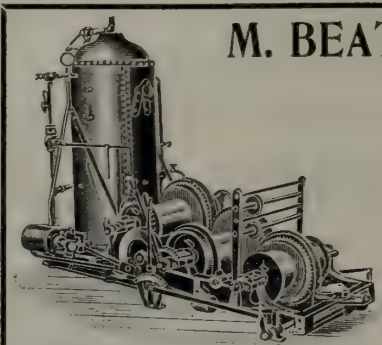
BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

CARS
NEW and REBUILT
Box, Flat, Gondola and Tank

Steam Shovels, Rails, Locomotives and Contractors' Equipment
Immediate and Prompt Deliveries
Correspondence Solicited

ROBT. M. BURNS & CO.
Railway Exchange
CHICAGO



M. BEATTY & SONS, LIMITED WELLAND ONTARIO

Dredges, Ditchers, Steam Shovels, Derricks, Steel Dump and Deck Scows

SUBMARINE ROCK DRILLING MACHINERY

Hoisting Engines, Centrifugal Pumps for Water and Sand, Stone Derricks, Clam-Shell Buckets, Steel Skips, Coal and Concrete Tubs and other Contractors' Machinery.

ply draws the benefit of the payment, Under the sections in question, vessels trading between the ports of Quebec and the Maritime Provinces, or the ports of Newfoundland, or the ports on the Atlantic coast as far as New York, are exempt from the compulsory payment of pilotage dues. A most marked and unjust discrimination thus exists against Ontario, which has been protested against for some time past without success. These two items are specially referred to as they are absolutely unnecessary charges, and as they add to the cost of transportation and constitute a needless discrimination against the St. Lawrence route, no similar charges being imposed at United States ports, every effort should be made to remove them.

Among the Express Companies

The Board of Railway Commissioners passed the following order Mar. 22: In the matter of the complaint of C. N. Cobbett, M.D., of Edmonton, Alta., alleging exorbitant rates in the West charged by express companies: This complaint having been set down for hearing at the sittings of the Board held in Edmonton Feb. 19, 1909, no one appearing for the complainant, the Dominion Government being represented by counsel, it is ordered that the complaint be dismissed.

The Board of Railway Commissioners passed the following order, 6600, Mar. 22.—In the matter of the complaint of the Nipigon Bay Fish Co., of Rossport, complaining of the refusal by the C.P.R. and the Dominion Ex. Co. to receive and carry on passenger trains fish offered for traffic at Rossport, Jackfish, and Coldwell, fish-shipping points on the north shore of Lake Superior; No one appearing for complainant at sittings of Board held in Winnipeg Feb. 4, 1909, at which the complaint had been set down for hearing and due notice given, counsel for Dominion Government, the Dominion Ex. Co., and the Canadian Northern Ex. Co. being represented at the hearing, it is ordered that the complaint be dismissed.

The Canadian Northern Ex. Co. has closed its offices at Grays and Mafeking, Man.

A parcel of unsigned bank bills in transit between Ottawa and Toronto in charge of the Dominion Ex. Co., was reported to have gone astray recently. It is believed that they will be recovered, as being unsigned and of a new design, they cannot be negotiated.

The Dominion Ex. Co. has entered action against the municipality of Alliston, Ont., to obtain a declaration that a certain business assessment levied by it against the company is invalid, and an injunction is sought to restrain the municipality from levying the tax or seizing any of the company's property, and the company claims the return of certain property seized by the municipality against such taxes.

The Board of Railway Commissioners has dismissed the following complaints against the Dominion Ex. Co., as no one appeared to represent the complainants at the executive hearings; 1, Of J. G. Swinney, Cowley, Alta., alleging excessive rates on milk from Cowley to Michel, B.C. 2. Of F. W. Godsal, Cowley, Alta., alleging excessive rates between Winnipeg and Cowley. 3. Of D. H. Macdonald & Co., Fort Qu'Appelle, Sask., alleging excessive rates and delays in delivery consignments.

The Dominion Parliament has voted $3,000 to complete the new examining warehouse at Montreal, and to fit up the present building for the handling of express customs parcels.

Telegraph and Cable Matters

The C.P.R. Telegraph Department has opened offices at Basswood and Komarno, Man.; Sulphide, Ont.; Griffin, Osage, Welwyn and Wilcox, Sask.

The President of the Commercial Telegraphers' Union was in Winnipeg recently, when he enquired into several matters connected with the commercial and railway telegraph operators.

R. C. Clowry, President Western Union Telegraph Co., is reported to have said recently, in connection with the Commercial Cable Co.'s announcement, as to the connection of Newfoundland with its cables: "In the Western Union cable system, four cables have been operated from Newfoundland, two from Cape Canso, N.S., and one from Halifax, N.S., since 1882; and there are also two cables operated from New York to Cape Canso in addition to the land lines connecting with all these cables."

The joining up of the Commercial Cable Co.'s cable system with Newfoundland, will involve the laying of about 1,700 miles of cable, at a cost of about $1,500,000, which may easily be exceeded. The expense will be covered by an existing surplus or by current earnings. The Mackay system will then have control of about 30,000 miles of cable, of which about 20,000 miles are in the Atlantic and 10,000 miles in the Pacific.

Consequent on the death of P. W. Snider, C.P.R. Telegraph Superintendent, St. John, N.B., the temporary appointments, as announced in our April issue, have been confirmed, with one change, as follows; F. J. Mahon, Inspector, Eastern Division, Montreal, to be Superintendent Atlantic Division, St. John, N.B.; J. F. N. Caisse, Chief Operator, Montreal, to be Inspector, Eastern Division, Montreal; J. Mitchell, night Chief Operator to be Chief Operator; A. M. Bennie to be night Chief Operator, and A. Malcolm, assisted by J. A. Fortier, to be Traffic Chief, all at Montreal.

The Board of Railway Commissioners passed order 6679, dated Mar. 26, specifying the form in which telegraph companies' toll tariffs are to be printed for filing with the Board and what information they are to contain. A copy of each tariff in use at any telegraph office is to be left on file thereat, open for inspection by the public.

Wireless Telegraphy on Moving Trains.

The interest recently evinced in the experiments made in the use of wireless telegraphy on moving trains, recalls the fact that the first experiments of this nature took place in Canada six years ago. The results, which were interesting, were not at that time such as would ensure the necessary success for such a project, but those taking part in the experiment were sufficiently sanguine of the outcome, to follow up the experience gained. The party in charge consisted of Dr. H. S. Bovey, Dr. H. S. Barnes and F. Soddy, of McGill University; and Dr. E. Rutherford, of Manchester University, Eng. A special G.T.R. train between Toronto and Montreal was prepared with the wireless apparatus, and though long distance telegraphing, as has been otherwise achieved, was not attempted, the train was kept in touch with stations of between 8 and 10 miles distance. The central transmitting station was arranged at St. Dominique, where two metal plate vibrators, 10 by 12 ft., connected with an induction coil, were placed. The equipment on the train consisted of collecting wire connected with a coherer of nickel and silver powder, which operated bells in three cars. The collecting wires were passed through the guides used for the train signal cords and extended on either side of the coherer, and though these wires were placed inside the steel-framed cars, clear and definite signals were obtained. The vibration of the train, which was travelling at about 60 miles an hour, made it impossible to have the relay adjusted to its most sensitive point, but the results obtained with the purely experimental apparatus were considered very satisfactory, and the feeling was strong that with a more refined mechanism, a system of wireless telegraphy on trains would be brought within the realm of practical operation, thus providing another method for safeguarding trains and their passengers.—Adapted from the Telegraph Age.

The Purchasing Agents' Guide

To the Manufacturers of and Dealers in Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph Telephone and Contractors' Supplies, &c.

Aerated Waters
E. L. Drewry ..... Winnipeg.

Air Brakes and Fittings
Canadian Westinghouse Co. Hamilton, Ont.

Ales
E. L. Drewry.. .....Winnipeg.

Alloys
Goldschmidt Thermit Co. .....Toronto.

Anchors Ground
Ground Anchor Co. .....Montreal.

Angle Bars
Hamilton Steel & Iron Co...Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.

Anti Rail Creepers
The Holden Co., Ltd.....Montreal.

Automobiles
Polson Iron Works, Ltd.....Toronto

Axes
James Smart Mfg. Co.....Brockville, Ont.

Axles
James Hutton & Co.....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Beacons
International Marine Signal Co....Ottawa.

Bearings, Side
Cardwell Mfg. Co.....Chicago, Ill.
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co...Montreal.

Blankets and Bedding
The Hudson Bay Co.....

Boilers
Babcock & Wilcox (Ltd.).. ....Montreal.
Polson Iron Works.. .....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Boilers, Portable
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co, Ltd..Amherst, N.S.

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA

A PURELY CANADIAN COMPANY

JOHN EMO, General Manager — H. W. PEARSON, Secretary-Treasurer — D. MURPHY, President

AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited

MONTREAL, CANADA

BARE AND INSULATED ELECTRIC WIRE

Electric Light Line Wire, Incandescent and Flexible Cords,

RAILWAY FEEDER AND TROLLEY WIRE

Americanite, Magnet, Office and Annunciator Wires,
Cables for Aerial and Underground Use.

MALLEABLE IRON CASTINGS

of Superior Quality

GALT MALLEABLE IRON CO., LIMITED, - GALT, ONT.

NICKEL

THE CANADIAN COPPER COMPANY

NICKEL FOR NICKEL STEEL

THE ORFORD COPPER COMPANY

WRITE US FOR PARTICULARS AND PRICES

General Offices: 43 Exchange Place, NEW YORK

HEADLIGHTS-WE MAKE THEM

For OIL, for Pyle ELECTRIC equipment or SPECIAL to Blue Print, and carry a large stock of standard headlight reflectors, burners, burner parts, felt wicks and chimneys.

The HIRAM L. PIPER CO., Limited

17 to 23 Normand Street, Montreal.

Get our No. 30 Catalogue. (Between St. Peter and McGill Sts.)

THE CANADIAN BRONZE COMPANY, LTD.

Brass Wearing Parts for Locomotives.
Journal Bearings for Freight and Passenger Service.
BABBITTS. Miscellaneous Brass Castings for Railroads.

Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

"PERFECTOL" The *Perfect* CAR CLEANER

Sold By

THE MODOC SOAP CO. OF OHIO

HENRY ROEVER, President and Manager. Philadelphia Office—228 North Fourth Street, Philadelphia, Pa.

DUNER CAR CLOSET

ENAMELED IRON WET OR DRY CLOSET

DUNER CO. 116 SO. CLINTON ST., CHICAGO

UNIFORM CAPS

For officials and employes of Railway, Steamship, Express, Telegraph and other companies, Yacht Clubs, Etc.

Helmets and Uniform Caps for Police, Firemen, Bands, Societies, Etc.

Embroidery in Gold and Silver Bullion.

W. H. CODDINGTON

HAMILTON, - ONTARIO

IMPERIAL BANK

OF CANADA

Capital Authorized - - $10,000,000.00
Capital Paid Up - - - 5,000,000.00
Rest - - - - - - - - 5,000,000.00

HEAD OFFICE - .- .- .- TORONTO

AGENTS——London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.

Sterling exchange bought and sold. Letters of credit issued available in any part of the world.

SAVINGS DEPARTMENT——Interest allowed on deposits at current rate from date of deposit.

A general Banking business transacted. Branches throughout the Dominion of Canada.

THE IMPERIAL GUARANTEE AND ACCIDENT INSURANCE CO.

46 King St. West, TORONTO

Capital Subscribed $1,000,000

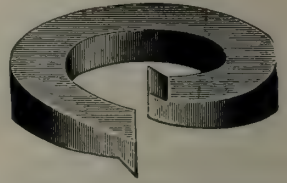
ACCIDENT AND SICKNESS Insurance protects your income in case of disablement.

GUARANTEE BONDS protect you against loss from dishonest employees.

Write us if you need a Bond or want an Accident Policy.

THE POSITIVE LOCK WASHER

Is the BEST Nut LOCK for all purposes



We also make plain coils and tail nut locks.

The Positive Lock Washer Co.

Sole Mfrs., Newark, N.J.

F.H. HOPKINS & CO., Agts., Montreal

WOOD PATTERNS

——ALL KINDS——

High Grade Right Prices. Prompt Delivery.

THE HAMILTON PATTERN WORKS

HAMILTON, ONT.

Boilers, Stationary and Marine
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd..Amherst, N. S.

Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

Boilers, Steam
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.

Boilers, Water Tube
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.

Bolsters
Dominion Car and Foundry Co..Montreal.

Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.

Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Braces, Cross Arm
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Brake Beams
Chicago Railway Equipment Co...Chicago.
Dominion Car and Founary Co..Montreal.

Brake Shoes
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.
The Holden Co., Ltd.....Montreal.

Brake Shoes, Electric Ry.
Am. Brake Shoe & F'dry Co..Mahwah, N.J.

Brake Shoes, Locomotive Driver
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.

Brass and Copper Cloth
The B. Greening Co.....Hamilton, Ont.

Bridge Numbers
Acton Burrows, Limited .....Toronto.

Bridges
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Buckets, Coal, Ore and Concrete
Brown Hoisting Machinery Co. Cleveland.

Buildings, Steel
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Bumping Posts
The Holden Co., Ltd..... .....Montreal.
McCord & Co. .....Chicago, Ill.

Buoy Lighting
Safety Car Heat. & Light. Co..New York.

Buoys
International Marine Signal Co....Ottawa.

Cables Electric and Feeder
E. F. Phillips Electrical Works....Montreal.
The Wire and Cable Co.....Montreal.

Caps, Uniform
A. A. Allan & Co., Ltd.....Toronto.
W. H. Coddington ....Hamilton, Ont.

Car Cleaner
Modoc Soap Co.....Philadelphia, Pa.

Car Fittings
Wallace Supply Co.....Chicago, Ill.

Car Loaders, Box
Mussen's, Ltd..... Montreal.

Car Movers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Cars
American Car & Equipment Co....Chicago.
R. M. Burns & Co.....Chicago, Ill.
Canada Car Co. (Ltd.).....Montreal.
Crossen Car Mig. Co.....Cobourg, Ont.
Dominion Car and Foundry Co....Montreal.
J. T. Gardner.....Chricago, Ill.
Hart-Otis Car Co. (Ltd.).....Montreal.
Hicks Locomotive and Car Works. Chicago.
Ottawa Car Co. Ltd.....Ottawa.
Preston Car and Coach Co., Ltd..Preston.
Rhodes, Curry & Co.....Amherst, N.S.
Silliker Car Co., Ltd.....Halifax, N.S.

Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
Standard Steel Works Co..Philadelphia, Pa.

Castings, Brass
Canadian Bronze Co.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.
Tallman Brass & Metal Co., Ltd.Hamilton.

Castings, Car
American Brake Shoe & Fdry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.

Castings, Iron
Canada Car Co., Ltd.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Castings, Iron and Steel
American Brake Shoe & F'dry Co.Mahwah.

Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.

Castings, Manganese Steel
Montreal Steel Works, Ltd.....Montreal.

Castings, Steel
Canada Iron Corporation, Ltd....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Chains
B. J. Coghlin & Co.....Montreal.

Closets, Car
Duner Co.....Chicago, Ill.

Compressors, Air
Canadian Rand Co.....Montreal.

Concrete Mixers and Rock Crushers
F. H. Hopkins & Co.....Montral.
Mussens Limited.....Montreal
Toronto Pressed Steel Co..... .Toronto

Contractors' Supplies
F. H. Hopkins & Co.....Montreal
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Conveyors, Coal and Ash
Babcock & Wilcox (Ltd.).....Montreal.

Copying Presses
James Smart Mfg. Co...Brockville, Ont.

Couplers, Car and Locomotive
Acme Railway Equipment Co.Philadelphia.
Dominion Car and Foundry Co..Montreal.
McConway & Torley Co....Pittsburgh, Pa.
National Malleable Castings Co..Cleveland
Taylor & Arnold.....Montreal.
Washburn Steel Castings & Coupler Co.,
.....Minneapolis, Minn.

Cranes
Brown Hoisting Machinery Co..Cleveland.

Cranes, Electric
Babcock & Wilcox.....Montreal.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.

Cranes, Locomotive
American Hoist and Derrick Co..St. Paul.

Cranes, Wrecking
Mussens Limited.....Montreal.

Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Curtains and Fixtures, Car
The Holden Co., Ltd.....Montreal.

Cuts
Acton Burrows, Limited.....Toronto.

Derailing Devices
Hayes Track Appliance Co..Geneva, N.Y.

Derricks
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Mussens Limited.....Montreal.

Dies
Butterfield & Co.....Rock Island, Que.

Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.

Doors, Steel Rolling
Mussens Limited.....Montreal.

Door Signs
Acton Burrows Limited.....Toronto.

Draft Gear
Cardwell Mfg. Co.....Chicago, Ill.
Farlow Draft Gear Co.....Baltimore, Md.
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.
Waugh Draft Gear Co.....Chicago, Ill.

Dredges
M. Beatty & Sons.....Welland, Ont.

Drills, Air
Canadian Rand Co.....Montreal.

Dry Goods
The Hudson's Bay Co.....

Dump Cars (Contractors')
Canada Road Machine Co., Ltd. Hamilton.
F. H. Hopkins & Co.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Dump Cars, Hand
Meaford Wheelbarrow Co., Ltd..Meaford.

Dust Guards
Harrison Dust Guard Co.....Toledo, O.

Dynamos
Northern Electric & Mfg. Co., Ld.Montreal.

Dynamo and Electric Castings
American Brake Shoe & F'dry Co.Mahwah.

Economizers
Babcock & Wilcox (Ltd.).....Montreal.

Electric Car Route Signs
Acton Burrows Limited.....Toronto.

Electric Apparatus
Northern Electric & Mfg. Co., Ld.Montreal.

Elevators, Grain
John S. Metcalfe Co.....Chicago, Ill.

Enameled Iron Signs
Acton Burrows Limited.....Toronto.

Engines, Automatic
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Corliss
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Gasoline
Ontario Wind Engine & Pump Co.Toronto.

Engines, Hoisting
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Robertson Mfg. Co. .....Welland, Ont.

Engines, Stationary and Marine
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Steam Steering, for Tugs
Sheriffs Mfg. Co.....Milwaukee, Wis.

Explosives
Standard Explosives Limited....Montreal.

Express Office Signs
Acton Burrows Limited.....Toronto.

Fencing
McGregor Banwell Fence Co..Walkerville.
New Brunswick Wire Fence Co..Moncton.
Owen Sound Wire Fence Co..Owen Sound.
Page Wire Fence Co.....Walkerville, Ont.

Fire Brick
Mussens Limited.....Montreal.

Flags
The Hudson's Bay Co.....

Flour
The Hudson's Bay Co.....

Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co..Cleveland.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton.
Standard Steel Works Co.Philadelphia, Pa.

Foundry Appliances
Goldschmidt Thermit Co.....Toronto.

Frogs
Canadian Ramapo Iron Wks.Niagara Falls.

Furnaces, Corrugated
Continental Iron Works....Brooklyn, N.Y.

Fuse Batteries
Standard Explosives Limited....Montreal.

Fuse Detonators
Standard Explosives Limited....Montreal.

Fuses, Electric
Standard Explosives Limited....Montreal.

Gaskets
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Gates
McGregor Banwell Fence Co..Walkerville.
New Brunswick Wire Fence Co..Moncton.
Page Wire Fence Co.....Walkerville, Ont.
Owen Sound Wire Fence Co..Owen Sound.

Gates, Crossing
The N. L. Piper Ry. Supply Co..Toronto.

Gauges, Locomotive
Taylor & Arnold.....Montreal.

Generators, Electric
Northern Electric & Mfg. Co., Ld.Montreal.

Grates, Shaking
Babcock & Wilcox (Ltd.).....Montreal.

Groceries
The Hudson's Bay Company.....

Hammers, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.
James Smart Mfg. Co....Brockville, Ont.

Handcars
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Hardware
The Hudson's Bay Co.....
Rice Lewis & Son..'.....Toronto.

Hats
W. H. Coddington .....Hamilton, Ont.

Headlights
The N. L. Piper Ry. Supply Co..Toronto.
Pyle National Elec. Headlight Co..Chicago.

Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.

Heaters, Feedwater
Robb Engineering Co., Ltd..Amherst, N.S.

Heating, Car
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car Heating & L'ting Co.New York.

Hoists, Electric
American Hoist & Derrick Co....St. Paul.

Hoists (Pneumatic)
Taylor & Arnold.....Montreal.

Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co.Cuyahoga Falls.

Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.

Hydrants
Kerr Engine Co.....Walkerville, Ont.

Illustrations
Acton Burrows Limited.....Toronto.

Inspections
R. W. Hunt & Co. .....Montreal

Insurance, Accident
Canadian Ry. Accident Ins. Co....Ottawa.
Imperial Guarantee & Ac. Ins. Co.Toronto.

Insurance, Boiler
Canadian Casualty & Boil. Ins. Co.Toronto.

Interlocking Plant and Signals
Montreal Steel Works.....Montreal.
Saxby and Farmer, Ltd.....Montreal.

Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton.

Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton.

Iron Signs
Acton Burrows Limited.....Toronto.

Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

Jacks
H and E Lifting Jack Co..Waterville, Que.
F. H. Hopkins & Co, Ltd.....Montreal.
Montreal Steel Works, Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.

Japans
The Dougal Varnish Co. Ltd....Montreal.

Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.

Journal Boxes
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Lager Beer, &c.
E. L. Drewry.....Winnipeg.

Lagging and Covering, Locomotive
Taylor & Arnold.....Montreal.

Lamps, Arc
Northern Electric & Mfg. Co, Ltd.Montreal.

Lamps, Incandescent
Canadian Westinghouse Co..Hamilton, Ont.

Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.

Lamps, Switch
The N. L. Piper Ry. Supply Co..Toronto.

Launches
Polson Iron Works, Ltd.....Toronto.

Lighting, Car
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car H't'g & L't'g Co..New York.

Lights, Contractors' and Wrecking
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Locomotives (Compressed Air)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co...Kingston, Ont.
Montreal Locomotive W'ks (Ltd.)..Montreal.

Locomotives (Electric)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Locomotive W'ks (Ltd.).Montreal.

Locomotives (Logging)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.

Locomotives (Rack)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.
Montreal Locomotive W'ks (Ltd.).Montreal.

Locomotives (Steam)
American Car & Equip. Co....Chicago, Ill.
Burnham, Williams & Co. Philadelphia, Pa.
R. M. Burns & Co.....Chicago, Ill.
Canadian Locomotive Co....Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hicks Locomotive & Car Works..Chicago.
Montreal Locomotive W'ks (Ltd.).Montreal.
Vulcan Iron Works.....Wilkesbarre, Pa.

Lorries, Tracklaying
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.

Lubricators
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.

Lumber
Parry Sound Lumber Co.....Toronto.

Machinery, Cement
Jas. W. Pyke & Co.....Montreal.

Machinery and Plant, Contractors'
American Car & Equip. Co....Chicago, Ill.
American Hoist & Derrick Co....St. Paul.
M. Beatty & Sons.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
J. T. Gardner.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Toronto Pressed Steel Co.....Toronto.

Machinery, Hoisting
American Hoist & Derrick Co....St. Paul.
Brown Hoisting Machinery Co..Cleveland.

Machinery, Marine
Sheriffs Mfg. Co.....Milwaukee, Wis.

Machinery, Tracklaying
F. H. Hopkins & Co.....Montreal.

Manhole Frames and Covers
American Brake Shoe & F'dry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.

Marine Repairs
Goldschmidt Thermit Co.....Toronto.

Marine Supplies
Rice Lewis & Son.....Toronto.

Metal, Anti-friction
W. Abbott.....Montreal.

Metal, Babbit
Tallman Brass & Metal Mfg. Co. Hamilton.

Metals
Goldschmidt Thermit Co.....Toronto.

Metal Work, Structural
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Montreal Locomotive W'ks (Ltd.).Montreal.
Jas. W. Pyke & Co.....Montreal.

Milepost Numbers
Acton Burrows Limited.....Toronto.

Motors
McCord & Co.....Chicago, Ill.

Motors, Electric
Northern Electric & Mfg. Co. Ld.Montreal.

Motors, Turntable
Taylor & Arnold.....Montreal.

Nickel
The Orford Copper Co.....New York.

Nickel for Nickel Steel
The Orford Copper Co.....New York.

Numbers
Acton Burrows Limited.....Toronto.

Nut Locks
Positive Lock Washer Co....Newark, N.J.

Nuts, Clevis
Cleveland City Forge & Iron Co..Cleveland.

Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Oakum
The Hudson's Bay Company.....

Office Fittings
Can. Office & Sch'. Furniture Co..Preston

Office Signs
Acton Burrows Limited.....Toronto.

Oils
Galena Signal Oil Co..Franklin & Toronto.

Packing
The N. L. Piper Ry. Supply Co..Toronto.

Patterns
Hamilton Pattern Works....Hamilton, Ont.

Pile Drivers, Railway
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Pinch Bars
The N. L. Piper Ry. Supply Co..Toronto.

Pipe, Culvert (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Gas (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Sewer (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Water (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe Stocks
Butterfield & Co.....Rock Island, Que.

Platforms, Steel
Standard Coupler Co.....New York City.

Ploughs, Contractors'
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Ploughs, Grading
Meaford Wheelbarrow Co., Ltd...Meaford,

Porter
E. L. Drewry.....Winnipeg.

Powder, Blasting
Standard Explosives Limited.....Montreal.

Printing
Southam Press.....Toronto.

Propeller Wheels
Sheriffs Mfg. Co.....Milwaukee, Wis.

Pumps
S. F. Bowser & Co., Limited.....Toronto.
Ontario Wind Engine & Pump Co..Toronto.
James Smart Mfg. Co.....Brockville, Ont.

Pumps (Centrifugal)
M. Beatty & Sons.....Welland, Ont.

Rail Benders, Roller
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

BABCOCK & WILCOX
LIMITED

Patent Water-Tube Boilers
(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes = MONTREAL
BRANCH—TRADERS BANK BUILDING, TORONTO

The Purchasing Agents' Guide—Continued.

Rails (new)
Dominion Iron & Steel Co....Sydney, N.S.
Drummond, McCall & Co.....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co.....Montreal.

Rails (for relaying)
F. H. Hopkins & Co.....Montreal.
J. J. Gartshore.....Toronto
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.

Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada....Montreal.
Williams Boltless Rail J'nt Mg. Co.Chicago.

Railway Supplies
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Rice Lewis & Son.....Toronto.

Ranges
Stearnes Steel Range Co.....Chicago, Ill.

Reamers
Butterfield & Co.....Rock Island, Que.

Replacers, Car and Locomotive
Alexander Car Replacer Mfg. Co..Scranton.
The Holden Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.

Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Roofing, Car
Drake & Wiers Co.....Cleveland, O.

Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Company.....

Ropes, Coal Haulage
The B. Greening Co.....Hamilton, Ont.

Ropes, Derrick
Dominion Wire Rope Co.....Montreal.
The B. Greening Co.....Hamilton, Ont.

Ropes, Switch
The B. Greening Co.....Hamilton, Ont.
F. H. Hopkins & Co.....Montreal.

Scoria Blocks
W. H. Knowlton.....Toronto.

Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Screw Plates
Butterfield & Co.....Rock Island, Que.

Screws, Coach and Lag
Montreal Rolling Mills Co.....Montreal
Toronto Bolt and Forging Co.....Toronto.

Seats, Station
James Smart Mfg. Co....Brockville, Ont.

Semaphore Arms
Acton Burrows Limited.....Toronto.

Semaphores
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer Ltd.....Montreal.

Shafting, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Ships
Polson Iron Works.....Toronto.

Shops
The Hudson's Bay Co.....

Signal House Numbers
Acton Burrows Limited.....Toronto.

Signals
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer, Limited.....Montreal.

Signals, Fog
International Marine Signal Co....Ottawa.

Signs
Acton Burrows Limited.....Toronto.

Skylights
A. Edgcumbe Rendle.....Montreal.

Slack Adjusters
Chicago Railway Equipment Co..Chicago.

Sledges
James Smart Mfg. Co.....Brockville, Ont.

Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.
Rhodes, Curry & Co.....Amherst, N.S.

Soilers
Tallman Brass & Metal Mfg. Co. Hamilton.

Spikes, Railway, Ship or Pressed
Hamilton Steel & Iron Co., Ltd.Hamilton.
F. H. Hopkins & Co.....Montreal.
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Spreader Cars
F. H. Hopkins & Co.....Montreal.

Spring Dampeners
McCord & Co.....Chicago, Ill.

Springs
B. J. Coghlin.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Station Name Signs
Acton Burrows Limited.....Toronto.

Staybolt Bars, Charcoal Iron
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolt Iron
Taylor & Arnold.....Montreal.

Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolts, Flexible
Flannery Bolt Co.....Pittsburg, Pa.

Staybolts, Locomotive
Falls Hollow Staybolt Co..Cuyahoga Falls.
Flannery Bolt Co.....Pittsburg, Pa.

Staybolt Taps
Butterfield & Co.....Rock Island, Que.

Steam Couplers
Safety Car H'tg & L'tg Co....New York.

Steam Shovels
M. Beatty & Son.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
F. H. Honkins & Co.....Montreal.
Mussens Limited.....Montreal.

Steamships
Polson Iron Works.....Toronto.

Steamship Signs
Acton Burrows Limited.....Toronto.

Steel
W. Abbott.....Montreal.
Hermann Boker & Sons.....Sheffield, Eng.
Wm. Jessop & Sons.....Sheffield, Eng.

Steel, Fire Box
Taylor & Arnold.....Montreal.

Steel for Axes
Montreal Steel Works.....Montreal.

Steel for Saws
Montreal Steel Works.....Montreal.

Steel for Springs
James Hutton & Co.....Montreal.

Steel, Speedicut High Speed
Montreal Steel Works.....Montreal.

Steel, Nickel, for Nickel
The Orford Copper Co.....New York.

Steel Plates
Jas. W. Pyke & Co.....Montreal.

Steel, Tool
W. Jessop & Sons.....Sheffield, Eng.
Montreal Steel Works.....Montreal.

Stokers, Mechanical
Babcock & Wilcox (Ltd.).....Montreal.

Stoves
James Smart Mfg. Co.....Brockville, Ont.

Superheaters
Babcock & Wilcox (Ltd.).....Montreal.

Switches
Canadian Ramapo Iron W's Ld.Niagara Fs.
Hayes Track Appliance Co....Geneva, N.Y.
Montreal Steel Works.....Montreal.

Switch Stands
Canadian Ramapo Iron W's, Ld.Niagara Fs
Hayes Track Appliance Co....Geneva, N.Y.

Switch Targets
Acton Burrows Limited.....Toronto.

Tanks and Tank Fixtures
Ontario Wind Engine & Pump Co..Toronto.

Tanks, Oil
S. F. Bowser & Co., Limited.....Toronto.

Tapes, Measuring
Lufkin Rule Co.....Saginaw, Mich.

Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Telegraph and Telephone Apparatus
Northern Elec. & Mfg. Co., Ltd.Montreal.

Telegraph and Telephone Office Signs
Acton Burrows Limited.....Toronto.

Thermit
Goldschmidt Thermit Co.....Toronto

Ticket Cases
Can. Office & School Furniture Co.Preston.

Tie Plates
B. J. Coghlin & Co.....Montreal.
Montreal Rolling Mills Co.....Montreal.

Ties
Parry Sound Lumber Co.....Toronto.

Tires, Steel
James Hutton & Co.....Montreal
Jas. W. Pyke & Co.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Tools and Supplies
James Smart Mfg. Co.....Brockville, Ont.
A. B. Jardine & Co.....Hespeler, Ont.

Tools, Track
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Mussens Limited.....Montreal.

Tools, Pneumatic
The Holden Co., Ltd.....Montreal.

Tools, Cast Steel Track
American Brake Shoe & F'dry Co.Mahwah.

Track Equipment
Canadian Ramapo Iron W's Ld.Niagara Fs.

Tramway Equipment
J. J. Gartshore.....Toronto.

Trolley Wheels
Tallman Brass & Metal Co., Ltd.Hamilton.

Trucks
James Smart Mfg. Co.....Brockville, Ont.

Trucks (Electric Car)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Steel Works.....Montreal.

Trucks (Railroad and Warehouse)
Toronto Pressed Steel Co.....Toronto.

Trusses, Roof
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Tubes, Boiler
Jas. W. Pyke & Co.....Montreal.

Turnbuckles
Cleveland City Forge & Iron Co.Cleveland.
Montreal Steel Works.....Montreal.

Turntables
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Valves, Brass Gate
Kerr Engine Co.....Walkerville, Ont.

Valves, Brass Globe
Kerr Engine Co.....Walkerville, Ont.

Valves, Iron Gate
Kerr Engine Co.....Walkerville, Ont

Valves, Locomotive Pop
Taylor & Arnold.....Montreal

Varnishes
The Dougal Varnish Co., Ltd....Montreal.

Vessels
Polson Iron Works.....Toronto.

Washers
Montreal Rolling Mills Co.....Montreal.

Waste
B. J. Coghlin & Co.....Montreal.
N.L. Piper Railway Supply Co....Toronto.

Water Softeners
Babcock & Wilcox (Ltd.).....Montreal.

Welding
Goldschmidt Thermit Co.....Toronto.

Wheelbarrows
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Toronto Pressed Steel Co.....Toronto.

Wheels, Car
Canada Car Co., Limited.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.
Standard Steel Works Co..Philadelphia, Pa.

Wheels, Locomotive
Canada Iron Corporation, Ltd....Montreal.

Wheels, rolled, solid forged
Standard Steel Works Co..Philadelphia, Pa.

Wheels, steel tired
Standard Steel Works Co..Philadelphia, Pa.

Windmills
Ontario Wind Engine & Pump Co..Toronto.

Windows, Fireproof
A. Edgcumbe Rendle.....Montreal.

Wire and Wire Rope
Dominion Wire Rope Co.....Montreal.
The B. Greening Co.....Hamilton, Ont.
Mussens Limited.....Montreal.
The Wire and Cable Co.....Montreal.

Wire Cloth
The B. Greening Co.....Hamilton, Ont.

Wire, Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Electric
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Insulated Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire Rope Clips
American Hoist & Derrick Co.....St. Paul.

Wire, Telegraph and Telephone
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Transmission and Trolley
The Wire and Cable Co.....Montreal.

Wrenches, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.

Yachts
Polson Iron Works.....Toronto.

DOMINION CAR & FOUNDRY CO.
LIMITED

FREIGHT CARS

ALL-STEEL AND COMPOSITE

CAR TRUCKS **STEEL UNDERFRAMES**

FORGINGS OF ALL KINDS

SIMPLEX

Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works---MONTREAL WEST

P. O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.

The Railway and Marine WORLD

With which are incorporated The Western World and
The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 218.
New Series, No. 136.

TORONTO, CANADA, JUNE, 1909.

For Subscription Rates, See Page 429.

WIRES AND CABLES

FOR TELEPHONE, TELEGRAPH, ELECTRIC RAILWAY AND POWER PURPOSES

THE WIRE AND CABLE CO., MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL.

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

RENDLE'S GLAZING IMPROVED SKYLIGHT CONSTRUCTION

"Paradigm," "Duxbac" Brands. "Diablo" Asbestos Windows.

A. Edgcumbe Rendle, 260 St. James Street, Montreal. Works: LONDON, ONTARIO

THE OTTAWA CAR CO. Limited

BUILDERS OF Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.

Office and Works: Slater St., OTTAWA

LUFKIN MEASURING TAPES

MADE IN CANADA AND THE BEST IN THE WORLD

SEND FOR CATALOG.

THE LUFKIN RULE CO. OF CANADA, LTD. WINDSOR, ONT.

Additional safety and economy in **TRACK MAINTENANCE** has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after ten years' service, having a record of over 50,000 miles in use—the extent of which is evidence of their excellence.

THE RAIL JOINT CO. OF CANADA
See Page 414.

ENAMELLED IRON SIGNS

For Steam and Electric Railways, Steamship, Express, Telegraph, Telephone and General Advertising Purposes. For prices, etc., address

ACTON BURROWS, LIMITED - - 157 BAY ST., TORONTO

MUSSENS LIMITED

Railway, Mining and Contractors' Supplies

See Advt. Page 392.

WILLIAM ABBOTT

COLONIAL ANTI-FRICTION METAL

50% Saving in Oil

334 St. James St., - Montreal

THE HOLLENDEN

CLEVELAND

EUROPEAN PLAN

600 Rooms $1.50 to $5.00

The Canadian Casualty and Boiler Insurance Company

Head Office - TORONTO

ACCIDENT, SICKNESS AND BOILER CONTRACTS

Full particulars on application

THE WAUGH DRAFT GEAR

FRICTION SPRING CUSHION

200,000 lbs.—600,000 lbs. Capacity

MADE IN CANADA

Send for Catalog and Particulars

Waugh Draft Gear Co., Chicago, Ill.

ARCTIC METAL FOR COOL BEARINGS

TALLMAN Brass and Metal Co. Hamilton Canada

STEARNES STEEL RANGE COMPANY

Our specialties are Dining, Private and Cafe Car Ranges and General Cooking Apparatus.

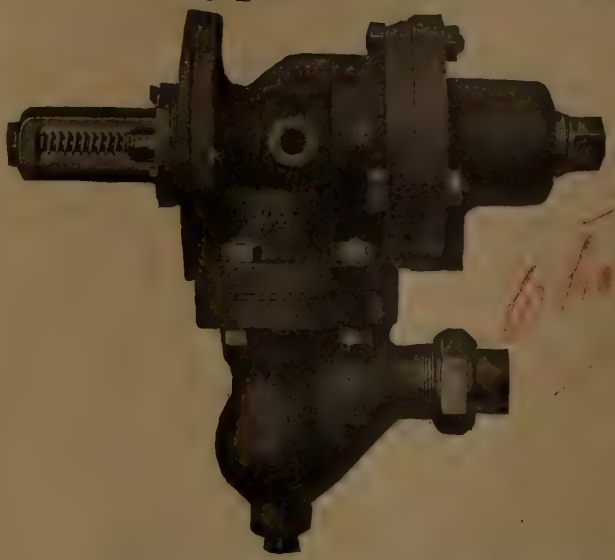
Fifth Ave. and Lake St., Chicago, Ill.

TOWER AND CLIMAX COUPLERS Address The National Malleable Castings Co. CLEVELAND OHIO

The Dougall Varnish Co., Ltd. Successors to McCASKILL, DOUGALL & COMPANY Railway Varnishes, Japans and Enamels MONTREAL. Medals Awarded.

Westinghouse

Type "K" Freight Triple Valve



Engineers require no special instructions to handle trains partially, or wholly, equipped with Type "K" Triple Valves.

They have all the advantages of the old type (H), with which they have many parts in common, besides having three additional features, namely: **Quick Service, Uniform Release, Uniform Recharge.** The old type (H) can be converted to the new type "K" with the loss of only a few parts.

See Instruction Pamphlet 5030.

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO
439 Pender Street
VANCOUVER

For particulars address nearest office
HAMILTON
922-923 Union Bank Bldg.
WINNIPEG

232 St. James Street
MONTREAL
158 Granville Street
HALIFAX

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.

MONADNOCK, CHICAGO

See Purchasing Agents' Guide on page 465 :: :: :: ::

See Alphabetical Index to Advertisements on page 429

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 218.
New Series, No. 136.

TORONTO, CANADA, JUNE, 1909.

For Subscription Rates, See page 429.

The Intercolonial Railway Shops.

In our issue of July, 1906, general particulars were given of the new shops which it was proposed to erect at Moncton, N.B., for the I.C.R. These general facts were supplemented by an illustrated article in our issue of Sept., 1908, giving considerable additional information respecting the shops, which are now fast approaching completion. In a recent speech the Minister of Railways said "these shops will serve the Grand Trunk Pacific Ry. (National Transcontinental Ry.) also." He then presented to the House of Commons the following memorandum descriptive of the shops:

FREIGHT CAR REPAIR SHOP.—362'—0" x 134'—8". Area covered 48,700 sq. ft. Net floor area 47,400 sq. ft. Gross cubic contents 1,573,000 cubic ft. Net contents 1,541,000 cubic ft. This building is composed of concrete foundations; reinforced concrete wall columns, curtain walls, and roof slab; steel trusses and purlins. There are two longitudinal rows of steel columns within this shop. Floors between rails are of 3" plank; between tracks the floors are of mastic cement. Six repair tracks run through the building, providing working accommodation for 48 cars. Reinforced concrete air ducts are placed beneath the floor.

PLANING MILL.—202'—8" x 81'—10"; together with a fan house 20' x 20'. Area covered 17,100 sq. ft. Net area of floor 16,400 sq. ft. Gross cubic contents 550,000 cubic ft. Net contents 523,000 cubic ft. This building is composed of concrete foundations, surmounted by a steel frame, with curtain walls and roof slab of reinforced concrete. The bottom chords of trusses are designed to carry 3 ton trolleys, and the floor space is entirely free from obstruction. The floor is of hardwood. Reinforced concrete air ducts are placed beneath the floor.

PASSENGER CAR REPAIR SHOP.—361'—8" x 100'—0". Area covered 36,100 sq. ft. Net area of floor 371,000 sq. ft.; Gross cubic contents 887,000 cubic ft. Net contents 856,000 cubic ft. This is a transverse shop with 18 tracks, besides an area at one end of 36 ft. x 100 ft., which together with a mezzanine floor 18 ft. x 100 ft. is for use as a cabinet shop. The building is of reinforced concrete throughout, having four longitudinal rows of columns. Between the rails plank floors are provided; between tracks the flooring is of concrete. Reinforced concrete air ducts are placed beneath the floor.

PASSENGER CAR PAINT SHOP.—361 ft.—8 in. x 100 ft.—0 in. Area covered 361,000 sq. ft. Net area of floor 371,000. Gross cubic contents 887,000 cubic ft. Net contents 856,000. This building is practically a duplicate of the repair shop, the end area, not occupied by tracks, and the mezzanine floor being devoted to upholstering and varnishing.

ROBERT PATTERSON
Master Mechanic, G.T.R. Shops, Stratford, Ont.

STOREHOUSE AND OFFICE BUILDING.—343 ft.—8 in. x 51 ft.—8 in. Area covered by building 17,700 sq. ft. Net area of floors, 50,800 sq. ft. Area covered by platform, 7,900 sq. ft. Net area including platform, 58,700 sq. ft. Gross cu. contents exclusive of platform, 674,000 cu. ft. Net contents, 610,000 cu. ft. The building is of reinforced concrete throughout, except the office partitions, which are of porous tile. The building consists of two stories and a basement. The greater part of the upper floor is devoted to offices. The building is provided on two sides and one end with a concrete platform designed for heavy loads. Freight elevators connect the different floors. The interior is well finished. Floors are of hardwood except in basement which is of concrete. An ample supply of plumbing fixtures has been provided, and the building equipped for steam heating.

LOCOMOTIVE SHOPS.—Area covered 171,000 sq. ft. Net area of floors 168,000 sq. ft. Gross cubic contents, 7,360,000 cubic ft. Net contents, 7,270,000 cubic ft. This is a group of buildings comprising;

BOILER SHOP.—375 ft.—1 in. x 102 ft.—3 in. In two bays, with riveting tower at one end of the erecting bay. The tool bay is served by a 10 ton electric travelling crane; the erecting bay by a 35 ton crane; and the riveting tower by a 30 ton crane. Plank floor on timber sills.

LOCOMOTIVE ERECTING SHOP.—375 ft.—1 in. x 81 ft.—1 in. This shop is arranged with a central longitudinal pit, flanked upon either side by individual pits arranged in herring bone pattern. There is standing room for six locomotives upon the central pit, and for sixteen locomotives upon the side pits. Two electric travelling cranes, each of 60 ton capacity, command the shop. Flooring is of plank resting upon timber sills.

FORGE SHOP.—375 ft.—1 in. x 76 ft.—8 in. This shop is served by jib cranes. The flooring is of earth.

MACHINE SHOP.—408 ft.—4 in. x 132 ft. 6 in. This shop is in two bays, each of which is commanded by a 10 ton electric travelling crane. The flooring is of plank, supported by a concrete base.

MACHINE SHOP ANNEX.—408 ft.—4 in. x 44 ft. 10 in. This includes the bolt room, tool room, brass room, brass foundry, with lavatories upon a mezzanine floor. The foundations of all these shops are of concrete, the skeleton is of steel, with curtain walls and roof slabs of reinforced concrete. Travelling cranes command all floor space except that of the forge shop and the machine shop annex. Reinforced concrete air ducts are placed beneath the floors of all these shops, forming the locomotive group.

POWER HOUSE.—[illegible]3 ft.—2 in. x 69 ft. Area covered, 14,000 sq. ft.; net area of

Galena-Signal Oil Company

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY

Galena Railway Safety Oil

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

Please write to home office for further particulars.

CHARLES MILLER,

PRESIDENT

floor, 13,300, plus basement, 1,400; gross cubic contents, exclusive of basement, 477,000; net contents, 460,000. This building consists of concrete foundations, surmounted by a steel frame, with curtain walls and roof slab of reinforced concrete. The engine room is served by a 15 ton travelling crane operated by hand. The engine room is provided with a hardwood floor, supported by steel framing over the basement portion.

GAS-PRODUCER HOUSE.—40 ft.—10 in. x 38 ft.—10 in. Area covered, 1,600 sq. ft.; net area of floors, 2,750 sq. ft.; gross cubic contents, 61,600 cubic ft.; net contents, 52,700 cubic ft. This building consists of a single story with a basement. It is a steel frame structure with reinforced concrete walls and roof slab. The basement floor is of concrete, the charging floor is of steel.

DRY KILN.—57 ft. x 25 ft.—4 in., 17 ft.—4 in. x 16 ft.—8 in. Area covered, exclusive of platform, 1,730 sq. ft.; net area of floors, 1,550 sq. ft.; gross cubic contents, 22,500 cubic ft.; net contents, 14,000 cubic ft. This is a brick and wood combination building, upon concrete foundations. There is a platform on either side, 6 ft. in width.

LUMBER SHED.—150 ft. x 20 ft. Area covered, 3,100 sq. ft.; net floor area, 2,800 sq. ft.; gross cubic contents, 46,500 cubic ft.; net contents, 36,000 cubic ft. This is a wooden structure upon concrete foundations.

Replying to questions as to the cost of the shops, the Minister of Railways said the contracts had been completed, but the final payments had not been made. The contract price of the passenger car and paint shops, and the stores and office building was $146,445, with a schedule for additions and deductions. The amount paid to date was $147,736.08. A voucher for $72,304.75 had been prepared for final estimate but not paid. The contract price for the freight car repair shop was $86,630, with a schedule for additions and deductions; the amount paid on final estimate was $75,213.32. The contract price for the locomotive shops was $430,000, with a schedule for additions and deductions. The amount paid to date was $403,171.29, and a voucher for $81,740 had been prepared for final estimate, but not paid.

E. A. Walberg, the contractor, has issued a writ against the Government to recover $105,000 alleged to be due for extra work on the shops.

Railway Subsidy Commission Suit.

Royce & Henderson, solicitors, Toronto, recently sued the National Trust Co., as executors and trustees of the estate of the late E. A. Bremner, of London, Eng., for $19,416.96 for professional services rendered to Mr. Bremner, and after his death on June 23, 1908, to his estate. Of this amount $16,000 was commission claimed for procuring on Oct. 23, 1903, a general subsidy of $160,000 for the Temagami Railway Co. Mr. Justice McMahon dismissed the action as to all items of claim subsequent to Bremner's death, including the $16,000 item, saying: "As Allan H. Royce's retainer terminated with Mr. Bremner's death, and as he was, I find not retained by the National Trust Company as solicitor after Bremner's death, he cannot recover in respect of any items in the bill subsequent to June 23, 1903." Reference was made to the taxing officer to tax plaintiffs' bill of costs for services rendered prior to Bremner's death.

Government Railways Managing Board.

Following is a copy of a report of a Committee of the Privy Council, approved by the Governor General:—On a memorandum, dated April 16, 1909, from the Minister of Railways and Canals, representing that he has, for some time past, had under most careful consideration the various complicated questions involved in the operation of the Government Railways, both from the financial and administrative points of view, and, as the result, has concluded that a change in the present method of management is desirable. The Minister directs attention to the following facts; The Intercolonial Ry. was built as a Government road, in pursuance of the requirements of the British North America Act of 1867, sec. 145; and without amendment of this Act, must retain that characteristic. It was opened for traffic on July 1, 1876, between Halifax and Riviere du Loup; its length, including the Pictou and Windsor branches, and the line from St. John to Point du Chene (Shediac) being 745 miles. By various extensions, purchases, and leasing arrangements its length, in the year 1907-8, reached a total of 1,448.62 miles—the cost of operation being $9,157,435.53. Its traffic comprised 4,134,046 tons of freight and 2,789,371 passengers. The Prince Edward Island Ry. was taken over by the Government on December 29, 1873, under the express provisions of the Imperial Order-in-Council of June 26, 1873, admitting P.E.I. into the Dominion. At the time of the original opening of the I.C.R. for traffic, and the taking over of the P.E.I.R., an organization was adopted, which, with some modifications, has remained in force up to the present day, notwithstanding the changed conditions, and the expansion of the road and its operations. The official placed in immediate charge is a General Manager, who is also in charge of the P.E.I.R., under the title of "General Manager, Government Railways." By Section 49 of the Government Railways Act, R.S.C., 1906, chapter 36, it is provided that the Governor-in-Council may, from time to time, make such regulations as he deems necessary for the management, proper use and protection of all or any of the Government railways, including station houses, yards and other property in connection therewith; for the ascertaining and collection of tolls, dues and revenues thereon; to be observed by the conductors, engine drivers, and other officers and servants of the Minister, and by all companies and persons using such railways; relating to the construction of the carriages and other vehicles to be used in the trains on such railways.

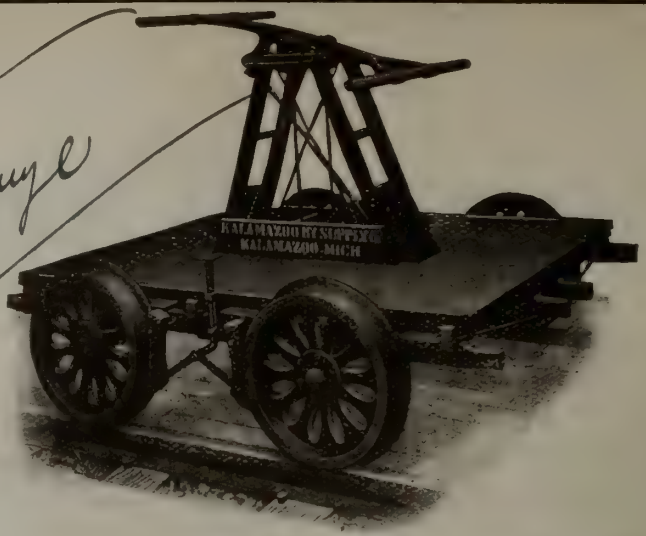
The Minister considers it expedient and recommends that, in pursuance of the above statutory provision, the following be fixed as the organization to be in force on and after April 1, 1909, for the Government Railways—the I.C.R. and the P.E.I.R.—as at present constituted, and as the same may hereafter be extended or modified; such organization to be in supercession of the existing organization;—The position of General Manager of Government Railways be abolished. A Board to be constituted under the name "The Government Railways Managing Board." The said Board to consist of four persons, namely: M. J. Butler, Deputy Minister and Chief Engineer of the Department of Railways and Canals, who shall be Chairman of the Board; D. Pottinger, I.S.O.; E. Tiffin, the present Traffic Manager, he retaining that position; F. P. Brady, of Montreal. The said Board to supervise and direct all departments of the railways owned or operated by the Government of Canada. The duties and powers of the said Board to be as hereunder defined, namely: They shall have the powers usually vested in the executives of railway corporations. They shall prepare, subject to the Government Railways Act, and the Provident Fund Act, and, with the approval thereto of the Governor in Council first obtained, carry out rules and regulations as follows: For the organization of the staff and officials of the railways; for the conditions of employment in the railway service; for the purchasing of supplies and the sale of materials; for the ascertaining and collection of the railway tolls, dues and revenues; those to be observed by the conductors, engine drivers and other officers and servants, and by all companies and persons using such railways; those relating to the rolling stock to be used in the trains in such railways. They shall meet for the transaction of business at least once a month, and shall keep regular minutes of each meeting. They shall report to the Minister of Railways and Canals monthly, and shall also make a special and comprehensive report at the end of each fiscal year, on the expenditures and receipts of the Government roads; and on all occurrences and transactions of importance, and shall, further, furnish such reports as may be, from time to time, required of them by the Department of Railways and Canals. The Minister further recommends that the salaries payable to the several members of the said Board above-named be fixed as follows: To Mr. Butler, no salary as a member of the Board; and to Messrs. Pottinger, Tiffin and Brady, $6,000 a year each. The Minister also recommends that, with the exception of Mr. Butler, whose Departmental duties render such provisions inapplicable, the appointees be required to devote the whole of their time to the official duties attached to their positions. The Committee submit the same for approval.

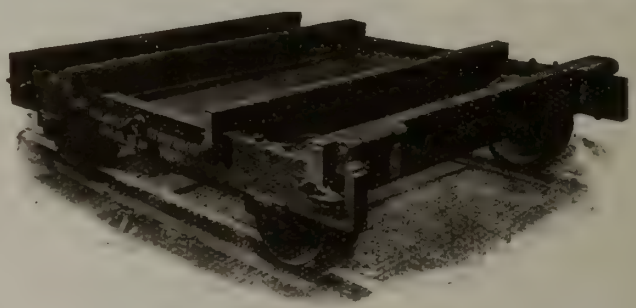
Industrial Disputes Investigation Act.—For the two years ended Mar. 31, which this act has been in force, there were 22 investigations into disputes involving transportation interests. Of these, 16 concerned steam railways, 3 electric railways, and 3 mariners and longshoremen. Two applications for the appointment of boards were made by the employers. In only one case was a strike not averted, viz., that of the C.P.R. mechanical employes, who struck work Aug. 5, 1908, and remained out until Oct. 5, when they returned to work on the terms originally recommended by the board appointed on their own application. At the close of the year mentioned, there still remained one board investigating a transportation dispute to report, it being concerned with Kingston and Pembroke Ry. telegraphers.

Railway Lands Patented.—Letters patent were issued to railway companies, during Jan., covering Dominion lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

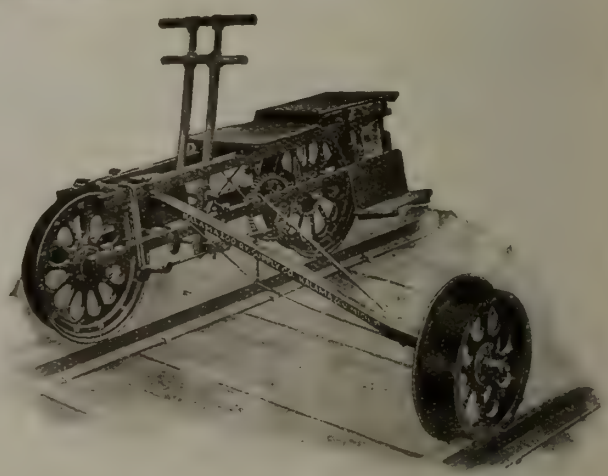
	Acres.
C. N. R.	269.80
C. P. R. grants	10.54
G. T. P. R. grants	503.96
Manitoba & Southeastern Ry.	157.30
Manitoba Southwestern Col. Ry.	160.00
Qu'Appelle, Long Lake & Saskatchewan Rd. and Steamboat Co.	320.00
	1,421.60

Hand Cars
Velocipedes
Push Cars
Rail Cars
Dump Cars
Wheels & Axles





WRITE FOR PRICES AND CATALOGUES



MUSSENS LIMITED

Head Office.
MONTREAL

Branches
Toronto, 73 Victoria St.
Cobalt, Hunter Block
Winnipeg, 259-261 Stanley St.
Vancouver, 614 Hastings St., W.

G. T. R. SEMI-ANNUAL MEETING.

The semi-annual meeting was held in London, Eng., Apr. 21, when the report for the half-year ended Dec. 31, 1908, was presented. The following summary shows a comparison of the revenue for that period with that for the corresponding one of 1907;

1907.		1908.		
£3,763,246	Gross Receipts	£3,382,841	10	0
	Deduct—			
2,710,934	Working Expenses, being at rate of 71.61%, as compared with 72.03% in 1907	2,422,413	11	0
£1,052,312	Net traffic receipts.	£ 960,427	19	0
	Add—			
16,013	Received from International Bridge Company	16,012	16	7
900	Interest on Toledo, Saginaw, and Muskegon bonds	....		
6,507	Interest on Central Vermont Ry. bonds	6,506	14	3
66,491	Interest on securities of controlled lines and on St. Clair Tunnel bonds acquired by issue of G. T. 4% debenture stock	68,739	7	3
52,171	Balance of general interest account ..	42,625	17	5
£1,194,394	Net revenue receipts	£1,094,312	14	6

Following are the net revenue charges for the half-year, compared with the corresponding period, 1907:

1907.		1908.		
£77,603	Rents (leased lines)	£77,603	0	9
492,279	Interest on debenture stocks and bonds	498,624	6	8
42,757	Interest on debenture stock and bonds of lines consolidated with the G. T. R.	36,394	5	9
60,365	Canada Atlantic Ry. deficit	43,378	4	11
£673,004		£655,999	18	1
5,785	*Deduct* — Detroit, Grand Haven, and Milwaukee surplus	3,139	6	9
£667,219		£652,860	11	4
527.175	Leaving a surplus of	441,452	3	2
£1,194,394		£1,094,312	14	6

Following is a comparison of receipts for the half-years ended Dec. 31, 1908 and 1907:

TRAFFIC STATISTICS.

Description of receipts.	1908.	1907.	Increase.	Decrease.
	£	£	£	£
Passengers	1,072,408	1,162,593	.....	90,185
Mail and express	169,302	174,604	.....	5,302
Freight and Live Stock.	2,046,367	2,347,182	15,897	300,815
Miscellaneous	94,764	78,867	.....	.....
	£3,382,844	£3,763,246	.....	£380,405

Description of receipts.	1908.	1907.	Decrease.
Passengers carried	6,017,560	6,291,396	273,836
Average fare per passenger	42.77d.	44.35d.	1.58d.
Tons of freight and live stock	8,086,716	8,881,347	709,631
Average rate per ton.	60.73d.	63.43d.	2.70d.
Tons carried one mile.	1,435,357,181	1,710,193,134	274,835,953
Earnings per train mile.	82.90d.	85.81d.	2.97d.

Adding the balance of £1,625 19s. 2d. at credit of net revenue account on June 30, 1908, to the above surplus of £441,-452 3s. 2d., the total amount available for dividend is £443,078 2s. 4d., from which the directors recommend the payment of the following dividends:

Half-year on the 4% guaranteed stock	£196,800	4	3
5% on the first preference stock	170,841	10	0
2½% on the second preference stock	63,210	0	4
	£430,851	14	7

leaving a balance of £12,226 7s. 9d. to be carried forward to next half-year's account.

The average rate per ton per mile on the entire freight business was 0.69c., compared with 0.67c. in the corresponding half-year.

The working expenses, excluding taxes, for the half-year, were £2,350,067 or 69.47% of gross receipts, as compared with £2,646,670, or 70.32% in the corresponding half-year.

The following is a comparison of revenue expenditure, including taxes, for the half-years ended Dec. 31, 1908 and 1907, and

The train mileage of the half-year compares with that for the half-year ended Dec. 31, 1907, as follows:

Description of expenditure.	1908.	1907.	Increase.	Decrease.
	£	£	£	£
Maintenance of way and structures	568,395	583,457	.....	15,062
Maintenance of equipment.....	414,450	538,908	.....	124,518
Conducting transportation.....	1,286,819	1,445,413	.....	158,594
General expenses.....	80,404	78,833	1,571	.....
Taxes	72,346	64,263	8,083	.....
Total	£2,422,414	£2,710,934	.....	£288,520
Percentage of Gross Receipts..	71.61	72.03	.....	0.42
Expenditure per train mile....	59.37d.	61.82d.	.....	2.45d.

The train mileage of the half-year compares with that for the half-year ended Dec. 31, 1907, as follows:

Description of Mileage.	1908.	1907	Increase.	Decrease.
Passenger.....	4,440,222	4,622,481	....	182,259
Freight	5,102,507	5,654,836	....	552,329
Mixed Trains.....	250,497	248,005	2,492	....
Total.....	9,793,226	10,525,322	....	732,096

The actual expenditure on capital account was:

	£	s.	d.
New works	44,783	1	6
Double track	58,576	6	5
Land purchased	4,325	14	1
G. T. Western fractional certificates purchased	88	10	0
	£107,773	12	0

This amount of £107,773 12s. was reduced by £1,987 0s. 5d., representing premium on 4% debenture stock sold and exchanged, thus making the total charges to capital account for the half-year £105,786 11s. 7d.

Two passenger, 30 freight, and 5 switching engines were purchased, and 15 engines scrapped; and 10 first-class cars, 3 mail cars, 1 derrick, and 2 caboose cars were built in the company's shops during the half-year, on revenue account. The amount at the debit of engine and car renewal suspense account at Dec. 31, 1908, was £544,149 10s. 9d., of which £246,116 16s. 8d. was in respect of engines, and £298,032 14s. 1d. of cars. The amount which has been expended on account of these special renewals in advance is £554,794 in respect of engines, and £826,963 in respect of cars, or a total of £1,381,757, which amount was to be charged to revenue over a period of 5 years commencing 1906. During 1906 and 1907 there was credited to this account, by charges to revenue and by credits for engines and cars sold £752,750, and during 1908 £84,858, leaving £544,149 10s. 9d. still to be charged.

The gross receipts of the Canada Atlantic Ry. for the half-year were £207,-662, against £244,147 in 1907, and the working expenses were £187,939, against £242,409, leaving a net revenue balance of £19,723, against £1,738, compared with the corresponding period of 1907. The net revenue charges were £63,101, against £62,103, so that there was a net revenue deficiency of £43,378, compared with £60,365 in 1907. The number of passengers carried was 275,871, against 280,844, a decrease of 1.77%; and passenger receipts, including mails and express, were £49,032, against £56,973, a decrease of 13.93%. The quantity of freight moved was 1,192,452 tons, against 1,137,372 in 1907, an increase of 4.84%; and the receipts from freight traffic were £153,141, against £181,193, a decrease of 15.48%.

The gross receipts of the G.T. Western Ry. for the half-year were £587,541, against £683,757 in 1907, and the working expenses were £464,031, against £578,802, leaving a net profit of £123,510, against £104,955, compared with the corresponding period of 1907. The net revenue charges were £99,187, against £88,-970, so that there was, at Dec. 31, a net revenue credit of £24,323, which is carried forward, as compared with £15,985 for the corresponding half-year of 1907. The number of passengers carried was 919,597, against 953,235, a decrease of 3.53%; and passenger receipts, including mails and express, were £217,762, against £230,649, a decrease of 5.59%. The quantity of freight moved was 1,555,695 tons, against 1,842,873, a decrease of 15.58%, and the receipts from this traffic were £368,162, against £452,606, a decrease of 18.66%.

The gross receipts of the Detroit, Grand Haven and Milwaukee Ry. were £186,803, against £206,671 in 1907; the working expenses were £145,831, against £163,156, thus leaving a balance of £40,-972, against £43,515, a decrease in net revenue of £2,543, compared with the corresponding half-year of 1907. The net revenue charges were £37,833, against £37,730 in 1907, so that there was a net revenue surplus of £3,139, as compared with £5,785 for the corresponding period of 1907. The number of passengers carried was 446,936, against 440,-979, an increase of 1.35%, and the passenger receipts, including mails and express, were £70,300, against £73,778, a decrease of 4.71%. The quantity of freight moved was 925,289 tons, against 844,891 in 1907, an increase of 9.51%, and receipts from freight traffic were £109,616, against £127,356 in 1907, a decrease of 13.93%.

GRAND TRUNK PACIFIC RAILWAY.

The erection of the important bridges at Battle River and Clover Bar, near Edmonton, having been completed, the laying of the remainder of the track between Winnipeg and Edmonton is being proceeded with, and will be finished during the present season. The company has been informed by the Dominion Government that it is expected the line between Winnipeg and Lake Superior Jct. will be completed during the summer, in which case—the Lake Superior branch being already completed—there will be a continuous line from Fort William, on Lake Superior, to Edmonton, of about 1,250 miles, available for the movement of this year's harvest. Owing to the unprecedented increase in the cost of labor and materials which took place in 1906 and 1907, the expenditure on the Prairie section has exceeded the estimates by about $10,000,000, and the

FEDERAL FURNACE CO.'S TWO BRIDGE TRAMWAY.

THE BROWN HOISTING MACHINERY CO.

Engineers, designers and builders of hoisting machinery of all descriptions. Write us stating your requirements and ask for catalogues.

Main Office and Works:

CLEVELAND, OHIO

Branch Offices:

PITTSBURG AND NEW YORK

Canadian Government recognizing the causes of such increase as having been beyond the power of the company to control, and upon the report of their engineer, have agreed to ask Parliament to authorize them to advance this sum to the G.T.P.R. Co. at 4% per annum for 10 years, on the security of G.T.P.R. bonds guaranteed by the G.T.R. Co.

REPORTS OF OFFICIALS.

The Chief Engineer, H. G. Kelley, states that the length of the G.T. Ry. maintained and operated during 1908 was 3,536 miles, one mile more than in 1907. The new second track between St. Lambert and Ste. Rosalie, Que., has been opened for traffic, with the exception of the Richelieu River bridge, at Belœil and the Yamaska River bridge, east of St. Hyacinthe station, at which points new double-track superstructures are being erected.

The Richelieu River bridge will be opened, for both tracks, in Feb., and the Yamaska River bridge in April, 1909.

When these structures are finally completed, we shall then have continuous double-track from Montreal, east to Ste. Rosalie Jct., 38.01 miles.

The expenditure during 1908, for maintenance of way and structures, was $3,966,190.22, against $4,239,490.35 in 1907, a decrease of 6.45%.

The outlay on track and permanent way, including ballast and ballasting, clearing snow, renewals of rails and ties, also including their proportion of the cost of superintendence, was $3,047,731.90 in 1907, or at the rate of $862.16 a mile. In 1908, the amount was $2,871,503.78, or at the rate of $812.08 a mile, a decrease of 5.8%.

The cost of repairs and renewals of buildings and fixtures was $604,066.54 in 1908, compared with $760,297.32 in 1907, a decrease of slightly over 20%.

New stations have been built at Deering, Bulstrode, Lacolle Jct., St. Louis, Vars, Algonquin Park, Coboconk, Novar, Weston, Harrisburg, Hyde Park, Caledonia, Pinkerton, Walkerton, Londesborough, Lowbanks, and Canfield Jct., 17 in all.

A new station is in course of erection at South Lyons, and will be completed about April 15.

The materials used for repairs and renewals of main track and sidings were:

New steel rails laid in track	37,957 tons.
Re-rolled steel rails laid in track	15.40 tons.
Partially-worn steel rails laid in branch lines and sidings	7,729.8 tons.
New ties placed in track	1,643,539
Ballast (cubic yards)	542,996

The Superintendent of Motive Power, W. D. Robb, reports expenditure, mileage, etc., as follows:

Half-year ended.	Total expenditure.	Train mileage.	Rate of expenses per mile. Train.	Engine.	Car.
			Cents.	Cents.	Cents.
Dec., 1908	$4,361,936	9,793,226	44.54	38.84	2.76
" 1907	4,817,989	10,521,322	44.78	34.84	2.93

A decrease in expenditure of $456,053 or 9.47% and a decrease in train miles of 732,096 or 6.96%.

	Passenger trains.	Freight trains.	Mixed trains.
The average number of cars moved per train was	4.8	26.4	6.9
And for the corresponding period	4.8	24.8	6.9

During the half-year 15 engines were scrapped, leaving at the end of the half-year 53 old light capacity engines set aside to be scrapped. Two 10-wheel passenger engines, 20 compound consolidation freight engines, 10 mogul freight engines and 5 switch engines, were purchased, delivered and put into service during the half year. The actual stock at Dec. 31, 1908, was 875 engines, against the official figure of 803 engines, being a surplus of 72 engines.

The comparative cost of repairs per train, engine and car mile was:

Cost per mile.	Repairs and renewals of locomotives. 1908.	1907.	All repairing charges, including shop, machinery, tools, and marine equipment, etc. 1908.	1907.
	Cents.	Cents.	Cents.	Cents.
Train	10.05	10.24	13.37	12.66
Engine	7.85	7.79	10.46	9.64
Car	0.62	0.66	0.82	0.81

J. Colahan, Superintendent, Car Department, reports expenditure mileage, etc., as follows:

Half-year ended	Total cost of repairs and renewals.	Total miles run by cars. Passenger.	Freight.	Total	Cost per mile. Car.	Train.
					Cents.	Cents.
Dec., 1908.	$707,211	22,057,210	136,050,798	158,110,008	0.447	7.22
Dec., 1907.	1,200,089	22,871,821	141,668,021	164,539,842	0.784	12.26

A decrease in expenditure of $582,858, or 45.18%, with a decrease in car miles of 6,429,834, or 3.91%.

The revenue account for the half-year is as follows;

RECEIPTS.

	£	s.	d.	£	s.	d.
Passengers	.....			1,080,580	4	1
Less—International bridge tolls	1,746	15	2			
St. Clair tunnel tolls	6,424	18	7			
				8,171	13	9
Mails and express	.....			2,127,105	14	2
Freight and live stock	.....					
Less—Cartage, etc.	47,518	6	11			
International bridge tolls	11,623	0	3			
St. Clair tunnel tolls	21,797	15	6			
				80,939	2	8
Miscellaneous receipts, rents, tolls, etc.	.....			.....		
				1,072,408	10	4
				169,301	17	1
				2,046,366	11	6
				94,764	11	1
				3,382,841	10	0

EXPENDITURE.

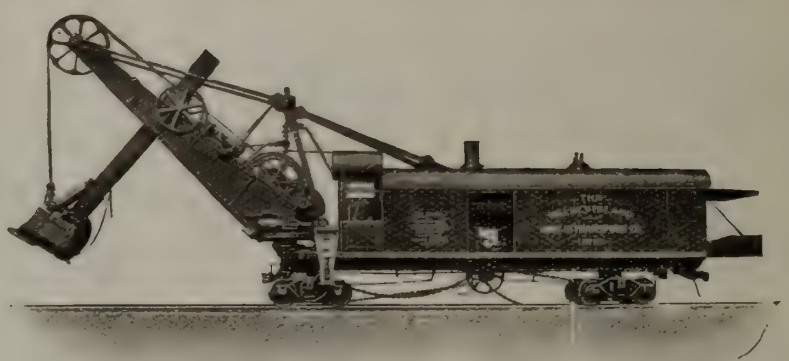
		£	s.	d.
Maintenance of way and structures	16.80o/o	568,395	5	0
Maintenance of equipment	12.25o/o	414,449	10	7
Conducting transportation	38.04o/o	1,286,819	5	2
General expenses	2.38o/o	80,403	9	3
Total working expenses	69.47o/o	2,350,067	10	0
Taxes	2.14o/o	72.346	1	0
	71.61o/o	2,422,413	11	0
Balance to net revenue account		960,427	19	0
		£3,382,841	10	0

In presenting the report, the President, Sir C. Rivers Wilson, said:—The year 1908 was a melancholy period for the railways of Canada and North America—indeed, it was the worst year experienced since 1893—but, fortunately, the crisis, though very severe, was less prolonged than former similar visitations, and although the reaction is not, perhaps, quite so rapid as we could wish, yet there are abundant evidences that business is steadily improving, and there is every reason why we may now look forward to a return of the prosperity with which we were favored prior to 1908. The accounts for the Dec. half of last year, which we shall consider today, sufficiently indicate the strain and stress to which the company was subjected in common with all other railway companies during the year, and an examination of them will, I think, enable you to appreciate the efforts which were made by the management to counteract the effects of the falling away of revenue. The gross receipts decreased £380,405. The passenger traffic decreased £90,185. mails and express traffic £5,302, and freight and live stock traffic £300,815, but there was an increase of £15,897 in miscellaneous receipts. Passengers carried numbered 6,017,560, compared with 6,291,396 in 1907, and the average fare received per passenger fell from 44.35d. in 1907 to 42.77d. in the past half-year. The number of tons of freight and live stock moved was 8,086,716, compared with 8,881,347, and the average rate per ton was 60.73d., compared with 63.43d., which decrease was caused by the shorter average distance each ton of freight was carried, and not by any falling off in the rate per ton per mile, which increased from 0.67c. in 1907 to 0.69c. in 1908. The earnings per train mile showed a decrease of only 2.91d., which must be considered satisfactory, as it is practically impossible to reduce train mileage to the same extent as the falling off in receipts, particularly in the case of passenger traffic, where trains must be run, although there may be fewer passengers to be carried. The causes of the decrease in gross receipts must be familiar to you, and were fully explained by me at the meetings last year, and although the company has suffered severely, it has not suffered any more than our competitors, as I find that the gross receipts on the 14 trunk lines, the lines from Chicago to the seaboard, including the G.T.R., showed a decrease of 11.23%, whereas, the decrease on the G.T.R. proper was only 10.11%, or taking the whole of the system, only 10.88%. Of course, if the G. T. R. receipts were eliminated from the total the percentage decrease of the remaining lines would be somewhat higher. The decrease of £380,405 in gross receipts was considerably minimised by the decrease of £288,520 in working expenses, which amounted to £2,422,414, compared with £2,710,934 in the corresponding period in 1907, the decrease being 10.64%, or a greater percentage proportion than the reduction in the gross receipts, which was 10.11%. The percentage proportion to the gross receipts was 71.61 in 1908, compared with 72.03 in 1907. The amount charged in respect of maintenance of way and structures was £568,395, compared with £583,457 in 1907. The reduction would have been larger but for the necessity of laying a larger number of ties than usual, and for the improvement of level crossings at various points,

LOCOMOTIVES

Pacific Type Passenger Locomotive built for the Intercolonial Railway. Total weight of engine, 194,500 pounds. Weight on driving wheels, 132,000 pounds; diameter of driving wheels, 72 inches. Boiler pressure, 200 pounds. Maximum tractive power, 29,200 pounds.

STEAM SHOVELS



A high-class and powerful machine, absolutely reliable under all conditions of service.

MONTREAL LOCOMOTIVE WORKS LIMITED

BANK OF OTTAWA BUILDING, MONTREAL, CANADA

chiefly under order of the Railway Commission. Anyhow, while effecting substantial economies, it cannot be said that the management has been tempted to starve the road during the bad time. The amount expended on maintenance of equipment was £414,460, compared with £538,968. Of this decrease, £4,753 was in the motive power department and £119,765 in the car department. This decrease in the maintenance of equipment has been caused not so much by less work being done as by the suspension, to a considerable extent, of the charges to revenue in respect of the engine and car renewal suspense account. I wish specially to refer to that account, with regard to which, judging from the comments which have been made, there appears to be some misapprehension. At the meetings in 1906, I informed the proprietors that as the renewal of the bridges, which had been in progress for 8 years, had been completed, it was necessary to proceed more rapidly than we had been doing with the renewals of the rolling stock, not only to make up a certain amount of leeway which had been allowed to occur pending the completion of bridges, but also to proceed in advance with renewals of both engines and cars in order to obtain the increased haulage power of engines and carrying capacity of the cars, which was absolutely necessary to enable us to cope with the traffic, which at that time was increasing by leaps and bounds. In order to carry out these renewals without unduly pressing the revenue of any particular year, it was decided to charge these renewals to a suspense account, to be liquidated over a period of 5 years. I should observe that later it was decided to include a certain amount of passenger equipment in the arrangement. Of course, the whole of the equipment could not be delivered at once, and it was only during the past half-year that the last deliveries took place, which accounts for the increase in the amount at the debit of the account compared with June 30. Altogether, there has been expended on this account, £1,381,757, which would mean an average charge for 5 years of about £276,000 a year. As a result of this expenditure, we have 240 engines under 3 years old, and, therefore, practically new, with an increased haulage capacity of 770,000 tons, or 35% more than the haulage capacity of our locomotives on Jan. 1, 1906; we have 101 new passenger cars, with an increased seating capacity for 2,000 passengers, or 37% more than the old cars; we have also 4,000 new freight cars of various descriptions, with an increased carrying capacity of 45,000 tons, or over 50% more than the cars they have replaced. During the prosperous years of 1906 and 1907, when we were paying 3% on the third preference stock, we felt justified in charging to revenue a somewhat larger proportion in each year than one-fifth of the total expenditure, and the amount charged in those years was £752,750, and it was extremely fortunate that we were able to do this, as we were thereby able, without lengthening the period, to suspend, to a considerable extent, the charge against revenue during the past year, the result being that during the 3 years three-fifths of the total expenditure had been charged, and we have since Jan. 1 resumed the estimated yearly charge, and the monthly statements as published have included their proper proportion. The real reason of this suspense account is that we have expended in a limited period an amount which would, under ordinary circumstances, have been spread over a longer period, and, in order that the normal charge should not be materially increased, it was necessary to carry the expenditure made in advance to a suspense account. These equipment expenditures are, no doubt, a heavy burden, but are imposed by the absolute necessity of meeting competition with rival companies, frequently more powerful and more wealthy than ourselves. If we fail to do this we may make up our minds to go out of business. Reverting to the expenditure for the past half-year, the next item is the cost of conducting transportation, which amounts to more than one-half of our total expenditure, and here we find what, I think, you will consider a very satisfactory state of affairs. The total expenditure under this head was £1,286,819, compared with £1,[illegible],413, a decrease of 11%, being a larger proportionate decrease than the decrease in gross receipts, which was 10.11%, the proportion of expenses to receipts being reduced from 38.41% to 38.04%. There was a decrease in practically every item in the account, the principal decrease being in fuel for locomotives, which was over £56,000 less than the corresponding period, or about 12%, for which about 2% was due to lower price, but the actual consumption of fuel showed a decrease of 83,000 tons, or nearly 10%, although the train mileage showed a reduction of only about 7%. There was also a very welcome reduction of about £20,000 in the balance of car mileage. There was an increase of £1,571 in general charges, which is considerably more than accounted for by the contribution to the pension fund, and there was an increase of £8,083 in taxes, which, unfortunately, are constantly increasing in Canada, as they are in this country. The result of the economies we have been able to effect in working expenses had been that the decrease of £380,405 in gross receipts has been reduced to a decrease of only £91,885 in net traffic receipts, which amounted to £960,428, compared with £1,052,313 in 1907. The net revenue credits amounted to £133,885, making the amount available for payment of interest and dividends £1,094,313, of which rentals and interest on the debenture stock and bonds absorbed £612,622, leaving a surplus on working of the G.T.R. proper of £481,691, from which there has to be deducted the deficiency on the Canada Atlantic Ry. of £43,378—£17,000 less than last year—less the surplus of £3,139 on the Detroit Grand Haven and Milwaukee Ry., the result being that the amount available for payment of dividends out of the working of the half-year was £441,452, or only £85,723 less than in the corresponding period, notwithstanding the heavy decrease of £380,405 in the gross receipts. The working of the controlled lines for the half-year has been satisfactory, resulting in an increased net revenue of the three lines—the C.A.R., G.T.W., and D.G.H. & M.—of no less than £34,000, notwithstanding a decrease in their gross receipts of over £150,000. The receipts of 164 railways on the North American continent last year declined $300,000,000, and the 14 trunk lines, our immediate competitors, showed a decrease of $97,000,000, or 14.41%. I am speaking now of the entire year 1908. The gross receipts of the whole of the G.T.R. showed a decrease of £1,118,000, or 12.12%, but, thanks to the exertions of Mr. Hays and his staff, and also to the improvements introduced during the recent good years, we were able to reduce the working expenses by £885,000, or 12.57%, so that the net loss was reduced to only £233,000. Before leaving the accounts, I must remark upon one item in the general balance account, which shows a large increase. I allude to the sundry outstanding accounts due to the company. The increase, as compared with 1907, namely, £1,400,000, is entirely attributable to advances made to the G.T.P.R. Co. for construction, which will be very shortly repaid out of moneys to be received from the Government.

The financial disturbances of last year, while very injurious to railways generally, had the effect, on the other hand, of facilitating and accelerating the work of construction of the G.T.P. line by releasing, and placing at the disposal of the company and the contractors a much larger amount of labor than had been procurable during the two prosperous preceding years. The consequence has been that rapid progress has been made towards the completion of the work in which we have been engaged during the last 4 years; but as some misapprehensions appear to be still expressed as to the policy of the G.T.R. with regard to the G.T.P. Co., let me take this opportunity of saying that all the reasons which induced us—I may say compelled us—a few years ago to enter upon this great undertaking still hold good, and have, in my judgment, indeed, become intensified by the experience which we have since acquired. The question which we then had to consider was whether the G.T.R. should remain localised in the old provinces of Quebec and Ontario, with its extension to Portland in the east, and Chicago in the west, or whether it should follow and participate in the development of the fertile territory of the Northwest—whether it should be foremost in securing a share in the advantages and opportunities offered by the new country, or should be content to leave them to competitors who, by establishing connections with roads of their own in the eastern provinces, would place the G.T.R. in a postion of inferiority and disadvantage as regards the interchange of traffic between the eastern and western portions of the Dominion. To that question there could be but one answer. My colleagues and I have never concealed from ourselves that we had before us a task of great magnitude—of great difficulty—involving much labor and much anxiety, but we relied—and still rely—upon the goodwill, the sympathy, and the patience of shareholders, who cordially signified their entire approval of the scheme when it was first presented and explained to them, and for whose ultimate advantage we are laboring to bring it to a successful issue. You will remember that the G.T.R. did not stand alone in arriving at this determination. We were encouraged and supported by the Canadian Government—in fact, the scheme as we originally contemplated it was considerably enlarged by the Government. The Government also took upon themselves the responsibility of constructing more than half of the great transcontinental road, and, under parliamentary sanction, they engaged to guarantee to the G.T.R. nearly three-quarters of the cost of that

GENERAL RAILWAY SIGNAL COMPANY

ROCHESTER, N. Y.

BRANCH OFFICES:

1339 Monadnock Block, Chicago. 708 Night and Day Bank Bldg., New York

Designing Engineers and Manufacturers of all Classes of Railway Signaling Appliances Including the Following:

Manual Interlocking Systems
Electric Interlocking Systems
Pneumatic Interlocking Systems
Electro-Pneumatic Interlocking Systems
Automatic Block Signal Systems for Steam Roads with
Direct or Alternating Current for Track and Signal Circuits
Automatic Block Signal Systems for Electric Roads
Controlled Manual Block Signal Systems for Single and Double Track Roads

---

Style "A" (Vertical Locking) Interlockers
Saxby & Farmer Imp. (Horizontal Locking) Interlockers
Electric Locks for Style A and S. & F. Interlockers
Screw Releases for Style A and S. & F. Interlockers
Time Locks for Style A and S. & F. Interlockers
Circuit Controllers for Style A and S. & F. Interlockers

Manual Signals—Interlocking, Train Order and Station Block
Electric Signals—A. C. or D. C.—High or Low Voltage
Upper or Lower Quadrant—Mechanism at Base or Top of Pole
Automatic or Semi-automatic
Electric Crossing Gates, A. C. or D. C.
Manual Crossing Gates—Wire Connected.

Relays
Relay Housings
Battery Chutes
Switch Indicators
Bond Wires

Tower Indicators
Indicating Relays
Circuit Controllers
Electric Screw Releases
Trunking

Anderson-Bevan Derails
Switch Rod Insulations
Switch Boxes
Channel Pins
Stakes

CANADIAN REPRESENTATIVE:

C. L. HACKET

605 Eastern Townships Bank

MONTREAL, QUEBEC

portion of the road which was to be constructed by the G.T.P.R., and that policy received the approval of the Canadian people. Careful estimates of the cost of the work were prepared by the Canadian Government and by the company for their respective portions of the road, framed in accordance with the conditions prevailing at that time. But the unforeseen happened, and, as so frequently occurs in matters of this character and magnitude, the original estimates were exceeded. I must say, in passing, that no blame can be attributed to the promoters or to their technical advisers, for the circumstances were beyond their control; 1906 and 1907 were years of extraordinary prosperity, bringing great profits to the railway companies, of which we had our share, but the result was that there was an enormous rise in the price of materials and labor. Laborers' wages rose 30% above the normal rates; the price of railway ties increased 100% above normal conditions; the price of lumber and material advanced 25%, and of steel rails 35%. Some of the smaller contractors had, indeed, to throw up their contracts, and the work was taken over and finished by the company itself. I could quote you various instances of U.S. railway undertakings where the cost of construction advanced in a similar ratio to our own, and for the same reason. The Dominion Government fully recognised the additional heavy burden thus placed upon the G.T.P. Co., and they agreed to ask Parliament to empower them to act as bankers to the company by advancing to them $10,000,000 at 4% on the security of bonds of the G.T.P.R., and supported by the guarantee of the G.T.R. A resolution for that purpose has just been passed by the Dominion House of Commons; a bill founded upon it is now under discussion, and we hope to hear very shortly that the bill has been passed. The most important—the most profitable—portion of our new line is on the eve of completion, and that I expect before we next meet you for our general meeting in Oct. that I shall attend the official inauguration of the 1,250 miles extending from Edmonton at the western extremity of the prairie to Fort William at the head of Lake Superior, and over which will be carried a large proportion of this year's harvest. There has been considerable delay in the completion of the link between Winnipeg and Lake Superior Jct., owing to the unforeseen difficulties encountered by the Government contractors on account of the rough country through which that section of the line has to pass; but I have been assured by the Premier that he has used every exertion to ensure the completion of the road by the time I have indicated, and that he has received satisfactory assurances from the chairman Transcontinental Railway Commission that his wishes will be realized. Some of you may remember that Mr. Hays attended one of our meetings at the inception of the G.T.P. scheme, and described with a good deal of enthusiasm the character of the proposed road, and I am glad to be able to corroborate the prediction he then made, and tell you that the line will be undeniably, the most perfect which has ever been built, in its inception, on the American continent. Some of our critics have said that we should have acted more wisely and judiciously had we built the road more cheaply and less perfectly, following the example of some of the great pioneer roads, and paying for subsequent improvements out of future earnings; but by acting as we have done we shall not discount profits, and the operation and maintenance of the road will, on account of its excellence, be conducted from its opening on lines of the greatest economy. It is only right, however, to add that we had really no option in the matter. This high standard of perfection, with its attendant high rate of expenditure, was imposed upon us as a condition by the Canadian Government. When I said just now that it was the most profitable portion of the road that we are about to put into operation, that remark must certainly hold good for some time to come. Owing to the facilities of communication established between the east and the west, and the opportunities for supplying the requirements of the rapidly-growing population, we may expect an early return for the labor and outlay incurred, but I would like to ask you to cast your thoughts forward to the time, not far distant now, when the road will be completed through the mountain section, and when the produce of the prairie will be carried over it to our terminus at Prince Rupert, which is 500 miles nearer than any other port on the Pacific coast to China and Japan, countries which I believe will, in a short time, enter into competition upon a vast scale with other countries for the absorption of grain. I venture to predict that the full measure of the advantage to our company will then be realised, and that the justification of our policy will be complete.

I shall have to ask you to vote upon a resolution approving an act which has been passed by the Dominion Government for enlarging the borrowing powers and increasing the capital of the G.T.R. Co. This is one of those applications which are made to you at periodical intervals, not with a view to any immediate or specified expenditure, but in order that we shall have a reserve in hand in order to meet the capital expenditure of the company. Since the year 1895, when we took office, the G.T.R. system has been practically rebuilt and re-equipped, and the revenue has been doubled, but at the completion of these 14 years there has been practically no increase in the fixed charges of the company. To be precise, I believe the fixed charges are about £50 more than they were at that time. In 1895 we were borrowing money to pay our fixed charges. Now, last year, in addition to the £1,377,000 of net revenue charges, we distributed £616,000 in dividends, and you will observe that that was an extremely bad year. In 1895 our 4% debenture stock was quoted at 75—it is now above par, and has been as high as 110. The amounts to which I have referred, and which are specified in the act, are 2½ millions of 4% guaranteed stock, and an interest charge of £100,000 a year, equivalent to 2½ millions of 4% debenture stock.

The President then moved the adoption of the report, and that dividends of 2% on the 4% guaranteed stock, 5% on the first preference stock, and 2½% on the second preference stock be paid. In the discussion which followed, it was suggested that of the four retiring directors, two only should be elected, the two vacancies to be filled by Canadian representatives, to which the President replied to the effect that he did not think they could do a more damaging act in the interests of the 55,000 stockholders in England than to take such a course; that there is a very small amount of stock held in Canada, and that if their directorate were transferre there, they would make themselves the laughing-stock of the Dominion. The report was subsequently adopted, and the retiring directors, A. W. Smithers, G. von Chauvin, Col. F. Firebrace and Sir Wm. L. Young, were re-elected. The retiring auditors were also re-elected, H. C. Newton acting in England, and W. Ramsay in Canada.

Nova Scotia Railway Report.

The Provincial Engineer of Nova Scotia, R. McColl, in his report for the year ended Sept. 30, 1908, says the year was a quiet one in the Province so far as railway matters were concerned. There was practically no new construction, and the mileage remained as in the previous year, viz.: The Intercolonial Ry., 467 miles, under Dominion Government control; the Dominion Atlantic Ry., 221 miles, under the Board of Railway Commissioners' jurisdiction, and 11 companies with a total of 631 miles, under Provincial jurisdiction. The returns received from these 11 railways show a slight increase for the year, and although since the close of the year there have been some slight decreases on some of the lines, the falling off in traffic shown on lines in various parts of the continent, has not been felt so much in Nova Scotia as in other parts of Canada and the United States. The total increase for the year was $84,524, the largest increases being on the Halifax and Southwestern Ry. and the Inverness Ry. and Coal Co.'s line. There was a considerable decrease on the Cumberland Ry. and Coal Co. and the Maritime Coal, Ry. and Power Co. lines, and slight decreases on some other lines. The variation in the traffic between the different lines, per mile of railway is very great, varying from $10,597 on the Sydney and Louisburg Ry., to $257 on the Cape Breton Ry. This is largely due to the tonnage of coal carried, as none of the lines connected with a mine and carrying any large quantity of coal, show less than $3,000 a mile, while the highest of the other lines—the Halifax and Southwestern Ry.—shows only $1,041 a mile.

The Provincial Engineer contends that too little attention is paid to the earning capacity and that too much stress is laid on its cost. The cost of construction on all railways in the Province varies very little, especially when the lines are constructed to the same standard, and even in the case of the Sydney and Louisburg Ry., where the standard is very high, with heavy rails and low gradients, the difference in cost, as compared with the cost of one of the poorest lines, is probably not over 40%. The cost of all subsidized lines in Nova Scotia probably runs somewhere between $18,000 and $25,000 a mile. It will be seen that the interest on cost of construction at 4% varies from $720 to $1,000 a mile, or a difference of $280 a mile, while the difference in the gross receipts is $10,340 a mile, and in net receipts $2,100 a mile. During the year not a single passenger was injured on any of the railways under Provincial authority, and of employes, the number of killed and injured was 17, as compared with 20 in the previous year.

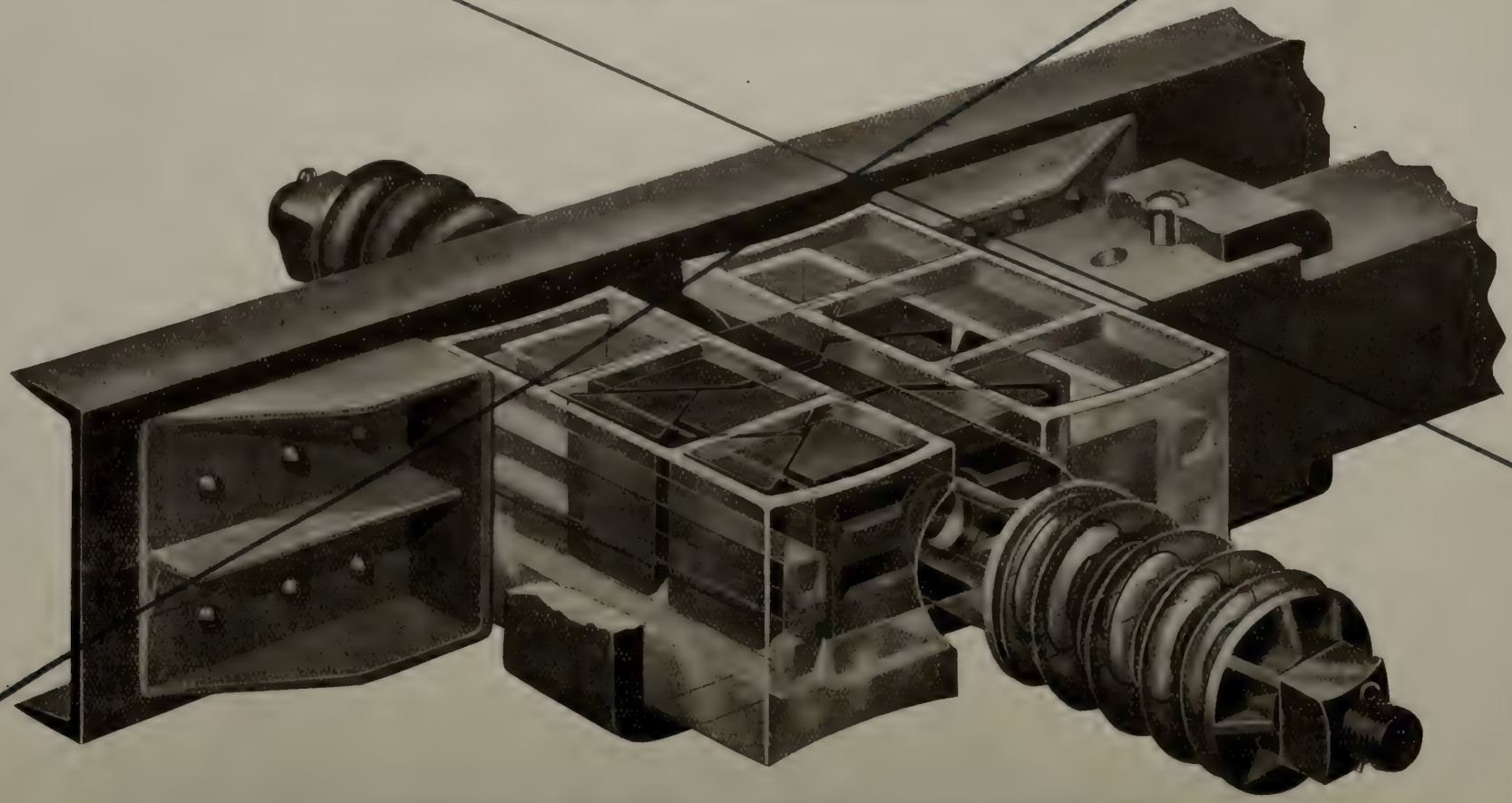
One Cardwell Gear
1,129,500 Foot Pounds

Two Class "G"-M.C.B. Springs 31,500 Foot Pounds

THE ABOVE BLACK LINES REPRESENT THE RELATIVE AMOUNT OF FOOT POUNDS OF WORK DONE BY

ONE CARDWELL FRICTION DRAFT GEAR AND TWO CLASS "G"-M.C B. DRAFT SPRINGS

WRITE US AND WE WILL DEMONSTRATE THIS TO YOU.



CARDWELL FRICTION DRAFT GEAR MADE BY

UNION DRAFT GEAR CO.,

CHICAGO, ILL.

British Columbia and the C. P. R.

J. P. Mabee, Chief Railway Commissioner, has given the following judgment in the application of the B.C. Government for a reduction of C.P.R. freight and passenger rates in the Province: This is an application made by the Attorney-General of British Columbia for an order placing that province upon the same favorable condition in respect to tolls for freight and passenger traffic over the C.P.R. through B.C., as are other portions of the Dominion over the main line of that railway; that the existing freight and passenger tolls over the railway be reduced; and that the railway company be restrained from charging other or higher rates within British Columbia than it charges in other parts of Canada. The formal complaint and answer were filed with the Board after the case was argued, and the hearing took place upon the following resolution of the Legislative Assembly of the Province:

"Whereas by section 11 of the terms of union, the Government of the Dominion undertook to secure the construction of a line of railway to connect the seaboard of British Columbia with the railway system of Canada. And whereas large areas of public lands belonging to the Province of B. C. have been conveyed to the Dominion Government in furtherance of the said railway. And whereas the benefits to be derived from the construction of the said railway was one of the inducements which led to the union of B. C. with the other Provinces of Canada, as well as for the conveyance to the Dominion Government of the public land of the Province as aforesaid. And whereas the railway above referred to is national in its character, and as such has received a very large measure of assistance of public moneys and lands. And whereas it was not contemplated at the time of the union of B. C. with the other provinces of Canada that there should be any discrimination in freight and passenger rates between one locality and other localities, or between one province and any other province. And whereas numerous complaints have from time to time been made by various boards of trade in B. C. to the effect that existing freight rates discriminate against cities in B. C. And whereas the Board of Railway Commissioners have ordered a reduction in passenger rates to 3c. per mile upon all railways between Calgary and the Atlantic. And whereas the passenger rates charged upon railways in B. C. are in excess of 3c. per mile. And whereas such excess is a discrimination detrimental to the best interests of B. C., as it tends to prevent development and the influx of population; Therefore, be it resolved, that an address be presented to the Lieutenant-Governor, praying that he will cause a full representation of the facts to be made to the Government of the Dominion and to the Board of Railway Commissioners, to the end that B. C. may be placed in as favorable condition, in respect to freight and passenger rates, as are other portions of the Dominion."

In addition to the matters covered by the resolution, the formal complaint alleges that the C.P.R., by its contract with the Dominion Government, agreed to construct the railway through B.C. according to the standard of the Union Pacific Ry. when it was first constructed (the gradient of which latter railway did not exceed 2%), and also agreed forever to efficiently maintain and operate the railway, and that it was in consideration of the due performance of this contract that the lands were granted and the subsidies given, that the railway was not constructed according to the said standard, and the gradients through the mountains far exceed 2%, that the passenger rate in B.C. is 4c per mile, that the tolls charged unjustly discriminate against B.C., that the spirit of the C.P.R. Co.'s Act is not being carried out. At the hearing, no evidence was given by the applicants, but the history of the construction of the C.P.R., the various statutes and contracts bearing upon the same, the governmental aid in land and money, and other matters, were fully discussed, and counsel for applicant put his claim for relief upon the ground that these statutes and agreements bound the company to charge no higher tolls in one section of territory than in another, through which the line that was the subject of the contract ran; in other words, that the company's tolls could not vary as the circumstances and conditions changed. I have gone over the argument since the notes of hearing were transcribed, and have read all the enactments cited, and I am clearly of opinion that the contention of the applicant, in the broad way advanced, is not well founded. It matters not, for the purpose of considering this case, what the land and money grants to the company were; the extent or character of the government aid does not affect the contract that was arrived at, nor am I able to see how the position is in any way affected by the fact that the B.C. Government conveyed large areas of Provincial lands to the Dominion Government. The questions are what was the contract between the Dominion Government and the railway company? and, what was the general railway law at the time?

The agreement relating to the construction of the railway will be found as a schedule to 44 Vic., chap. 1, and only a few of its provisions bear upon this matter. Par. 22 provides that the Railway Act of 1879, so far as applicable and not inconsistent with the Company's Act of Incorporation should apply to the C.P.R. Co. The 17th sec. of the Railway Act of 1879 dealt with the tolls chargeable, and the 11th sub-sec. empowered the Dominion Parliament to, from time to time, reduce the tolls upon any railway, but not without the consent of the company, or so as to produce less than 15% per annum on the capital actually expended in its construction; nor unless on an examination by the Minister of Public Works of the amount received and expended by the company, the net income from all sources, for the year then last past, is found to have exceeded 15% upon the capital actually expended. Sec. 20 of the Company's Act of incorporation provides that the limit to the reduction of tolls by Parliament, as provided in sec. 17 above referred to, shall be extended so that such reduction may be to such an extent that such tolls, when reduced, shall not produce less than 10% profit on the capital actually expended in the construction of the railway, instead of 15% profit. So far as appears, the above sections are the only ones in either the general act or the special act, bearing upon the question of tolls; so both upon the company's contract with the Government of Canada and its special act, it was under the General Railway Act of 1879 upon the question of tolls, except as above indicated. The present law bearing upon this part of the complaint will be found in sec. 315 of the Railway Act, which provides that all tolls shall always, under substantially similar circumstances and conditions, in respect to all traffic of the same description, and carried in or upon the like kind of cars, passing over the same portion of the line of railway, be charged equally to all persons, and at the same rate; and no toll shall be charged which unjustly discriminates between different localities. It has been recognized by the board since its establishment that the equality of tolls was required only where the circumstances and conditions were substantially similar. The Railway Act of 1879 contained the following provision (s. 17, s.s. 6):

"All or any of the tolls may, by any by-law, be reduced and again raised as often as deemed necessary for the interests of the undertaking; *but the same tolls shall be payable at the same time and under the same circumstances upon all goods and by all persons*, so that no undue advantage, privilege, or monopoly may be afforded to any person or class of persons by any by-laws relating to tolls."

Nothing appears in the contract requiring the company to establish and maintain, over the whole main line of the railway when completed, the same or similar tolls, under different circumstances; and so far as I can see the company was bound, under the above clause, to charge the same or similar tolls, at the same time and under the same circumstances only. No clause appears in the Act of 1879 in express terms prohibiting unjust discrimination between different localities. I presume, however, a strict reading of the above sub-section would work the same result, so long as the circumstances were the same. It seems to me the company was at liberty, when the road was put into operation, to make distinctions in its tolls in different localities, where different circumstances existed that would justify such difference of treatment. The Railway Act, as it now stands, gives it and all other companies that privilege. This view of the law is adopted in the case of the B.C. coast cities vs. the C.P.R. Co., 7 C.R.C. 125, where the rates in B.C. were attacked upon the ground of discrimination. The late Chief Commissioner in that case said:

"It appears to me that no inference can be drawn from a mere comparison of distances upon different portions of railways, and that it does not constitute discrimination—much less unjust discrimination—for a railway company to charge higher rates for shorter distances over a line having small business, or expensive in construction, maintenance or operation, than over a line having larger business or comparatively inexpensive in construction, maintenance or operation. In my opinion, a party raising such a complaint upon a mere comparison of distances, should show the nature of the particular lines referred to, and that there is a material disproportion of rates as against the shorter line, after due allowance is made for the circumstances just mentioned."

With this I fully agree, and applying this doctrine to this case, the complainants would be required to establish that the rates in B.C., having regard to the nature of the lines there, the volume of business, cost of construction, maintenance, and operation, and other material matters, were out of joint with the rates over the company's lines in the provinces to the east. No evidence upon these heads was offered, and the whole case was put as one of contract. I am unable to find any such contract, express or implied, and so far as this branch of the contention is concerned, I think it fails.

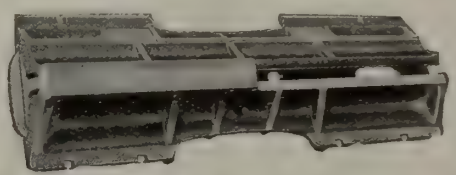
The argument, as put at the hearing, summarized, was the following: "That being a railway of national concern, having received large subsidies from the Dominion Government, the Dominion Government having received large subsidies from the Province, it was the spirit and intention of all the parties, when that act was passed, and when the railway was authorized to be built, that no higher rates should be charged through B.C. than over any other part of the C.P.R. main line." To ascertain the spirit and intention of the parties one can only look at the contract and the

Have You Seen Williams Boltless Rail Joint?

The joint was first put in trial service on the Pecos River line of the Santa Fe at Roswell, N. Mex., where it remained for 11 months, and when removed at the end of that time it showed neither corrosion nor bright spots indicating wear. These joints have been in service for 10 months on the Fort Wayne division of the Pennsylvania Lines West, for 9 months in the yards of the St. Paul Union Depot Co., and for 8 months on the Wisconsin division of the Chicago & North Western Ry. in Chicago, where they are carrying the heavy North Shore suburban traffic of the road, as well as the through traffic for

the Wisconsin & Milwaukee division, which amounts to 316 trains every 24 hours.

The joints are made of malleable iron and have on the bottom a series of transverse ribs for strength, the outer ones of which come against the tie and prevent longitudinal movement. To prevent rail creeping, there is a round hole through the joint midway of the outer side, in which a 1-in. round bolt is inserted, the rail flanges being cut away at the adjacent corners the slight amount necessary to permit the insertion of the bolt. The joints weigh the same as a yard of the rail to which applied; the joint for an 80-lb. rail, for example, weighing 80 lbs.



"I want to ride on a railroad equipped with the W.B.R.J. and the 20th Century Steel Ties."

We also Solicit Earnest Investigation of

THE 20th CENTURY STEEL TIE

WILLIAMS BOLTLESS RAIL JOINT MANUFACTURING CO., INC.

503 Manhattan Bldg., CHICAGO, ILL.

acts bearing upon the matter; and, as stated, I am not able from these to find that the company prevented itself from increasing its tolls in localities where the circumstances justified it, and as permitted by the Railway Act of 1879. It is alleged that it was not contemplated, at the time British Columbia came into Confederation, that there should be any discrimination in freight and passenger rates between one province and another. The answer to this is that if there is undue or unjust discrimination, it is illegal, and if proved will be dealt with as a violation of the law; but this cannot be inferred; it is a matter of evidence having regard to different conditions and other matters above dealt with.

It was argued for the applicants that the company had violated its contract with the Dominion Government, dated Oct. 21, 1880, in that the road was not constructed up to the standard called for; that to save mileage it was located where heavy grades were necessary and expense of maintenance increased; and that the company should not be permitted to advance these as grounds for difference in rates if this position was caused by reason of its not fulfilling its contract. It was objected for the company that the applicants could not be heard to complain of any alleged breach, as the contract had not been made with the B.C. Government. Apart from whether such a contention is open to the applicants, as to which there is the gravest doubt, and apart also from any evidence that the contract was not fulfilled, and of which there was none, it appears that, by an agreement dated in Nov., 1886, and approved by order in council of Nov. 2, 1886, made between the Department of Railways and Canals and the C.P.R. Co., it is expressly stated that the road had been constructed and equipped of a quality and character equivalent upon the whole to the approximate standard agreed upon, namely, the Union Pacific Ry., as accepted by the U.S. Government, the railway being in many respects of superior quality and character to the approximate standard, and only in some degree inferior in respect of the gradients of a portion of the line in B.C., nine miles in length, passing Mount Stephen. The company covenanted in this document that it would, upon being so required by the Government, make such alteration and improvement in the nine miles as should be prescribed by the Government, not being in excess of the requirements of the Government engineer, as shown by the plans and specifications prepared by the company, and $1,000,000 land grant bonds were deposited with the Government to be held as security for the performance of this covenant, and to be used in such performance, if the company makes default therein. It appears perfectly clear that, in view of all this, the only party that could make any complaint would be the Dominion Government, and in any event, I am unable to understand how the matter has anything to do with the question of freight and passenger rates in B.C.

Upon the case as it stands it is impossible to afford any relief to the applicants. Request was made that the board should cause an inquiry and have an account taken to ascertain if the earnings of the railway were such that the Board could reduce the rates, in view of sec. 20 above mentioned. This inquiry is not necessary, as the company admits that its rates are subject to reduction or adjustment by the Board, if a proper case is made out—jurisdiction was admitted in the coast cities case above cited and in several others. If the applicant desires to give evidence for the purpose of establishing that, in view of all the circumstances, the rates now charged in B.C. are unreasonably high, or that undue discrimination exists, leave for such purpose should be granted, otherwise, upon the record as it stands, the application fails.

Deleware and Hudson Co's Report.

The annual report shows the net receipts from the company's coal and coal sales departments for the year ended Dec. 31, 1908, to have been $853,116.59 against $957,482.13 for 1907. The results from the operation of the company's railways during the same period was: Earnings, $18,500,731.43; expenses (excluding taxes), $10,811,720.87; net earnings, $7,689,010.56 against net earnings of $8,471,011.34 in 1907. The general income account, including earnings from all sources showed a total of $10,339,104.30 against $11,208,517.89, while the deductions for taxes, bond interest and miscellaneous items was $5,084,645.94, leaving a balance of $5,254,458.36 to be carried to net income account, against $6,466,-115.41 in 1907.

The floating debt was increased from $10,754,949.87 to $21,145,550 by the payment of the $6,000,000 collateral trust notes of the Quebec, Montreal and Southern Ry., due Feb. 6, 1908; by final payments on account of coal lands and by expenditures for railway construction. On May 23, 1908, the New York and Canada Ry. was merged with the D. & H. Co., under sections 53, 54 P.S.C. State of New York, and certificates of merger were filed in the office of the Secretary of State. The extension of the Quebec, Montreal and Southern Ry. from Pierreville to Ste. Philomene, Que., has been completed, with the exception of the bridge at Nicolet. It was expected that the new line would be placed in operation by May 1. The other portions of the report dealt entirely with the company's operations of railways and mines in the U.S.

The statistical tables attached to the report show liabilities of $104,116,925.01, and assets of $115,944,523.33, leaving a surplus of assets of $11,827,598.32. The stocks owned by the company include among others, 10,000 shares of the Quebec, Montreal and Southern Ry., par value, $1,000,000; 12,000 shares Napierville Junction Ry., par value, $600,000.

The length of the various lines operated by the company is 845.26 miles, of which 22 miles are operated under trackage rights from the Erie Rd., and 91.43 by four other companies. The company's Canadian lines: the Napierville Junction Ry. from Rouse's Point to St. Constant, Que., and the Quebec, Montreal and Southern Ry., are not included in the 845.26 miles.

Imperial Service Medals have been awarded to the following I.C.R. employes on their retirement:—S. Bedard, section foreman; D. Culligan, section foreman; J. Guillemette, section foreman; T. Hibbitts, carpenter; D. Proulx, section foreman; C. Rouillard, trackman; R. Williams, brakeman; J. Wilson, checker.

June Birthdays.

Many happy returns of the day to—

Harry Abbott, ex-General Superintendent C.P.R., Vancouver, B.C., born at Abbotsford, Que., June 14, 1829.

Jas. Anderson, Manager Sandwich, Windsor and Amherstburg Ry., Windsor, Ont., born at Ayr, Ont., June 20, 1851.

F. F. Backus, General Freight and Passenger Agent, Toronto, Hamilton and Buffalo Ry., Hamilton, Ont., born at Rochester, N.Y., June 4, 1860.

Archer Baker, European Manager C.P.R., London, Eng., born at York, Eng., June 21, 1845.

J. H. Boyle, Assistant Superintendent, district 3, Eastern Division, C.P.R., Montreal, born at Waterloo, Que., June 25, 1869.

F. P. Brady, member Government Railways Managing Board, Moncton, N.B., born at Haverhill, N.H., June 22, 1853.

E. Callaghan, Agent Hamilton Steamboat Co., Toronto, born at Kingston, Ont., June 17, 1875.

A. E. Doucet, Division Engineer Transcontinental Ry. Surveys, Quebec, born at Montreal, June 9, 1860.

G. H. Eaton, Assistant Master Car Builder, C.P.R. Western Lines, Winnipeg, born in Staffordshire, Eng., June 9, 1860.

A. A. Goodchild, Auditor of Stores and Mechanical Accounts, C.P.R., Montreal, born at Peckham, London, Eng., June 3, 1866.

H. W. Harding, Local Secretary Canadian Northern Ry., London, Eng., born there June 6, 1869.

F. M. Hawley, city ticket agent G.T.R., Cobourg, Ont., born at Campbellford, Ont., June 22, 1874.

L. R. Johnson, Assistant Superintendent of Motive Power C.P.R. Eastern Lines, Montreal, born at Abingdon, Berks, Eng., June 22, 1855.

L. K. Jones, Secretary Department of Railways and Canals, Ottawa, born at Port Hope, Ont., June 9, 1849.

A. C. Lytle, Superintendent and General Freight and Passenger Agent, Orford Mountain Ry., Eastman, Que., born at Hemmingford, Que., June 6, 1854.

W. R. MacInnes, Freight Traffic Manager C.P.R., Montreal, born at Hamilton, Ont., June 7, 1867.

S. J. McLean, Dominion Railway Commissioner, Ottawa, born at Quebec, June 14, 1871.

C. E. McPherson, General Passenger Agent C.P.R. Western Lines, Winnipeg, born at Chatham, Ont., June 7, 1861.

H. J. Maguire, District Baggage Agent, Pacific Division, and B.C. and Pacific Coast Service, C.P.R., Vancouver, B.C., born at Toronto, June 16, 1881.

L. Mulkern, chief clerk, General Freight Agent Through Traffic C.P.R., Toronto, born at London, Ont., June 18, 1871.

F. Price, Superintendent Car Service, G.T.R., Montreal, born there June 11, 1864.

Allan Purvis, Superintendent, district 3, Pacific Division, C.P.R., Nelson, B.C., born at Batavia, Java, June 29, ~~1864.~~ 18

D. I. Roberts, General Manager, Quebec, Montreal and Southern Ry., and Napierville Jct. Ry., Montreal, born at Waynesburg, Pa., June 27, 1853.

Jas. Stephenson, ex-Chief Superintendent G.T.R., now of Weston-Super-Mare, Somerset, Eng., born there June 2, 1837.

THE ABOVE CUT ILLUSTRATES ONE OF OUR

50 TON "OTIS" ALL STEEL CARS

SPECIALLY BUILT FOR

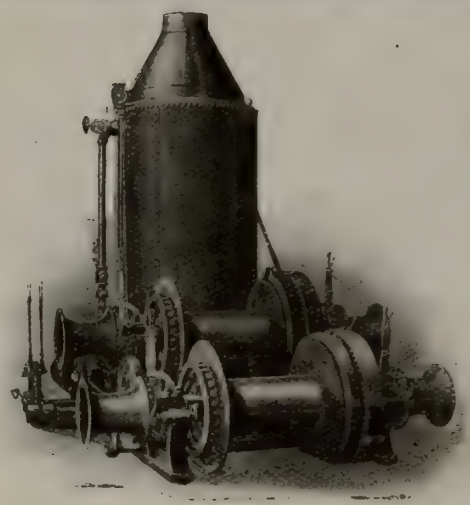
COAL, COKE AND ORE

Our 1909 Design is an improvement on the above and an order for 500 cars has been placed by the Canadian Pacific Railway Company. Sample car can be inspected at Montreal.

THE HART-OTIS CAR CO., LIMITED

SUCCESSORS TO DOMINION **DUMP CAR** CO., LIMITED

MONTREAL



Hoisting Engines

WE CAN FURNISH HOISTS DESIGNED TO SUIT EVERY PURPOSE. OUR HOISTS GIVE THE MAXIMUM RESULTS AT A MINIMUM COST.

STEAM-BELT DRIVEN AND ELECTRIC HOISTS OF ALL CAPACITIES

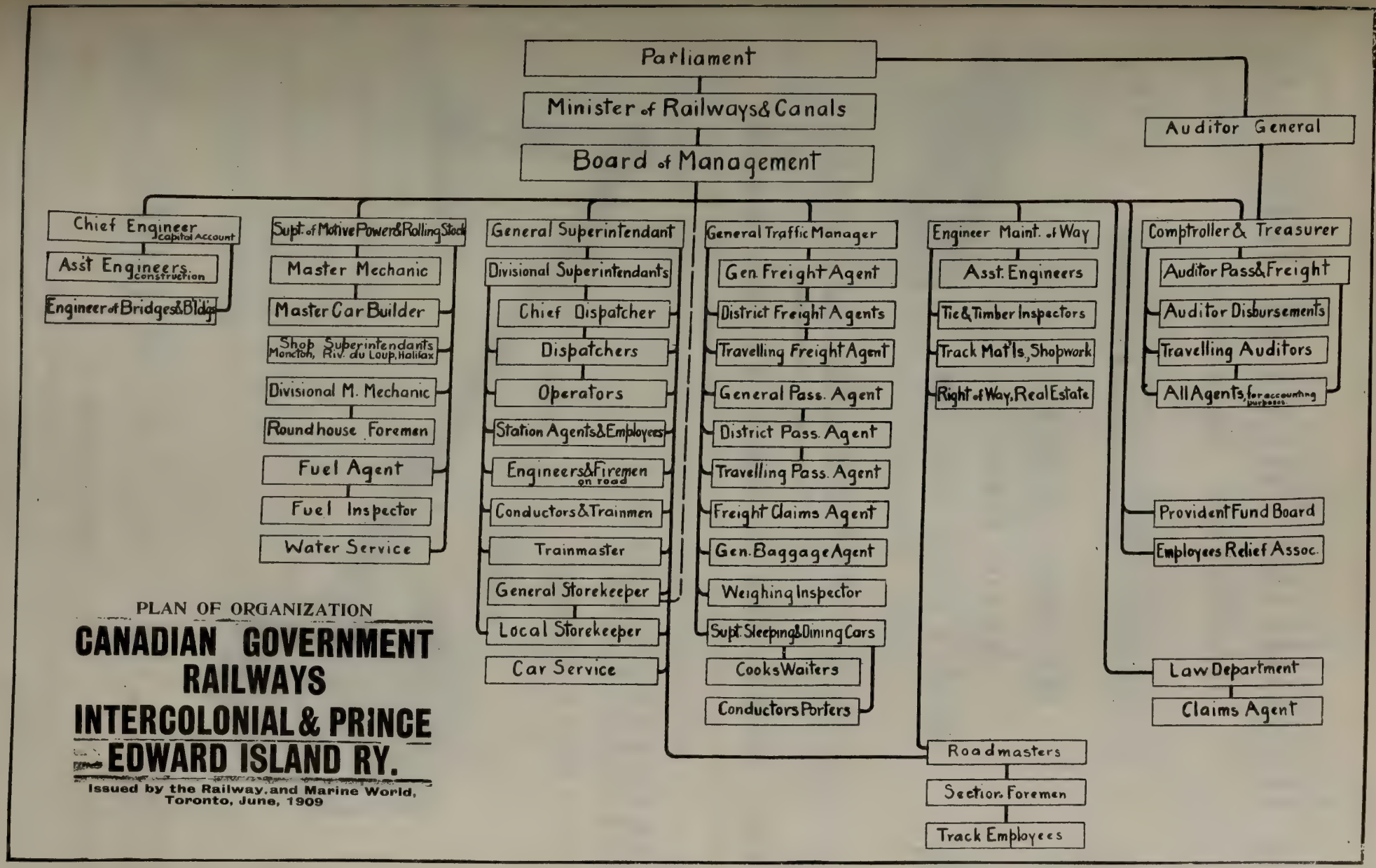
"INDUSTRIAL" COALING AND LOCOMOTIVE CRANES

In Capacities from Five to One Hundred Tons

FOR USE ABOUT

Manufacturing Plants, Railroad Yards, Coaling Stations, Quarries, Etc.

F·H·Hopkins & Co Successors late James Cooper **Montreal**



PLAN OF ORGANIZATION

CANADIAN GOVERNMENT RAILWAYS
INTERCOLONIAL & PRINCE EDWARD ISLAND RY.

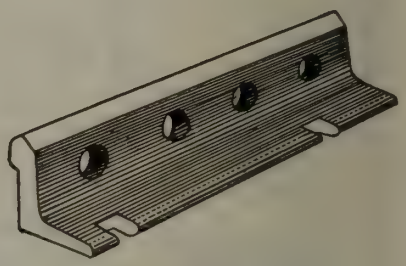
Issued by the Railway and Marine World, Toronto, June, 1909

The above diagram shows the organization which has been decided on for the Government Railways consequent on the appointment of the Managing Board. The title of Superintendent of Motive Power, always a misnomer, as his duties embraced all rolling stock, has been enlarged to Superintendent of Motive Power and Rolling Stock. The position of General Superintendent, shown in the diagram, is a new one, or rather a revival of an old one, the position having been abolished some years ago. In the operating department, as indicated in the diagram, the chief dispatchers, operators, station agents and employes, engineers and firemen on road, conductors and trainmen, teamsters and local storekeepers are responsible direct to the General Superintendent as well as to the Divisional Superintndents. This is a weakness that should be removed in the interests of discipline. The same anomaly occurs in the Traffic Department, where the district and travelling freight agents, district and travelling passenger agents, are shown as jointly responsible direct to the General Traffic Manager as well as to the General Freight Agent and the General Passenger Agent, respectively. This is another anomaly which should be removed. The roadmasters are shown as responsible jointly to the General Superintendent, not to the Divisional Superintendents, and to the Engineer of Maintenance of Way. The Law Department shown is apparently a new departure. While the organization plan could be improved in the directions suggested, it is a start in the right direction, if the Managing Board is given a free hand and its members are given freedom from political interference by members of Parliament. Many think that the divorcement of the Government railways from politics and the millenium will be contemporaneous. For the sake of the country it is to be hoped they are mistaken.

The Hamilton Steel & Iron Co.

HAMILTON, CANADA **LIMITED**

Railway Axles
Angle Bars
and Track Spikes
Tie Plates



FORGINGS—MARINE AND RAILROAD

In Rough, Rough-turned or Smooth Finished. Specialty of Heavy Forgings.

PIG IRON, IRON AND STEEL BARS

"AMERICAN"
Locomotive Cranes

With or without Magnet for Storekeeper's yard.

Built for discriminating buyers.

Photographs of machines in operation furnished on application.

We also manufacure the "AMERICAN" Railroad Ditcher.

AMERICAN HOIST & DERRICK CO.

ST. PAUL, U.S.A.

CHICAGO NEW YORK PITTSBURG NEW ORLEANS

Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this.

The dates given of orders, immediately following the numbers, are those on which the hearings took place and not those on which the orders were issued. In many cases orders are not issued for a considerable time after the date assigned to them.

6885. Apr. 23.—Approving plan of Niagara, St. Catharines and Toronto Ry. standard trestle.

6886. Apr. 23.—Authorizing G.T.R. to construct branch line to the Empire Mfg. Co.'s premises at London, Ont.

6887. Apr. 23.—Authorizing Enterprise Gas Co. to lay pipes under G.T.R. at Delhi, Ont.

6888. Apr. 23.—Authorizing C.P.R. to construct steel trestle at mileage 95.7, Sherbrooke section.

6889. Apr. 23.—Approving Quebec Ry., Light & Power Co.'s tariff C.R.C. No. 7.

6890-6891. Apr. 23.—Amending orders 6616 and 6617 of Mar. 22, re construction of C.P.R. spurs in Okotoks, Alta.

6892. Apr. 26.—Temporarily approving agreements of four telephone companies entered into with the Bell Telephone Co. in Nov., 1908, and Mar., 1909.

6893. Apr. 26.—Releasing to G.T.R. Co. piece of land in St. Antoine de Longueuil Parish, Que.

6894. Apr. 23.—Directing C.N.R. to construct railway crossings between secs. 35 and 2, tp. 41 and 42, range 13, west of 3rd mer., and on sec. 22, in dist. 21-J-3, Sask.

6895 and 6896—Authorizing Andover and Perth Electric Light Commissioners to erect wires across C.P.R. at Perth and Andover, N.B.

6897. Apr. 26.—Authorizing C.P.R. to construct spur line to Nicholas Chemical Co.'s premises, Sulphide, Ont.

6898. Apr. 26.—Authorizing McKim tp., Ont., to construct crossing over C.P.R.

6899. Apr. 26.—Authorizing Monk Rural Telephone Co. to erect wires across G.T.R. at Church St., Carleton County, Ont.

6900. Apr. 26.—Authorizing Bell Telephone Co. to erect wires across C.N.O.R. at mileage 13.45, west of Hawkesbury, Ont.

6901. Apr. 16.—Re additional charge which railway companies may make for changing destination of carload traffic while in transit. This order is given fully on another page.

6902. Apr. 26.—Authorizing Manitoba Gov't Telephones to erect wires across G.T.P.R. between secs. 22 and 23-11-4 w. Man.

6903. Apr. 29.—Authorizing A. H. Watson to erect wires across G.T.R. at Creemore, Ont.

6904. Apr. 30.—Authorizing B.C. Telephone Co. to erect wires across E. & N. Ry. at Beaver Creek, B.C.

6905. Apr. 30.—Authorizing City of St. John, N.B., to lay water main across C.P.R. at Green Head road, Lancaster Parish, N.B.

6906. Apr. 28.—Directing G.T.R. to construct culvert under its Buffalo and Lake Huron divison, in Wainfleet tp., Ont.

6907. Apr. 28.—Ordering construction of culvert under G.T.R. in Eldon tp., Ont.

6908. Apr. 28.—Dismissing application of Plymouth Cordage Co., of Welland, Ont., for order directing G.T.R. to refund $884.01, alleged excessive freight charges on shipments of sand and gravel from Niagara Falls to Welland, Ont.

6909. Apr. 27.—Ordering G.T.R. to at once erect at Garnet, Ont., shelter to accommodate traffic.

6910. Apr. 29.—Authorizing C.P.R. to reconstruct certain bridges on its Windsor, North Bay and Souris sections.

6911. Apr. 30.—Authorizing C.P.R. to construct spur line to Imperial Oil Co.'s premises, Saskatoon, Sask.

6912. Apr. 28.—Refusing application of Don Valley Brick Works, Toronto, Ont., for order directing G.T.R. to make reparation on shipments of enamelled brick, to Ottawa.

6913. Apr. 28.—Dismissing application of Canboro tp., for order directing M.C.R. to construct highway crossing over its line to connect the line of highway laid out by the township.

6914. Apr. 27.—Authorizing Ekfrid tp. to cross G.T.R. east of Glencoe, Ont., with culverts.

6915. May 1.—Authorizing Shawinigan Water and Power Co. to lay water main under C.P.R. at Joliette, Que.

6916. Apr. 28.—Disapproving plans filed by Raleigh tp., Ont., for authority to construct Pike's drainage works across G.T.R.

6917 to 6921. May 1.—Authorizing Manitoba Government Telephones to erect wires across Canadian Northern Ry. at five points.

6922. Apr. 27.—Dismissing complaint of E. B. Sutton, alleging excessive freight rates charged by C.P.R. on brick in carloads, from Milton, to Bala Falls, Ont.

6923. May 3.—Authorizing C.P.R. to open for traffic its line between mileage 63 and 64, Medicine Hat section, Alta.

6924. Apr. 28.—Dismissing application of Byron Telephone Co. for leave to install telephone in G.T.R. station at Komoka, Ont.

6925. May 3.—Authorizing Caradoc-Ekfrid Telephone Co. to erect wires across M.C. Rd. in Ekfrid tp., Ont.

6926. Apr. 30.—Authorizing C.P.R. to construct spur line across Manitoba and River Sts., Moose Jaw, Sask.

6927. May 3.—Dismissing application of C.P.R. for order amending order 5102, of July 29, 1908, authorizing G.T.R. to cross tracks of C.P.R., Owen Sound section, and Ontario and Quebec Ry., near Toronto Jct., Ont.

6928. Mar. 5.—Ordering C.P.R. to change location of rails at Mill St., Enderby, B.C., so that top of rails shall not rise above or sink below level of highway to extent of more than 1 in.

6929. Apr. 28.—Amending order 5102, July 29, 1908, re G.T.R. crossing C.P.R. tracks east of Weston road, West Toronto, Ont.

6930. May 4.—Ordering G.T.P.R. to vacate its right of way where same affects land of C. Smith, J. Douglass and H. T. Champion, in Winnipeg.

6931. May 4.—Requiring proposed application to Board for approval of amalgamation agreement between C.N.R. Co. and Alberta Midland Ry. Co. to be published in Canada Gazette, and in one newspaper in Toronto, Edmonton, Calgary and Lethbridge.

6932. May 4.—Authorizing C.N.O.R. and C.P.R. to each construct certain portions of road allowance near Parry Sound, Ont., as specified in order 6365, of January 27.

6933. May 3.—Authorizing town of Buckingham, Que., to construct First Ave. across C.P.R.

6934. May 4.—Requiring proposed application to Board for approval of amalgamation agreement between C.N.R. Co. and Saskatchewan Northwestern Ry. Co. to be published in Canada Gazette, one newspaper in Toronto, Regina, Moose Jaw and Saskatoon.

6935. May 4.—Authorizing Welland County Lime Works Co. to lay gas pipe under G.T.R. in Wainfleet tp., Ont.

6936. May 3.—Authorizing Bell Telephone Co. to erect wires across G.T.R. half a mile north of canal, Hamilton Beach, Ont.

6937. May 4.—Approving Spokane and B.C. Ry. by-law, authorizing O. E. Fisher, G.F. & P.A., to prepare and issue tariffs of tolls for traffic.

6938. May 5.—Approving standard passenger tariff of Spokane & B.C. Ry. This order is given fully on another page.

6939. May 5.—Dismissing application of E. S. Brennan, of Hamilton, Ont., for order directing G.T.R. to refund $73.89, alleged overcharge on shipment 17 cars of lumber from Wiarton to Hamilton, in July, 1908.

6940. May 3.—Directing that watchman which was to be provided by order 6340, of Feb. 22, 1909, include a night as well as day watchman, at G.T.R. crossing, Main St., Welland, Ont.

6941. May 4.—Approving location of C.N.O.R. Ottawa-French River division through Fitzgerald, Deacon, Lister, Boyd and Pentland tps., Ont.

6942. May 4.—Approving plan of proposed iron bridge, to replace present wooden bridge carrying John St., Stratford, Ont., across G.T.R.

6943. May 4.—Extending for one month time within which Chatham, Wallaceburg & Lake Erie Ry. shall equip its cars with air brakes.

6944. Apr. 28.—Directing C.N.R. to make crossings already constructed in districts 18-B-3, Sask., and also in tps. 36.5 and 35.5, in said districts, in accordance with regulations.

6945. May 4.—Authorizing C.P.R. to construct tracks across Con St., Havelock, Ont., and to construct highway crossing, in accordance with regulations.

6946. May 4.—Authorizing C.P.R. to construct three bridges on its North Bay Portal and Megantic sections.

6947. Apr. 26.—Re new tariffs on fruit from California to Regina, Sask. This order is given fully on another page.

6948. Sept. 15, 1908.—The application respecting Canadian classification re bill of lading or live stock special contract, fixing freight rates on horses, on basis of declared valuation, and restricting liability of the carrier with respect thereto. This order is given in full on another page.

6949. May 5.—Dismissing complaint of residents of Sydenham tp., and Owen Sound, Ont., alleging dangerous condition of highway crossings C.P.R. at Murray's cut, near Owen Sound, and applying for order directing construction of bridge over the railway.

6950. May 6.—Authorizing C.N.O. Ry. to construct its line across 8 highways in Thorah tp., Ont.

6951. May 7.—Authorizing New Brunswick Ry. (C.P.R.) to open for traffic the portion of its grade revision between mileages 0.3 and 0.47, near Aroostock Jct., and between mileages 19.1 and 20.2, near Grand Falls, N.B.

6952. May 7.—Authorizing C.P.R. to open for traffic the portion of its main line at mileage 33.4, Grand River, N.B.

6953. May 6.—Approving location of

N CURRY, President
N. A. RHODES, Vice-President

CAPITAL $1,000,000

J. M. CURRY, Sec.-Treas

RHODES, CURRY & CO.

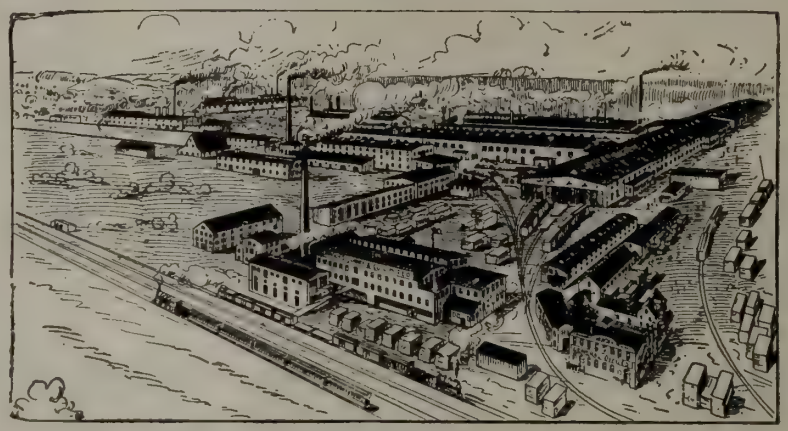
AMHERST, NOVA SCOTIA LIMITED

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels



Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

POLSON IRON WORKS

LIMITED

TORONTO, CANADA

Steel Shipbuilders, Engineers and Boilermakers

Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers. . . . .

OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO

G.T.P.R. from mileage 20.11 to 43.56, Alberta.

6954. May 6.—Approving location of Grand Valley Ry. mileage 0 to 9.868, Ont.

6955. May 6.—Dismissing application of T. Crockett, of Riviere du Loup, Que., for order directing I.C.R. and connecting companies to comply with provisions of previous orders. This order is given in full on another page.

6956. May 4.—Ordering C.P.R. to construct a permanent subway 200 ft. west of Winnipeg St., Schreiber, Ont., to be completed before Jan. 1, 1910.

6957. May 6.—Authorizing Ottawa Gas Co. to lay pipe under G.T.R. track at Main St., Ottawa East, Ont.

6958. May 6.—Authorizing London Tp. Telephone Co. to erect wires across G.T.R. at Hyde Park station, Ont.

6959. May 4.—Authorizing W. J. Anderson, of Beeton, Ont., to erect telephone wires across G.T.R. in Tecumseh tp., Ont.

6960-6961. May 5.—Authorizing Norfolk Gas Co. to place pipe under G.T.R. 1410 ft. east of Port Dover, Ont.

6962. May 5.—Authorizing C.N.Q.R. to construct bridge to replace wooden structure near St. Norbert station, Que.

6963. May 4.—Rescinding order dated May 3, 1905, in so far as it approves location of Calgary & Edmonton Ry. through lots 57, 58, 59 and 63, in Alta.

6964. Apr. 7.—Approving deviation of C.P.R. branch line on south side of Lachine canal. St. Paul, Que.

6965. May 7.—Respecting sanitary condition of stations and cars and heating of cars. This order is given in full on another page.

6966. May 7.—Authorizing Pere Marquette Rd. to construct spur branch line at Sarnia, Ont.

6967. May 6.—Authorizing Johnson tp., Ont., to construct crossing over C.P.R., Sault Ste. Marie branch, near m.p. 148.

6968. Apr. 27.—Ordering G.T.R. to protect with gates crossing at Weston road, West Toronto, Ont.

6969. May 6.—Re through tickets and baggage over G.T.R. and C.P.R. from points in U.S. to non-competitive points on C.N.O.R. This order is given in full on another page.

6970. May 7.—Directing G.T.R. to refund to Long Lumber Co. $3.88, amount of stop-over charge collected on shipment of shingles. This order is given in full on another page.

6971. May 8.—Authorizing C.P.R. to construct railway across highway in Bentinck tp., Ont., at mileage 25.49.

6972. May 6.—Approving G.T.R. special contract or release respecting carriage of valuable ores. This order is given in full on another page.

6973-6976. May 7.—Authorizing B.C. Telephone Co. to cross C.P.R. at four points.

6977. May 7.—Authorizing village of Port Dover, Ont., to lay sewer pipe under G.T.R.

6978. May 4.—Dismissing application of Q.M. & S.R. for authority to extend terminals at St. Lambert, Que., so as to form a connection between Q.M. & S.R. and G.T.R., Rouses Point division.

6979. May 10.—Amending order of Railway Committee of Privy Council of May 13, 1898, so as to provide that C.P.R. may fill in portion of trestle bridge from the north end of island to main shore, in Peterboro, Ont.

6980. May 10.—Authorizing G.T.R. to construct spur line to Consumers' Gas Co.'s premises, Toronto.

6981. May 10.—Authorizing C.P.R. to construct four bridges on its Ontario, Eastern and Pacific divisions.

6982. May 10.—Authorizing A. Michaud to lay water pipe under Temiscouata Ry. at St. Francis de Madawaska, Que.

6983. May 10.—Certifying that mistake was made in representing Chas. Oligny as sole owner of lot cadastral 645-J, he being curator for Albert and Arthur Oligny and others, and that same has been changed.

6984. May 7.—Rescinding order 6913 of Apr. 28, dismissing application of Town of Canboro, Ont., for order directing M.C.R. to construct highway crossing over its line of railway to connect highway laid out by applicants.

6985. May 6.—Rescinding order 5643 of Nov. 3, 1908, directing G.T.R. to provide flag station at Fern Glen, or Walls Crossing ½ mile west of Scotia Jct., Ont.

6986 to 6989. May 10.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at Sundridge and Drayton, Ont., and across M.C.R. at Petrolia, Ont.

6990. May 10.—Authorizing Zorra Telephone Ass'n. to erect wires across Tilsonburg, Lake Erie & Pacific Ry., in West Zorra tp., Ont.

6991. May 10.—Authorizing Bolton Telephone Co. to erect wires across C.P.R. in Albion tp., Ont.

6992. May 10.—Authorizing C.P.R. to construct bridge 68.31, Chapleau section.

6993. May 10.—Authorizing C.P.R. to construct bridge at mileage 63.55, White River section.

6994. May 10.—Authorizing Crow's Nest Pass Coal Co. to construct bridge over C.P.R. main line at Michel, B.C.

6995. May 14.—Approving location of St. Maurice Valley Ry., from mileage 0 to 5.72, from Shawinigan Falls to Grand Mere, Que.

6996. Apr. 29.—Re rates on C.P.R. from Montreal to the Maritime Provinces on Western grain for domestic consumption. This order is given in full on another page.

6997. May 11.—Authorizing O. & N.Y.R. to construct a draw span and pivot pier on Cornwall canal bridge.

6998. May 4.—Extending time for installation of fire extinguishers in passenger cars. This order is given in full on another page.

6999. May 10.—Dismissing complaint of J. Kerr, Franklin, Man., against C.P.R. rate on vegetables from Franklin to Winnipeg, Man. This order is given in full on another page.

7000. May 4.—Authorizing G.T.R. to use and operate jointly and on equal terms with C.P.R. branch line to Sunbeam Incandescent Light Co.'s premises, Mowat Ave., Toronto.

7001. May 11.—Approving character of work provided for in report in connection with drain to be constructed across P.M. Rd. in Harwich tp., Ont.

7002. May 11.—Authorizing City of Hull, Que., to construct highway across Ottawa, Northern & Western Ry.

7003. May 12.—Approving location of United Gold Fields of B.C. railway from Frank to Grassy Mountain, B.C.

7004. May 12.—Authorizing C.P.R. to construct railway across highway between lots 25 and 26, con. 9, Vaughan tp., Ont., mileage 16.93, and at mileage 17.40.

7005 and 7006. May 4.—Authorizing V.V. & E. Ry. & Nav. Co. to cross with its tracks the B.C. Electric Ry. at Harris St. and Hastings St., Vancouver, B.C.

7007. May 12.—Authorizing Georgian Bay & Seaboard Ry. to cross with its track, by an overhead crossing, the G.T.R., near Lindsay, Ont.

7008. May 12.—Authorizing C.N.Q.R. to operate construction trains over crossing of C.P.R. track east of Lorette, Que.

7009. May 12.—Authorizing city of Winnipeg to construct highway crossing, at rail level, across C.P.R., Pembina branch.

7010. May 12.—Authorizing town of Victoriaville, Que., to lay sewer pipe under G.T.R.

7011. May 12.—Authorizing Water Commissioners of Brantford, Ont., to lay pipe under T.H. & B. Ry. at Oxford St. and Richardson St.

7012. May 12.—Authorizing C.P.R. to reconstruct bridge 115.4, Petewawa River, Chalk River section.

7013. May 5.—Authorizing C.P.R. to reconstruct bridge 58.5, Cobb's Lake, Ont.

7014. May 18.—Authorizing C.P.R. to construct its Pheasant Hills branch across road allowances at 47 points.

7015. Apr. 28.—Approving specifications of James Strong culvert, under G.T.R., in Rochester tp., Ont.

7016. May 17.—Amending order 6501, March 12, granting leave to Winnipeg Electric Ry. to cross the C. P. Ry. at Logan Ave., Winnipeg, so that same will read "that the cost of inserting, installing, connecting, and maintaining the home signals on its railway at the crossing be borne by the C.P.R. Co."

7017. May 13.—Dismissing complaint of Williams Quarry Co. that C.P.R. unjustly discriminates against it in rates charged on shipments from its quarry at Airdale, Man., to Winnipeg.

7018. May 15.—Authorizing G.T.R. to construct branch line commencing at the C.P.R. east of Craig's Road station, Levis county, Que., extending to the River Beaurivage.

7019. May 13.—Authorizing D. Hanley to lay a gas main under G.T.R. at Cainsville, Ont.

7020. May 13.—Authorizing Consolidated Telephone Co. to erect wires across C.P.R. at Bath, N.B.

7021. May 14.—Authorizing Dundurn Telephone Co. to erect wires across C.N.R. at Dundurn, Sask.

7022. May 14.—Authorizing C.P.R. to construct bridge at mileage 31.8, Smiths Falls section, Ont.

7023. May 10.—Approving proposed supplement 1 to Canadian Classification 14, to become effective three weeks from date of order.

7024. May 15.—Authorizing C.P.R. to construct spur line to Thurlow Lumber Co.'s premises, Port Moody, B.C.

7025. May 18.—Approving revised location of C.N.O.R. from mileage 32.56 to 33.76, Creelman tp., Ont.

7026. May 18.—Authorizing Calgary & Edmonton Ry. to construct its Wetaskiwin branch across 77 road allowances.

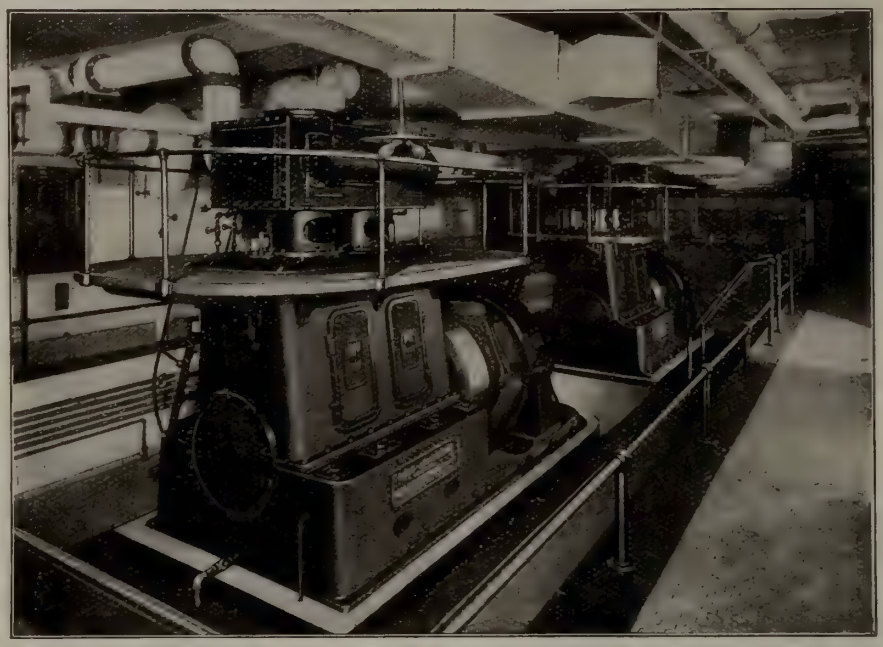
7027. May 13.—Authorizing Industrial School Ass'n, Toronto, to lay sewer under G.T.R. in Etobicoke tp., Ont.

7028. May 18.—Authorizing Water Commissioners of Brantford, Ont., to lay mains under G.T.R. at Chatham, Sheridan, Marlborough and Gray Sts.

7020. May 17.—Authorizing C. P. R. to construct nine bridges on its Ontario, Pacific, Atlantic, Eastern and Lake Superior divisions.

7030. May 18.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at various points in Ontario.

7036. May 18.—Authorizing Bolton



HIGH-SPEED

VERTICAL ENGINES

of the English enclosed type with pressure oiling system, installed by us at the

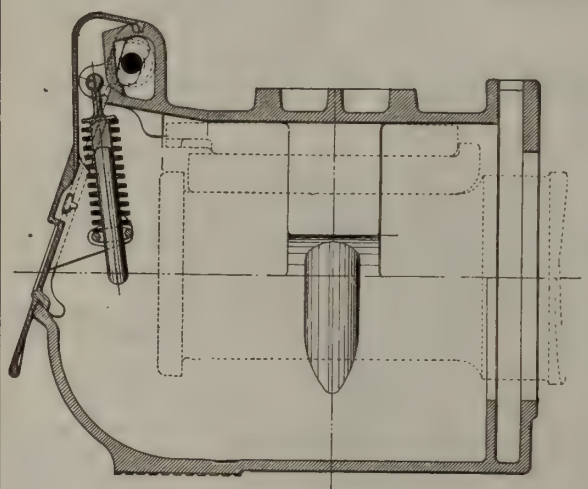
TRADERS BANK
TORONTO

ROBB ENGINEERING CO., LIMITED, AMHERST, N.S.

DISTRICT OFFICES:
709 Power Building, MONTREAL, Watson Jack, Manager.
Traders Bank Building, TORONTO, Wm. McKay, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.
Calgary Block, Calgary, J. F. Porter, Manager.

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



The Strongest, Lightest, Tightest Box Made

The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCORD Force Feed Lubricator

McCORD & COMPANY
Old Colony Building, Chicago

THE HOLDEN CO., Limited
302 St. James Street, Montreal

Telephone Co. to erect wires across C.P.R. in Albion tp., Ont.

7037. May 18.—Authorizing Southwold & Dunwich Telephone Ass'n to erect wires across M.C. Rd. at Southwold, Ont.

7038. May 18.—Authorizing Harrison River Shingle Co. to place electric wires under C.P.R. at Harrison River, B.C.

7039. May 19.—Authorizing C.N.O.R. to take certain land in Toronto, Ont.

7040. May 17.—Rescinding order 6784, April 8, authorizing B.C. Southern Ry. to construct coal tipple over main line and other tracks, near Michel Station, B.C.

7041. May 3.—Amending order 3244, July 4, 1907, authorizing C.P.R. to install automatic electric bell, near Pembroke, Ont.

7042. May 19.—Authorizing Bell Telephone Co. to cross P.M.R. 2 miles west of Ridgetown, Ont.

7043. May 19.—Approving C.N.R. standard pile and frame trestle.

7044. May 19.—Approving C.P.R. bridge where its Pheasant Hills branch crosses G.T.P.R. mileage 457.1.

7045. May 4.—Ordering Montreal Park & Island Ry. to grant same facilities in way of service and operation to people residing in Mount Royal ward as it grants to people residing in Notre Dame de Grace.

7046. May 18.—Directing that M.C.R. provide that bell circuit of automatic bell at Queen St. crossing, Tilbury, Ont., be extended so that bell will ring when trains are 2,200 ft. from the crossing; and that highway at 4th concession road crossing be diverted so as to cross the railway at right angles.

7047. May 19.—Authorizing C.P.R. to construct six bridges on its Pacific, Ontario, Eastern and Superior divisions.

Correction for the Erring

The Toronto Globe published an article recently, headed "The Intercolonial Commission," in which it said that one of the most important matters brought before Parliament this year was the Minister of Railways' "announcement of the appointment of a commission to manage the I.C.R.," and it referred to "the four commissioners." As the new management has just gone into effect it is well to point out that it is not a commission and that no commissioners have been appointed. In explaining the matter in the House of Commons the Minister, as quoted in our last issue, said: "My proposition is this: Not to establish a commission. . . . . The proposition is to establish a board. . . . . On that board I propose to retain two of the officials now on the I.C.R. in very high places. I propose also to allow the Deputy Minister of Railways to act on that board, and I would call it, not a commission, not an advisory board, but a board of management."

As also announced in our last issue the order in council making the appointments say: "A managing board entitled The Government Railways Managing Board, has been constituted for the supervision and direction of all the departments of the said railways" (I.C.R. & P.E.I.R.).

"An official announcement from Canadian Pacific headquarters at Montreal says that Mr. B. B. Kelliher, the company's chief engineer, will in future have his office in Winnipeg, instead of Montreal, as formerly."—Toronto Globe.

There is no such position as Chief Engineer in the C.P.R. at present. B. B. Kelliher is Chief Engineer Grand Trunk Pacific Ry.

G. T. R. Betterments, Construction, Etc.

Ballasting.—The work of ballasting the line between Ottawa and Coteau has been resumed; the gangs working east and west from Moose Creek, Ont.

Ottawa Station and Hotel.—A permit has been granted by the Ottawa City Council for the erection of a power station and baggage annex in connection with the new station. Work has been resumed on the temporary buildings, and will be continued until completed. Loomis & Co., Montreal, are the contractors for this portion of the work. E. H. Fitzhugh, third Vice-President, stated May 2, that arrangements for the construction of the permanent station buildings are about completed, and that work should begin at an early date. Representatives of Ross & Macfarlane, architects, Montreal, were in the city May 3, in connection with the matter.

A gang of men has been engaged for some time in sinking test pits on the Major Hill park site to find the rock level for the hotel building. In the House of Commons, May 13, a question was asked if anything more had been done regarding the transfer of the site for the hotel, and the Premier stated the matter remained in the same position as formerly.

Montreal-Toronto Track.—The relaying of the track between Montreal and Toronto with 100-lb. steel has been resumed at Thousand Islands Jct. It is expected that the new steel will be laid to Cobourg this year, leaving the stretch between Cobourg and Toronto to be done in 1910.

Hamilton to Niagara Falls.—A press report states that it is probable that the line between Hamilton and Niagara Falls, Ont., will be made into a four-track route in the near future, but that nothing has been done in the way of preparing plans for the project.

Viaduct at St. George.—We are advised that the details of the projected viaduct at St. George, on the old main line between Paris and Brantford, Ont., have not been completed, the Board of Railway Commissioners having only approved of the general plan.

Brantford Improvements.—The negotiations that have been in progress for some time between the company's officials and the City Council of Brantford, Ont., with reference to the laying of industrial sidings in the east ward and Holmesdale, and other matters are reported to be nearly completed. It was arranged May 10 that a conference would be held at an early date to determine a division of the expenses between the company and the city.

London Improvements.—H. G. Kelley, Chief Engineer, was in London, Ont., May 1, looking over some matters in connection with the projected improvements. He is reported to have stated that as soon as the plans for Toronto were out of the way he would be able to go on with what he has already laid out for London.

Sarnia Tunnel.—We are advised that it is the intention to renew the floor timbers through the tunnel and simultaneously therewith to relay the track throughout with new 100-lb. steel rails. As it was necessary to relay the floor beams it was decided that new rails be put down at the same time, and to use 6 by 9½ tie plates to prevent mechanical wear on the ties.

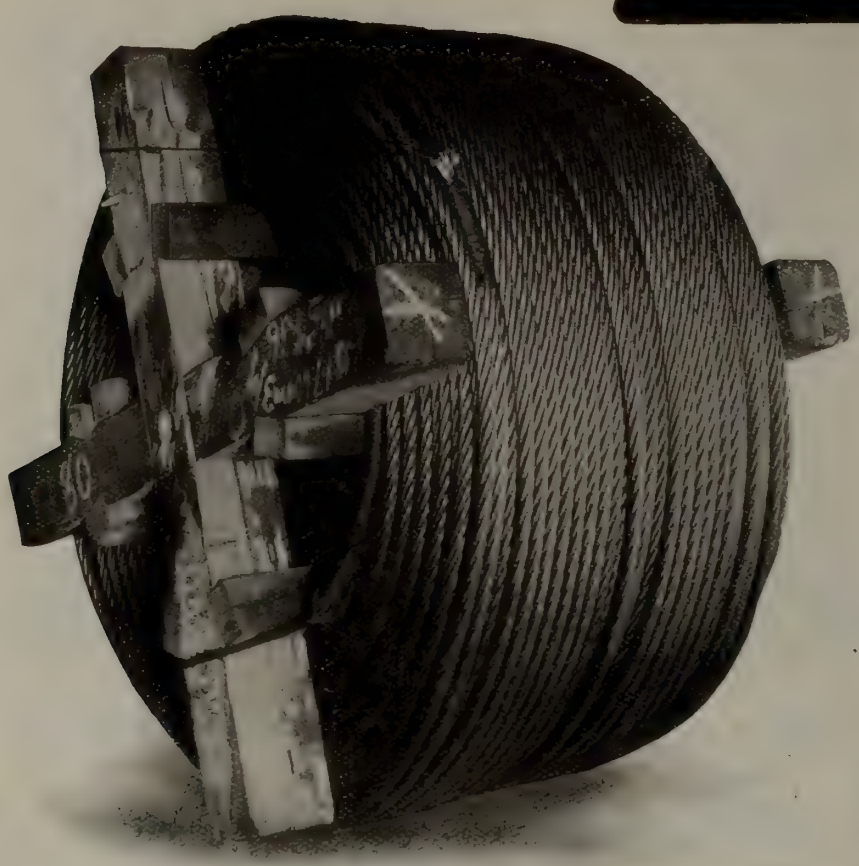
Chicago, Ill.—A contract has been let to the Charles A. Moses Construction Co. for the erection of a one-story passenger station at South Halstead and 49th Sts., Chicago. The building will be of brick, 50 by 125 ft., and is estimated to cost $25,000. (May, pg. 335.)

Fire Extinguishers for Passenger Cars.

The Board of Railway Commissioners passed the following order, 6998, May 4: In the matter of the equipment of passenger cars with fire extinguishers: Whereas, by order 3238, dated July 3, 1907, amended by order 4685, dated May 5, 1908, railway companies subject to the legislative authority of the Parliament of Canada, operating a railway by steam power, were directed to equip their passenger coaches with fire extinguishers within the time provided in the order of July 3, 1907, viz.: In cars to be constructed in the future for use on their said railways, before they are so used; in cars under construction or in shops undergoing repairs, within six months from the date of the order; in cars at present in use on their respective railways, within 18 months from the date of the order. And, whereas, it has been represented that delays have arisen in connection with compliance with the provisions of the order. Upon hearing the matter in the presence of counsel for the C.P.R., the C.N.R., the G.N.R., and the G.T.R. Companies, and what was alleged by counsel aforesaid, and upon their request, it is ordered that the time provided in the order 3238, within which railway companies are required to equip their passenger coaches with fire extinguishers be extended as follows: Cars under construction or in shops undergoing repairs, within six months from May 4, 1909; cars at present in use on their respective railways, within 18 months from Nov. 3, 1908. And in all other respects the said orders are hereby confirmed.

Canadian Railway Club.—At the annual meeting in Montreal, May 4, the following officers were elected: President, H. H. Vaughan; Vice-President, A. A. Maver; 2nd Vice-President, A. A. Goodchild; Executive Committee, J. Coleman, A. W. Wheatley, R. W. Burnett, F. Ditchfield, C. Manning and P. R. Diamond; Audit Committee, W. H. Stewart, H. A. White and J. S. Johnstone; Secretary, Jas. Powell; Treasurer, S. S. Underwood.

Railway Crossings Legislation.—Several bills were dealt with at the Dominion Parliament's recent session referring to the speed of trains at level crossings in towns and villages. The Lancaster bill, which has been passed by the House of Commons for two or three years past, but always defeated in the Senate, was again considered, and when it reached that body an amendment was introduced by Senator Beique, and the bill was passed. In the House of Commons a bill introduced by R. Bickerdike was also considered, but subsequently the Minister of Railways introduced another bill dealing with the matter more generally, by giving the Board of Railway Commissioners certain powers, and incorporating the amendment to the Lancaster bill passed in the Senate at the instance of Senator Beique. This bill was discussed on several occasions, and finally passed the House of Commons, May 12.



Wire Rope

We manufacture and carry a complete stock of wire rope suitable for all requirements.

Ballast Cables, Wrecking Ropes
Switch Ropes

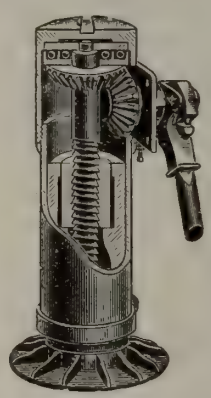
WIRE ROPE FITTINGS OF ALL DESCRIPTIONS

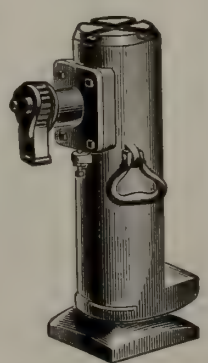
The Dominion **WIRE ROPE** Co., Limited
MONTREAL

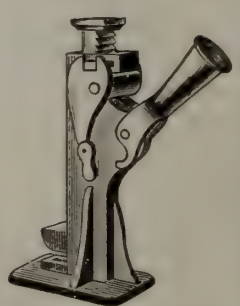
NORTON JACKS

Are Made in Canada and Save You Delay and Duty on American Made Jacks.

50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY


Sectional View


Foot Lift Jack


15 Ton Track Jack

Traversing Jack

Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

RAILWAY DEVELOPMENT

Projected Lines, Surveys, Construction, Betterments.

Alaska Central Ry.—A press report states that a contract has been let to Watson and Snow, for the completion of 20 miles of line from mileage 52 to 72. Track has been laid from Seward, northerly to Turnagain, Alaska, 52 miles, and grading for 20 miles from that point was nearly completed when operations ceased.

Algoma Central and Hudson Bay Ry.—A map showing the lines of railway operated or projected by the Lake Superior Corporation shows the present position of the A. C. and H. B. Ry. to be —line projected from Sault Ste. Marie to the C.P.R., 191.6 miles, of which about 70 miles have been completed and are being operated over. Beyond Pangissin construction had reached various stages towards Hawk Lake Junction. The Michipicoten branch extends from Michipicoten to Josephine Jct. and Helen Mine, 13 miles, and it is intended to construct an extension to Hawk Lake Jct., making the total length of the branch 26 miles. The company's charter grants the right to construct a line from Hawk Lake Jct. to the C.P.R. main line, crossing it at Missinabi, 28.6 miles (54.6 miles from Michipicoten); thence to the National Transcontinental Ry. (near its crossing of the Missinabi River), about 115 miles, and thence to Moose Factory on James Bay, a further distance of 199 miles; and a line from near Hawk Lake Jct. to the C.P.R. at White River, 68 miles; and another line from near Hawk Lake Jct. to Goudreau Lake, about 18 miles. (May, pg. 355.) See also Manitoulin and North Shore Ry.

Arnprior and Pontiac Ry.—Press reports state that this company has been organized to construct a number of lines radiating from Fitzroy Harbor, Ont., (a village in Carleton County, on the Ottawa River) to connect with the electric smelters which it is proposed to erect near there, in connection with the development of a water power, estimated to give 110,000 h.p. The railway lines will run out to a number of large deposits of iron ore in the vicinity. The act incorporating the company has been passed by the Dominion Parliament. L. Simpson, Valleyfield, Que., who controls the water power, is one of the provisional directors, and A. H. N. Bruce, Ottawa, is Chief Engineer. (Feb., pg. 101.)

Atlantic, Quebec and Western Ry.—Tenders were received to May 21 by the New Canadian Co., London, Eng., and New Carlisle, Que., for the steel superstructures of 14 bridges and trestles on the section of line now under construction towards Gaspe Basin. The total length of the structures is 4,900 ft. (May, pg. 355.)

Canadian Terminal Ry.—The New Brunswick Legislature has granted the company an extension of time within which it may construct its projected railway.

Chicago, Milwaukee and Puget Sound Ry.—W. S. Mason, of New York City, one of the largest shareholders in the C. M. and St. Paul Ry., of which the C.M. and P.S. Ry. is a subsidiary, was in Vancouver, B.C., May 8, making enquiries as to securing property for terminal and other purposes in the city. He stated that the company would be able to make a definite move with regard to terminals in Vancouver within the current year. (May, pg. 355.)

Detroit River Tunnel.—The eighth section of the tunnel, under construction between Windsor, Ont., and Detroit, Mich., was sunk into place, May 3, on the Canadian side of the river. The sinking of two more sections will complete the portion of the tunnel under the river.

Farmers' Ry.—A meeting was held at Melfort, Sask., May 8, in support of the project advocated by D. W. Hines, of Hannah, Sask., for the construction of a railway on the co-operative plan. Those signing the agreement pay $5 at the time of signing, and are not liable for any further calls until at least 500 persons, exclusive of the promoters and officials, have become shareholders. Engineers are expected at Melfort, according to press reports, to proceed with surveys of the line. (May, pg. 355.)

Grand Lake and Bell River Ry.—The Quebec Legislature has incorporated a company with this title to construct a railway near the crossing of Bell River by the National Transcontinental Ry., to Twenty-one Mile Bay, an arm of Grand Lake, or to Rabbit Lake, on the Ottawa River, with a branch line not to exceed 12 miles. The company is given power to construct wharves, docks and warehouses and to operate steam and other vessels on the navigable waters touched by its railway. C. B. Devlin, Hull, Que., is the solicitor. (Feb., pg. 101.)

Halifax to Guysboro.—A conference was held recently at Montreal, at which the Premier of Nova Scotia met some local financial men, when the project of constructing a railway from Dartmouth to Guysboro and Country Harbor, through the Musquodoboit Valley, was discussed. The projected railway has a total length of 207 miles, and the N.S. Government has made all necessary surveys. It is authorized to grant a substantial subsidy to any company undertaking the construction of the line, and the Dominion Parliament has voted a cash subsidy upon the usual terms and conditions. The project has been before the country for years, under various titles, including the Musquodoboit Valley Ry., the Halifax and Guysboro Ry., the North Eastern Ry., and the Halifax and Eastern Ry. (See Halifax and Eastern Ry., April, pg. 247.)

Howe Sound, Pemberton and Northern Ry.—A start is reported to have been made upon the work of clearing the right of way on this projected railway. The contractors, J. G. Brassey and D. McLennan, have three gangs of men at work at different points on the route, and it is expected to complete at least seven miles of track this season. The present object of the railway is to take timber out of the lower Squamish valley. (Nov., 1908, pg. 793.)

Intercolonial Ry.—In the course of a discussion upon the operation of the Inverness Ry. and Coal Co.'s line in the Nova Scotia Legislature, May 6, the Premier stated that the Minister of Railways had decided to build a station at Point Tupper, the southern terminus, which would remove a part of the grievance complained of. In the further supplemental estimates laid before the House of Commons May 12, provision was made for the following additional votes for the I.C.R.:—

Original construction, to pay for land taken at Point Tupper, N.S.	$6,000
Extension to Dalhousie wharf	27,500
Indiantown-Blackville line—To put same into condition for operation	50,000

(May., pg. 355.)

The work of ballasting the second track between Moncton and Painsec Jct., N.B., was started May 14, three trains being employed in carrying material from the ballast pit at Portage.

Lachine, Jacques Cartier and Maisonneuve Ry.—The Quebec Legislature has incorporated a company with this title to construct a railway between the points named. Press reports state that the line is projected in the G.T.R. interests in order to give that company access to a point alongside deep water, at which ocean steamship terminals may be constructed.

In the passing of the act through this Legislature a clause was added to the effect that the company must obtain the consent of the different municipalities before entering their limits.

Matane and Gaspe Ry.—The Quebec Legislature has extended the time within which the company may construct its projected railway, and authorizing a change in the location of its starting point. (Feb., pg. 103.)

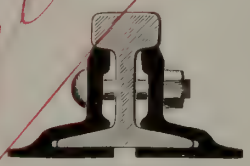
Manitoulin and North Shore Ry.—Survey work has been started from the present westerly terminus of the line, at the smelter about 13 miles from Sudbury, Ont., westerly and southerly to Little Current, Manitoulin Island. The extension will be about 70 miles. The country through which the extension passes presents many difficulties in the way of construction, as it abounds in rocks, muskegs and lakes. The survey will occupy practically the whole season, but it is expected to have sufficient of the line located to permit of a start being made with construction at the present terminus in July. The starting of surveys in May, and the prospective starting of construction in July will meet the conditions imposed by the Ontario Legislature at the recent session. The company also proposes during the present season to start and complete certain works of betterment on the existing line between Sudbury, its nickel mines and its smelter. We are advised that the chief engineering features in connection with this construction will be the crossing of the Vermillion River by an iron bridge, the details of which have not been determined; the crossing of the Spanish River by a 183 ft. through girder bridge on concrete abutments, and the crossing of the Spanish River Pulp and Paper Co.'s power canal by two spans of 50 ft. each, resting on concrete piers and abutments. These latter bridges are both built and the line graded from Stanley, the crossing point of the Sudbury-Sault Ste. Marie branch of the C.P.R., to about two miles south. This piece of line is being operated over at the present time by the C.P.R. to take care of the output of the Pulp Co.'s mill. The other features will be the construction of the line from the mainland there to and across three islands, and finally a swing bridge across the channel to Little Current. The details of this bridge have not been settled. The engineers are endeavoring to get through on a 1% gradient, and a curvature of 8 or 10 degrees. A complete survey has been made, and the present survey, which is under H. B. Aylmer, is a revision survey in preparation for the starting of construction in June. We are

ADDITIONAL SAFETY AND ECONOMY IN

TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence.

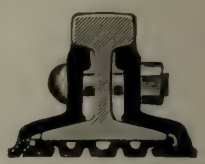
HIGHEST AWARDS
Paris, 1900;
Buffalo, 1901; St. Louis, 1904


Continuous Joint

Over 50,000 miles in use

Weber Joint

Rolled from Best Quality Steel


Wolhaupter Joint

Catalogues at Agencies

Baltimore, Md. Boston, Mass. Chicago, Ill. Denver, Colo. Pittsburg, Pa.
San Francisco, Cal. Seattle, Wash. St. Paul, Minn. St. Louis, Mo. Troy, N.Y.
London, Eng. New York City.

THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES: BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base-Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, and Insulating Rail Joints, Protected by Patents in U. S., Canada and Mexico.

SILLIKER CAR COMPANY, LIMITED, HALIFAX N. S. CANADA

STREET RAILWAY CARS

HEAVY FORGINGS AND CASTINGS

RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

further advised that tenders are about to be asked for the construction of the first 10 miles of the extension, and as soon as a contract is let construction will be pushed as rapidly as possible until completion.

The company has at present in operation a line from Sudbury to Gertrude Mines, which line takes care of the output of the Canadian Copper Co.'s Creighton mine. With the completion of the 10 mile section for which contract will be let in June, the company will be able to handle the output of the Canadian Copper Co.'s Crane Hill mine, and also the Ludwig Mond Co.'s North Star mine. There are also on the line the Lake Superior Co.'s Elsie and Gertrude mines, which are not being operated. In addition to the two miles southerly from the C.P.R., the company has also done some construction on a distance of seven miles northerly from Little Current.

A map showing the lines for which the company holds a charter shows a line westerly from Sudbury to Searchmont, on the Algoma Central and Hudson Bay Ry., 175 miles, having a connection with the C.P.R. at Victoria mine, 25.5 miles from Sudbury; and a branch crossing the C.P.R. at Stanley, to Little Current, and thence across Manitoulin Island. The total mileage between Sudbury and Little Current is given by the company as 80.8, made up as follows:—Sudbury to Victoria mine, 25.5 miles; Victoria mine to Stanley (along the C.P.R.), 19.0 miles; Stanley to Whitefish (mainland shore), 18.0 miles; Whitefish to Little Current, 18.3 miles.

T. J. Kennedy is General Superintendent, and C. N. Coburn, Sault Ste. Marie, Ont., Chief Engineer.

Michigan Central Rd.—Two steel laying gangs are at work, east and west of St. Thomas, Ont., relaying the mainline tracks. Additional gangs, it is reported, will be set to work as soon as sufficient rails have been received to justify it. A press report states that the company proposes to start the construction at an early date of a 25-stall roundhouse and a new station at Windsor, Ont. The cost of the latter is placed at $100,000.

Minas Basin, N.S.—The residents in the numerous villages on the north shore of Minas Basin, N.S., are considering the desirability of urging the Nova Scotia Government and the Dominion Government to unite for the construction of a railway from the Intercolonial Ry. to serve the district. The suggested route is from East Mines, near Truro, on the I.C.R., to Parrsboro, the shore terminus of the Cumberland Ry. and Coal Co.'s line.

Montreal Bridge and Terminal Co.—The House of Commons has passed an amendment to the company's act for an extension of time for construction, by the addition of a section providing that the company cannot make use of Montreal streets for an entrance until authorized to do so by a city by-law, and that the tunnel from Longueuil to Montreal should be begun before the power to construct a tunnel at Lachine be exercised. (Apr., pg. 249.)

New Brunswick Coal and Ry. Co.—The Commissioners in charge of this provincially operated railway being desirous of carrying out a number of betterments, secured an act at the recent session of the New Brunswick Legislature authorizing the Government to grant them a loan for the purpose indicated. (May, pg. 357.)

New Brunswick Docks and Terminals Co.—New Brunswick Legislature has incorporated a company with this title. (April, pg. 249.)

See also Northern New Brunswick and Seaboard Ry.

North Eastern Ry.—The Quebec Legislature has extended the time within which the company may construct its projected line from Ville Marie, Lake Temiskaming, easterly for 25 miles. (Sept., 1908, pg. 617.)

Northern New Brunswick and Seaboard Ry.—The application of the Twin Tree Mines Ry. Co. for an act changing its name as above and varying its powers as to the terminal points of its projected line, has been passed by the New Brunswick Legislature. The Canada Iron Corporation, which owns the charter, has engineers in the field locating a line from its mines to the Intercolonial Ry. between Newcastle and Bathurst, N.B. Three routes are being surveyed, one to near Bathurst, a second to Bartibog, and the third to Red Pine. The point of junction with the I.C.R. has not been decided upon. (April, pg. 249.)

The Quebec Central Ry. is actively pushing forward the construction of 30 miles of the extension of its line from St. George, Beauce, to Ste. Justine, Dorchester county, Que. Five hundred men with construction plant, &c., are at work, and it is expected that 1,500 will be employed by the middle of June. The line is under contract to be completed by Dec. 1 next. This extension will open up a valuable agricultural and lumber portion of the province and give transportation facilities to a section of the counties of Beauce, Dorchester, and Bellechasse, bordering on the State of Maine, which has been somewhat isolated. Powers and Dussault, of Levis, Que., are the contractors for the grading, and the Dominion Bridge Co. for the iron structures.

Quebec County Ry.—The Quebec Legislature has granted the company an extension of time within which it may construct the railways authorized by its act of incorporation. (Feb., pg. 103.)

Quebec, Montreal and Southern Ry.—The company is applying to the Board of Railway Commissioners for authority to extend its terminal lines at St. Lambert, Que., so as to connect with the Rouse's Point line of the G.T.R. (April, pg. 249.)

St. John River Valley Ry.—The New Brunswick Legislature has incorporated a company with this title. Prior to the closing of the Legislature the Premier stated that upon further consideration the Government had came to the conclusion that it would be unwise at the closing of the season to rush through the important legislation guaranteeing the company's bonds without full consideration of the terms and agreements and conditions which must form an essential part of a bill pledging to so large an extent the credit of the property. The first offer of the Government was to guarantee the bonds of the railway for $20,000 a mile provided the Dominion Government would agree to operate it for 60% of the receipts, the remaining 40% to come to the Provincial Government towards paying interest on the bonds. A delegation representing the company subsequently waited upon the Dominion Government, and a reply had been received to the effect that no assurance of assistance could be given without further information as to details and suggesting that the legislation as to provincial assistance be put through. It was the intention at an early date to discuss the matter with the Dominion Government to see if some arrangement could not be completed so that at the next sessions of the Parliament and the Legislature acts might be put through to secure this much desired railway. If such an arrangement could not be made he was not without hope that an arrangement could be made with a railway organization to carry out the project. Approaches were being made by a railway company not now in the province, operating part of an international railway system, and connecting with the Transcontinental Ry., and negotiations were progressing with the hope that if arrangements with the Dominion Government could not be made the undertaking could be completed without jeopardizing the provincial financial condition. (April, pg. 249.)

The St. Maurice and Eastern Ry., proposed to be constructed by the company, which has been incorporated by the Dominion Parliament, will start from the National Transcontinental Ry. in the County of Champlain, traversing that county through the parishes of St. Stanislaus, St. Prosper, St. Nazaire and Mount Carmel, terminating at Shawinigan Falls, Que. The object of the railway is to give connection between the N. T. Ry. and St. Maurice Valley Ry. at Shawinigan Falls. (April, pg. 249.)

St. Maurice Valley Ry.—During the discussion in the House of Commons, May 10, upon the second reading of the St. Maurice and Eastern Ry. it was stated that the St. M. V. Ry. is now under construction between the present northerly terminus at Shawinigan Falls, and Grand Mere, Que., a distance of between five and six miles. It was further stated that when the St. M. V. Ry. obtained its charter it was given power to construct a line from Three Rivers to Shawinigan Falls, Grand Mere, and up the valley of the Mattawan River to connect with the National Transcontinental Ry. Owing to the route chosen by the N. T. Ry., the St. M. V. Ry. cannot connect with it except by constructing a bridge across the Mattawan River, which it has not power to do. The company thereupon decided to construct its line as far as Grand Mere only, and the only difficulty in the way of carrying that out was the opposition of the town of Grand Mere. This difficulty had now been overcome, and the additional construction was going on. (Sept., 1908, pg. 619.)

The Temiskaming and Northern Ontario Ry. Commissioners have ordered from the Algoma Steel Co. 2,000 tons of 80 lb. steel rails for relaying a portion of the track and for use on some of the principal sidings.

Two survey parties are in the field in connection with the proposed extensions, but the Chairman of the Commission recently stated that nothing would be done for some time about the projected line to Gowganda. The Government had power to authorize the construction of the line as soon as deemed advisable.

Contracts have been let for the construction of culverts at various points and for 75,000 lbs. of copper wire for additional telegraph lines. (May, pg. 359.)

Thessalon and Northern Ry.—On the motion for the third reading of the company's bill to extend the time for construction, the House of Commons was

MONTREAL STEEL WORKS, LIMITED

POINT ST. CHARLES, = = MONTREAL

MANUFACTURERS OF

Steel Castings
(Acid Open Hearth System)

Switches and Track Work
for Steam and Electric Roads

Springs
of all kinds

Manganese Steel Castings
for wearing Parts, insuring Great Hardness and Durability

Interlocking Plants

Trucks for Electric Cars

Agents for Canada for

THOS. FIRTH & SONS, LIMITED, Sheffield, England
"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc. A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO., Barrow-in-Furness, England
Quotations for Tee Rails, Fish Plates, etc., promptly furnished. Catalogues sent on application.

Pintsch Light Steam Heat

Most brilliant illumination made possible by the Pintsch System using perfected Mantle Lamps and Safety Axle Driven Dynamo Electric System a product of sixteen years experience and now operating successfully on leading roads

The Safety Car Heating and Lighting Co.
2 RECTOR ST., NEW YORK.

Car Heating Systems guaranteed to meet all conditons of service. Controllable Direct Steam, Hot Water or Thermo Jet System where pressure not desired. Steam tight couplers, traps, trainpipe valves and other appliances.

CHICAGO. BOSTON. ST. LOUIS. ATLANTA. PHILADELPHIA. MONTREAL. BERKELEY, CAL.

asked to consider the question of Ontario's rights, the projected line being entirely within the boundaries of that province. The Minister of Railways said while this might be the case he favored the passing of the act because all these railways should be brought under the control of the Railway Commission. The act was accordingly passed. (Sept., 1908, pg. 619.)

Tobique and Campbellton Ry.—The New Brunswick Legislature has granted the company an extension of time within which it may construct its projected railway. (April, pg. 251.)

Vancouver, Westminster and Yukon Ry.—An act has been passed by the Dominion Parliament to complete the statute of 1908 with respect to granting aid to certain railways. In introducing the bill the Minister of Railways stated that at the session of 1908 Parliament voted $200,000 to the V. W. and Y. Ry. towards the construction and completion of a railway bridge across Burrard Inlet, near Vancouver, B.C., but by some oversight when the statutes were printed the amount voted was left blank. The present act directs that $200,000 shall be read into par. 6, sec. 2, chap. 83 of the statutes of 1908. (May, pg. 359.)

Toronto Viaduct Question.—The C.P.R. and the G.T.R. engineers and the City Engineer of Toronto submitted separate plans for the carrying out of the suggestions of the Board of Railway Commissioners for the construction of a viaduct along the Toronto water front to the Board at a meeting held in Toronto, April 29. It was directed that these plans be examined by engineers representing the Board, the city and the railway companies; and it is understood that as a result the Board's engineer has made certain recommendations, which, it is expected, will result in the final acceptance of plans and the making of the order necessary to have the work done. The final plans to carry out the Board's engineer's suggestions and the points upon which the engineers agreed in conference are being prepared.

Railroad Freight Rates is the title of a volume written by L. G. McPherson, Lecturer on Transportation at John Hopkins University, Baltimore. The subject is approached from the point of view of its relation to United States industry and commerce, and is discussed logically and lucidly in the light of information gathered directly from the traffic managers of the various railways and the traffic experts of the great industrial and commercial corporations and the shippers' organizations of the various cities. The earlier chapters deal with the channels of traffic, the preparation of foodstuffs and their distribution, the distribution of raw material and merchandise, and these are followed by chapters in which the transportation charges and prices, regional rate structures, commodity rate structures, classifications, etc., are considered and traced from their inception to their present complicated development. While the volume has some interest to the general student of economics, it has a special value to all railway men who are desirous of having a thorough knowledge of what the present freight rate system is and how it has been evolved. The volume is published at $2.25 by H. Holt & Co., New York City, and may be obtained from the Railway and Marine World book department.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-08. from July 1, 1908:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July	$ 728,500	$525,600	$202,900	$159,000—
Aug.	747,400	561,300	183,100	30,400—
Sept.	901,700	650,600	251,100	42,000+
Oct.	1,172,700	752,600	420,100	110,200+
Nov.	1,156,900	744,300	412,600	144,300+
Dec.	927,900	642,800	285,100	42,400+
Jan.	526,200	425,900	100,300	15,400
Feb.	502,600	409,200	93,400	9,700+
Mar.	738,700	534,200	204,500	32,600+
	$7,402,600	$5,246,500	$2,156,100	$176,400+
Inc. or Dec.	$ 405,600	$ 229,200	$ 176,400	.....

Approximate earnings for April, $741,200 and for 2 weeks ended May 14, $335,300; against $686,100 and $306,900 for same periods 1908. Mileage in operation during March, 3,094 against 2,874 in March, 1908.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-8, from July 1, 1908:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
July	$6,292,889.82	$4,018,207.57	$2,274,573.24	$232,279.41—
Aug.	6,385,956.69	3,807,057.98	2,578,898.71	8,623.50+
Sept.	6,391,672.48	4,277,064.71	2,114,607.77	36,745.58—
Oct.	7,381,970.41	4,726,705.70	2,655,266.71	25,050.93—
Nov.	7,303,503.20	5,082,223.85	2,221,079.35	223,954.86—
Dec.	6,955,874.11	4,759,122.54	2,196,751.57	119,561.99+
Jan.	4,761,359.93	4,372,110.10	389,249.83	234,241.95—
Feb.	4,966,208.14	4,204,065.36	762,144.78	405,048.17+
Mar.	6,518,763.14	4,715,055.01	1,803,708.13	502,678.64+
	$56,958,488.92	$39,961,708.82	$16,9..6,780.10	$283,639.63+
Inc. or Dec.	$2,020,455.70	$1,..0,817.07	283,639.63	.....

Approximate earnings for April, $6,260,000, and for 2 weeks ended May 14, $2,702,000; against $5,390,000 and $2,365,000 for same periods 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross revenue for Mar., $224,964.46; net revenue, $71,795.14; against $230,517.43, and $72,706.68 for Mar., 1908. Aggregate gross revenue for 9 months ended Mar. 31, $2,081,633.03; net revenue, $624,837.79; against $2,405,984.44 and $663,027.34 for same period 1907-08. Approximate earnings for Apr., $224,968, and for 2 weeks ended May 14, $109,312 against $219,410 and $93,575 for same periods 1908.

MINERAL RANGE RD.—Gross revenue for Mar., $70,933.75; net revenue, $10,750.52; against $68,436.80, and $3,689.75 for Mar., 1908. Aggregate gross revenue for 9 months ended Mar. 31, $623,755.42; net revenue, $520,340.33; against $607,964.70, and $514,135.35 for same period 1907-08. Approximate earnings for Apr., $67,785, and for 2 weeks ended May 14, $31,247 against $66,053, and $30,272 for same periods 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross revenue for Mar., $1,028,015.65; net revenue, $450,387.85; against $824,118.50 and $312,239.46 for Mar., 1908. Aggregate gross revenue for 9 months ended Mar. 31, $9,600,109.53; net revenue, $4,302,420.31; against $9,039,902.19, and $3,554,087.41 for same period 1907-08. Approximate earnings for Apr., $940,369, and for 2 weeks ended May 14, $428,553 against $844,111, and $369,239 for same periods 1908.

Grand Trunk Ry. Earnings, Expenses, Etc.

The following figures give the earnings of the G.T.R., the C.A.R., the G T. Western Ry., and the D.G.H. & M. Ry., separately, for Mar., as compared with Mar., 1908:

GRAND TRUNK RAILWAY.

	1909.	1908.
Earnings	$2,423,200	$2,272,829
Expenses	1,743,100	1,687,455
Net earnings	$680,100	$585,374

CANADA ATLANTIC RAILWAY.

	1909.	1908.
Earnings	$129,200	$111,036
Expenses	127,600	119,802
Net earnings	$1,600	*$8,766

GRAND TRUNK WESTERN RAILWAY.

	1909.	1908.
Earnings	$489,000	$528,882
Expenses	364,500	384,243
Net earnings	$124,500	$144,639

DETROIT GRAND HAVEN & MILWAUKEE RAILWAY.

	1909.	1908.
Earnings	$126,000	$105,679
Expenses	109,200	130,516
Net earnings	$16,800	*$24,837

*Deficit.

Approximate earnings for Apr., $3,142,748; and for 2 weeks ended May 14, $1,456,700, against $2,934,991 and $1,417,229 for same periods, 1908.

TRAFFIC RECEIPTS OF THE SYSTEM.
Aggregate from Jan. 1 to Apr. 30, 1909:

Grand Trunk..	£1,799,139	£1,730,462	£68,677
Can. Atlantic....	100,252	90,448	9,804
G.T. Western...	360,114	358,950	1,164
D.G.H. & M....	99,416	96,328	3,088
Total	£2,358,921	£2,276,188	£82,733

Great Northern Ry. Lines in Canada

A press despatch from Chicago, Ill., states that the G.N.R. construction for the current season provides for the expenditure of $15,000,000, mainly through its subsidiary lines. The more important part of the work is said to be the inauguration of construction west of Winnipeg, and the plan laid out shows the completion of a fourth through line from Winnipeg to the Pacific coast. The company has branch lines running from its U.S. main line, to Portage la Prairie, Man.; Brandon, Man., Fernie and Michel, B.C., and into the Red Mountain district of B.C. The proposition now outlined is to construct the long talked of line from Emerson into Winnipeg, and then to work westerly cutting across the branch lines, to meet a line now being surveyed from Michel easterly to Calgary, Alta. This will then be followed up by a line from Fernie, westerly connecting up the lines in the Red Mountain district with the Vancouver, Victoria and Eastern Ry., at Grand Forks, B.C. [illegible]

In the valley of the Flathead River, particularly on the Montana side of the international boundary, there is a great deal of survey work going on, the Great Northern Ry., and the Chicago Milwaukee and Puget Sound Ry., each having several parties in the field. The outcome of these surveys is being watched with interest, as they will affect the construction of lines in the coal districts on the borderland of British Columbia and Alberta, in which both companies are interested, and through which both hold charters to construct railways.

While construction is being proceeded with on the section of the Vancouver, Victoria and Eastern Ry., westerly—the section between Keremeos and Penticton being the scene of operations—the point to which the company's officials are paying most attention at present is in Vancouver, B.C., where terminals are being provided. The lines which the company constructed were south of the Fraser River, these are carried over that river into New Westminster by the bridge erected by the Government, and thence into Vancouver by a line constructed by Vancouver, Westminster and Yukon Ry., which the V.V. & E.R. acquired over a year ago. In Mar., 1907, the company obtained an order from the Board of Railway Commissioners with respect to the location of a line from False Creek to Burrard Inlet, and after developing its plans a new order was obtained Jan. 23, 1909. Under this latter order the work of laying out the terminals is being proceeded with, the contractors being Ironside, Rennie and Campbell, who state that they have instructions to push the work as rapidly as possible. The route of the line crosses the British Columbia Electric Ry. at Harris and Hastings Sts., and that company has given permission so that work may not be delayed pending the obtaining of the formal order from the Board of Railway Commissioners.

CANADA CAR COMPANY

MONTREAL, QUE. **LIMITED**

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS CASTINGS FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS:
BOX 2286, MONTREAL **Works: TURCOT**

JOYCE CRIDLAND CO.'S

New Right Hand Journal Jack

Notice the neat design. The lightest 15 ton Journal Jack on the market. Weight only 34 lbs.

Write for Catalogue, showing above; also Joyce Cridland Co.'s LEVER, TRACK, GEARED, HYDRAULIC and SCREW JACKS.

CARRIED IN STOCK BY

A. R. Williams Machinery Co., Limited

Toronto, Winnipeg and Vancouver. WILLIAMS & WILSON, Montreal

Railway Commissioners Traffic Orders

Summaries of other traffic orders passed are given on another page under the heading of Orders by Railway Commissioners.

CHANGING OF DESTINATION IN TRANSIT.

6901. April 16.—Judgment by the Assistant Chief Commissioner: The practice of the C.P.R., the G.T.R., and other railway companies in Canada in the past has been to charge a consignee 1c. per 100 lbs. for services in connection with the changing in transit of the destination of carload traffic from one place to another. The matter was brought to the attention of the Board by a complaint of Hyde & Webster, Montreal, against an extra charge of $4.90 on a carload of bricks which was consigned from Casselman, Ont., to Dorval, Que.—the destination of which was changed, while it was en route, to Westmount, Que. This amount is made up at the rate of 1c. per 100 lbs. of brick in the car, and the charge is made pursuant to the C.P.R. special tariff C.R.C. No. E. 716 of Aug. 30, 1906. At the suggestion of the Chief Traffic Officer of the Board, the question of the disallowance of all such tariffs for charges at a rate equal to, or exceeding that mentioned, was set down for the Ottawa April sittings, and the chief railway companies under the jurisdiction of the Board were notified. The question to be decided therefore is, what the general policy of the Board shall be with regard to tariffs containing clauses authorizing charges for changing destination of cars in transit. It is often a decided advantage to a shipper to be able to change the destination of a car in transit, and requires a service to be rendered by the railway company, which should be paid for. It was not in contemplation by both parties at the time the contract of carriage was made, and therefore cannot be expected to be included in the freight rates. The railway companies have been charging for this service on the basis of the advantage to the shipper, that is, the heavier the load, the greater is the amount he is asked to pay. It seems to me, a simpler and just as equitable basis upon which remuneration to the railway company might be estimated is, the cost to the company of the service. The weight of the carload has no effect on the amount of work the railway company must perform. In order to arrive at an approximately fair amount which a railway company might be permitted to charge for such service, let us consider what must be generally done by railway officials when a request for diversion in transit is received. 1. A telegram to the agent at the point where the change is to be made must be sent. 2. The agent at that point must be on the lookout for the car. This may require his going to the van of each freight train that passes, in order to examine the conductor's records. 3. When the car is found it must be relabelled. The way bill must be changed. The amount of charges usually must be varied, and the Auditor's department notified. 4. Then the car must be got out of the train and put to one side. This will require shunting, switching, etc., which takes up the time of the train crew and causes delay to the rest of the train. The car must usually be picked up and put in another train going to the new point of destination. 6. The railway company must assume the legal responsibility of deciding whether the party asking to have the destination of the car changed, owns the merchandise and has the right to deal with it.

These services, of course, must vary somewhat in different cases, but for the sake of uniformity, I think that a stated sum per car should be fixed, and I think $3 a car a fair and reasonable amount to allow. An order should, therefore, go, cancelling all items in tariffs providing a charge of over $3 a car for changing destination of carload traffic in transit. In order to give the railway companies an opportunity to file new tariffs, I would make the order effective May 15 next.

In compliance with the above judgment the following order was passed: It is ordered that the additional charge which railway companies subject to the jurisdiction of the Board may make for changing the destination of carload traffic while in transit shall not exceed $3 per carload; and that all charges for changing the destination of carload traffic in transit which are now shown by the companies in their tariffs, published and filed, in excess of the said $3 per carload, be withdrawn and cancelled not later than June 1, 1909.

KETTLE VALLEY LINES PASSENGER FARES.

6938. May 5.—In the matter of the application of the Spokane & British Columbia Ry. Co. (Kettle Valley Lines), under sec. 331 of the Railway Act, for approval of its Standard Passenger Tariff C.R.C. 6; Upon the report and recommendation of the Chief Traffic Officer of the Board, it is ordered that the said tariff, on a basis of 4 cents a mile, applying between all stations in B.C., be approved, subject to the condition that the tariff be published in at least two consecutive weekly issues of the Canada Gazette.

CALIFORNIA FRUIT RATES TO REGINA.

6947. April 26.—In the matter of the complaint of Stockton and Mallinson, wholesale fruit and produce merchants, Regina, Sask., alleging that rates charged by the C.P.R. on shipments of citrus fruit from California to Regina, are unreasonable as compared with rates charged from same points in California to Manitoba and Ontario. Commissioner McLean gave the following judgment: The present rate from Los Angeles to Regina is $1.70 per 100 lbs. on citrus fruits of all kinds. This fruit is routed over the Southern Pacific or Sante Fe, the Oregon Rd. & Nav. Co., and Spokane International, to Kingsgate, B.C., and thence by C.P.R. to destination. The rate is made up as follows:

Los Angeles to Portland, Oregon	.53
Portland, Oregon, to Kingsgate, B.C.	.57
Canadian Pacific	.60
	$1.70

The rates in U.S. territory are full locals, while the C.P.R. rate is a proportional one. On shipments from Riverside and Redlands, the rates are respectively 2½c and 5c higher. Regina has the same rate as Moose Jaw. The rate on oranges in straight carloads to Winnipeg, a longer distance point, is $1.25 per 100 lbs. The same rate applies on oranges and lemons in mixed carloads. On straight carloads of lemons, the rate is $1.10. These rates have been in force since Nov., 1907. In the shipments to Winnipeg the competition of railways in the U.S. has to be met. As a result of competition, compromise and consideration of the best methods of meeting the demand for citrus fruits in the large markets of the U.S. the practice has developed of making blanket rates of $1.15 on oranges and $1 on lemons, both in straight carloads, to points in the U.S. east of the Missouri and Mississippi river gateways. This applies to Detroit, Buffalo, New York, Boston, and common points. This also affects points in Canada, Toronto, for instance, having the advantage of the Buffalo rate. It is apparent that whatever rate is fixed by the competition of railways and of markets to points in U.S. territory south of Winnipeg must be recognized by the C.P.R. in making rates to that point. It is contended by the applicants that the same rates should apply to Regina via Kingsgate, as apply to Winnipeg via its connection through Emerson with the U.S. trans-continental lines. Winnipeg, Portage la Prairie, and Brandon are terminal points in the territory known, under the trans-continental freight tariffs, as Missouri River common points. The Winnipeg rate is 10c higher than to Missouri River common points. The reason for this is, that the connecting lines south of Minnesota Transfer (St. Paul) will not so reduce their portions of the total rate as to give the northern lines what they consider a fair return of the rate if the rate of $1.15 is charged. Out of the total rate of $1.25 on oranges to Winnipeg the lines north of Minnesota Transfer to the international boundary receive 38.8c per 100 lbs., while the lines north of the boundary receive 12½c per 100 lbs. In Nov., 1906, the new route via Kingsgate was opened. During the first season of operation of this route, the C.P.R. made the same rate to Winnipeg via Kingsgate as via Emerson. On account of the inadequate revenue obtained from this experiment in meeting a competitive rate, the small amount of tonnage moved by it, and the difficulties in the way of prompt delivery on account of climatic conditions, the rate was cancelled at the end of the season. It is apparent that different factors enter into the rate situation at Winnipeg and the territory adjacennt thereto, from those existing at Regina. The large volume of citrus fruits moving over the U.S. lines, and the large market to which this line of product caters in the U.S. has developed a low rate basis which gives Winnipeg a rate advantage over Regina; but the circumstances are so dissimilar that the advantage is not an undue one. The further fact that the C.P.R. no longer quotes the compelled Winnipeg rate over its route from Kingsgate, relieves it from a charge of violating the long and short haul clause by charging higher rates to intermediate points. The Regina rate complaint must be considered not from the standpoint of discrimination, but of reasonableness. Before the opening of the route via Kingsgate, the orange rate to Regina based on Winnipeg, was $1.72 per 100 lbs. The rate via Winnipeg is still operative. With the opening of the Kingsgate route the rate was reduced to $1.60. This rate was in force from June 5, 1907, until Feb. 10, 1908. It is alleged that this was changed to the present basis, because it was out of proportion with the Calgary rate of $1.65. It is a well established principle that when a lower rate which has been in force for some time is replaced by a higher rate, the former lower rate is prima facie a profitable and reasonable one. It is, of course, open to the railway to adduce evidence to show that the former rate was an unprofitable one, and such evidence should be most carefully considered. But, in the application before us, no such evidence has been adduced to show that the rate of $1.60 was

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

THE ALGOMA STEEL CO., LIMITED

SAULT STE. MARIE, ONTARIO

IS NOW BOOKING ORDERS FOR **STEEL RAILS** FOR DELIVERY DURING THE SEASON OF 1909

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to insure desired deliveries.

Office:
CANADA LIFE BUILDING
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS

REDUCE YOUR LABOR THREE-FOURTHS

If you could reduce your force 75 per cent. without curtailing the efficiency of your system, wouldn't you do it?
You CAN lessen, that much or more, the labor involved in handling your oils by installing

The Bowser System of Oil Storage

Storage Tanks filled direct from car—
Self-measuring pumps, drawing and measuring EXACTLY the amount desired at one operation—
Automatic Power Pumps that measure accurately from one to one thousand gallons—
That's the Bowser System; more about it in Bulletin 18.

S. F. BOWSER & COMPANY, LIMITED, - 66-68 FRASER AVENUE, TORONTO

unprofitable. In addition to this, Mr. Peters, then Assistant Freight Traffic Manager C.P.R., made the affirmative statement, under date of Jan. 20, 1908, when an earlier application in this matter was before us, that the rate of $1.00 was fair and reasonable. I see no reason why any departure should be made from this position now. At present the rate to Regina, via the Emerson gateway, is $1.72, which is made up of the $1.25 rate plus the third class rate of 63c., Winnipeg to Regina, less the Winnipeg cartage, which is not performed. On the citrus tonnage moving via Kingsgate to Regina, the C.P.R. is at present receiving $1.82 per ton per mile. The route from Kingsgate to Regina presents more difficult features from an operating standpoint, than that from Winnipeg to Regina. If, then, the citrus fruits are routed to Regina via Winnipeg, it would appear fair to apply a rate on the Winnipeg to Regina haul not exceeding that earned per ton per mile on the Kingsgate-Regina haul, and making the rate via Winnipeg $1.60. The rate on lemons, which is also involved in the complaint, should be lined up with the rate practice, whereby lemons in straight carloads are given a lower rate than oranges. I am of opinion that the C.P.R. should be required to arrange with its connections for the publication of new tariffs on the basis of $1.60 per 100 lbs. Los Angeles points to Regina, via Kingsgate or Emerson, on oranges in straight carloads, or on mixed carloads of oranges and lemons, as well as a rate of $1.45 on lemons in straight carloads. An order was passed accordingly.

FREIGHT RATES ON HORSES.

6948. Sept. 15, 1908.—The application of J. Lemon and others of Winnipeg, under sec. 340 of the Railway Act, for an order directing the revision of the provisions of the Canadian Classification, and the companies' bill of lading or live stock special contract, fixing the freight rates on horses, high priced or otherwise, on the basis of declared valuation, and restricting the liability of the carrier with respect thereto: Upon hearing the application in the presence of counsel for applicants and the C.P.R., and what was alleged; and it appearing that the C.P.R. and the C.N.O.R. only had been served with a notice of the application. It is ordered that the Michigan Central Rd., the G.T.P.R., the G.T.R., and such other companies as may desire to be represented at the hearing and which will receive notice of the time and place fixed for the hearing from the Advisory Committee of the Canadian Freight Association, be added as parties to the application.

I.C.R. RATES ON TIES.

6955. May 6.—In the matter of the application of T. Crockett of Riviere du Loup, Que., under the toll clauses of the Railway Act, for an order directing the Intercolonial Ry. and its connecting companies to comply with the provisions of the said clauses and the previous orders of the Board, in respect of the carriage of cedar railway ties, with particular reference to shipments from Riviere du Loup station, on the I.C.R., to Bennington, Vermont, a station on the Rutland Rd: The Board having no jurisdiction over the Intercolonial Railway, it is ordered that the application be dismissed.

THROUGH PASSENGER TRAFFIC TO C.N.O.R. STATIONS.

6969. May 6.—The complaint of the Keystone Camping Club of Pittsburg, Pa., alleging the refusal of the railway companies to issue through tickets and provide through baggage arrangements from Pittsburg to the South Magnetawan River Crossing, a local station on the C.N.O.R., 35 miles north of Parry Sound, Ont. Upon hearing the application in Toronto on April 28, in the presence of counsel for the C.N.R., the G.T.R., and C.P.R. Companies, no one appearing for the complainants, and what was alleged by counsel, it is ordered that the G.T.R. and the C.P.R. Companies be directed to honor, from the international boundary and in respect of their lines in Canada, any through tickets and through baggage checking arrangements issued and provided by initial United States railways from points in the U.S. to non-competitive points on the C.N.O.R.

STOP-OVER CHARGE ON LUMBER.

6970. May 7.—The application of the Long Lumber Co., of Hamilton, Ont., for an order directing the G.T.R. Co. to refund $3.88, amount of stop-over charge collected by the railway company on a shipment of shingles from Fort Kells, B.C., to Sarnia, Ont. Upon reading what was alleged in support of the application and on behalf of the railway company, and it appearing that at the time the shipment was made, viz., Sept. 7, 1908, no stop-over charge was in force. It is ordered that the railway company be directed to refund to applicant the amount of stop-over charge collected as aforesaid.

SPECIAL CONTRACT FOR VALUABLE ORES.

6972. May 6.—The application of G.T.R. under sec. 353 of the Railway Act, for approval of form of "release" or special contract respecting carriage of silver and other valuable ores, filed with the Board. Upon reading what was alleged in the letter of application, it is ordered that the said release or special contract respecting the carriage of silver and other valuable ores, be approved, and the applicant company is authorized to use the said form upon its railway until the Board shall hereafter otherwise order and determine.

GRAIN RATES TO MARITIME PROVINCES.

6996. Apr. 29.—The application of Transportation Bureau of Montreal Board of Trade, under secs. 77 and 315 of the Railway Act, for order directing that the C.P.R. Co.'s special mileage tariff on grain and grain products, in carloads (C.R.C. No. E. 438), which applies between stations in Ontario, east of Windsor and North Bay, and in Quebec, east to Quebec City, and the Maine boundary, be applied also from Montreal to points on the C.P.R. in New Brunswick. Upon hearing what was alleged upon behalf of applicants as well as respondents at Montreal on Dec. 23, 1908, and upon report and recommendation of the Board's Chief Traffic Officer, it is ordered that, commencing not later than June 1 next, the rates to be charged from Montreal by the C.P.R. to its stations in New Brunswick, on Western grain for domestic consumption, arriving at Montreal by vessel, be made by adding 5c per 100 lbs. to the "arbitrary" rates from Montreal to the said New Brunswick points charged by the company on Western grain arriving by vessel at its ports on Lake Huron; and that the rates from Montreal, so made, be exclusive of elevation and storage charges at Montreal. That should the company change its rates from its Lake Huron ports, the rates herein prescribed shall be changed in like proportion. That the company's rate, lawfully published and filed, on local shipments from Montreal to St. John, or West St. John, N.B., for furtherance by vessel to Bay of Fundy and other N.B. and N.S. ports, shall not be exceeded on Western grain arriving at Montreal by vessel and shipped to the same destinations.

VEGETABLE RATES IN MANITOBA.

6999. May 10.—The complaint of J. Kerr, of Franklin, Man., that rate charged by C.P.R. Co. on vegetables from Franklin to Winnipeg, is unreasonable and discriminatory as compared with the rate charged on wheat from Franklin to Fort William. Commissioner McLean gave the following judgment: Franklin is a station on the C.P.R., 126 miles from Winnipeg. The rate from Franklin to Winnipeg, under the company's special mileage tariff on grain, grain products and vegetables, is 13c per 100 lbs.; this is also the eighth class rate in the Canadian classification. It is contended that this rate is discriminatory since the rate on grain and grain products from Franklin to Fort William, 550 miles, for furtherance east is likewise 13c. It cannot be urged that this constitutes a discrimination against the applicant. The rate to Fort William is a division of a through rate concerned with a through shipment to an eastern market. Where grain and grain products move to Fort William for local consumption they move on the company's special mileage tariff and take a rate of 29c. The through rate of which 13c forms a part, is affected not only by the competition of other grain-growing territories, it was also reduced by the provisions of the Crow's Nest agreement. The conditions affecting the through shipments handled on this through rate are such that a division of such a through rate cannot be taken as the measure of the reasonableness of a local rate from Franklin to Winnipeg. The complaint should, therefore, be dismissed. An order was made accordingly.

Underbilling of Grain.—Mr. Justice Latchford gave judgment in Toronto recently in favor of W. Tolmie & Co., grain merchants, Rodney, Ont., for $864, against the Michigan Central Rd., being the price of 900 bush. of wheat at 96c, with interest from Dec. 2, 1907, and costs. The claim was for $1,060.05, and interest and costs, for a carload of wheat alleged to be wrongfully delayed in delivery, consigned to the Traders Bank at Dutton for H. Hollingshead, and, instead, delivered to Hollingshead, who at the time of delivery was said to be insolvent. The quantity shipped was 202 bush. in excess of that mentioned in the bill of lading, and the judge in his judgment characterizes as "reprehensible and dishonest" the practice of "underbilling," which, he says, may be a common custom among grain shippers, and against which carriers protect themselves by making the quantity expressed subject to ascertainment.

The first train of the Minneapolis, St. Paul and Sault Ste. Marie Ry.—C.P.R.—Spokane International—Oregon Ry. and Navigation Co. combination, left St. Paul, Minn., May 3, and reached Portland, Ore., May 6. The train runs over the M., St. P. & S.S.M. Ry. from St. Paul to Portal; over the C.P.R. lines from Portal to Kingsgate, B.C.; then over the S.I. Ry. to Spokane, Wash., and on to Portland, Ore., over the O. Ry & N. Co.

THE

NEW HOTEL BREVOORT CHICAGO

The Twentieth Century Hotel **Absolutely Fireproof**

Centrally located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG,
PROPRIETORS

ARTHUR M. GRANT,
MANAGER

THE SEA-SIDE

100's of Safe Beaches
Water Agreeable Temperature
Accommodation at Reasonable Rates

In

QUEBEC

NEW BRUNSWICK

NOVA SCOTIA

PRINCE EDWARD I.

Halifax, N.S.....Cor. Sackville and Hollis Sts.
St. John, N.B.....3 King Street
Quebec.....22 Dalhousie Street, 7 Dufort Street, 349 St. Paul Street
Montreal, P.Q. .....130 St. James St.
Toronto....51 King Street, King Edward Hotel Block

Write for copy of "TOURS TO SUMMER HAUNTS" to
General Passenger Dept.
INTERCOLONIAL RAILWAY
MONCTON, N.B.

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING, 232 ST. JAMES STREET, **MONTREAL**

C. P. R. Betterments, Construction, Etc.

Richelieu River Bridge.—Press reports state that the company has had plans and estimates prepared for replacing its present single track bridge over the Richelieu River, near St. John's, Que., with a double track steel structure.

Windsor St. Station.—The repairs to the Windsor St. station, Montreal, necessitated owing to the recent accident caused by the runaway train, have been completed. The waiting room has been rearranged so as to give more acoommodation. The concourse now extends through to Donegane St., with large windows at the end, which gives much better light and accommodation to the platform. The location of the ladies' waiting room has been changed, it now being partitioned off from the end of the main waiting room, and provided with much better accommodation than was possible in the old location.

Wellington St. Viaduct, Ottawa.—Construction was started May 14 by the C.P.R., and the work is to be completed by July 1. The construction of the viaduct will do away with the level crossings at this point, an elimination of which has been under discussion for several years. A portion of the work is to be done by the city council.

Brockville Improvements.—We are advised in connection with the report as to the contemplated improvements at Brockville, Ont., that the surveys being made at the tunnel under the city, connecting the upper yards with those on the water front, were simply for the company's information, and that the officials are not in a position to say anything as to the object of the surveys, or whether any improvements are contemplated.

Hamilton and Guelph Junction Ry.—Reports as to the probable early starting of construction upon this projected line are current in Hamilton and Guelph, Ont., but no official information has been given out other than that surveys have been made and estimates prepared, and that they have been submitted to the C.P.R., which is at the back of the project.

Guelph, Ont.—The chairman of the city council's railway committee stated recently that the C.P.R. proposed to provide a new station at Guelph during the summer.

St. Mary's and Western Ontario Ry.—A director of the company is quoted as having stated that the people of Blanshard tp., having defeated the by-law to aid the construction of the company's projected railway through the township, will now have to apply to it, as the company will take no further steps in the matter.

Bisco to Gowganda, Ont.—The company has, through the Bisco-Gowganda Transportation Co., completed a new route into the Gowganda country. It starts from Bisco station on the main transcontinental line, 346.2 miles from Toronto, and 529 miles from Montreal, and lands passengers in Gowganda after a trip of 80 miles by wagon roads and along stretches of rivers and lakes by launches and canoes. The company is providing stopping places en route, and is quoting a through rate.

Sault St. Marie Roundhouse.—The contract for the construction of a roundhouse at Sault Ste. Marie, Ont., is about to be let. The plans provide for a six-stall structure at a cost of about $15,000.

Jackfish Cut-off.—We are advised that the proposed cut-off on the main transcontinental line, north of Lake Superior, in the vicinity of Jackfish, will be about two miles long, extending from Steel siding to the crossing of Steel River. There will be no bridges on the new line; it will be principally rockwork, and the gradients will be less than 1%. A press report says the character of the country east of Jackfish was such as to make filling impossible because of the muskegs and the difficulties encountered. It was therefore decided to abandon this portion of the line, and to construct a new section, to the north of the present line. The new section involves the removing of 80,000 cubic yards of rock and the cutting of a 300 ft. tunnel. We are advised that the object of constructing this diversion is to escape the muskegs over which the line now passes on four long pile trestles. The muskeg is of such a character that to fill the bridges on the present line would not only prove expensive, but would involve the interruption of the traffic, which is not permissible. The work is expected to be completed by Jan. 1, 1910, and there is nothing particularly interesting either in alignment or gradient. The contract for this work has been let to W. T. Parsons, Winnipeg.

Fort William Viaduct.—The company's overhead bridge at Fort William, Ont., was blown down by a violent gale, May 6. The bridge connected the station with the freight sheds and passenger docks, and crossed the thickly congested tracks opposite the passenger station, the west approach being from the north end of the passenger platform. The first span at the west end of the approach was not destroyed, but the rest was carried away a distance of 20 ft. A temporary structure was put in position May 8, but it is not expected that a permanent bridge will be erected until the new station is built.

Manitoba and Northwestern Ry.—During the passing through Parliament of the company's act providing for an extension of time for the construction of the line, a clause was added that unless 10 miles were constructed beyond Sheho, Sask., this year the charter will lapse. The objective point of this line is Prince Albert.

Wynyard to Lanigan.—Tracklaying has been started on the route graded between these points. When completed this will give the company a route into Saskatoon, via Portage la Prairie, Yorkton and Sheho, the existing route being by the Kirkella branch to Lanigan.

Weyburn, Westerly.—Construction has been started at Weyburn, Sask., on the extension of 26 miles westerly, for which a contract has been let to Hargreaves. McDougall, of Regina, Sask., has taken in an outfit for grading a further mileage, and other contractors are arranging to bring in men and plant. J. Stephenson has charge of construction on the extension. It is the intention to carry this line to a junction with the company's line at Lethbridge, Alta.

Langdon or Cheadle to Alix.—The construction of a line of 40 miles from the main transcontinental line between these points, northerly to Alix, Alta., is under construction. One outfit is working about 20 miles east of Airdare, another at the Alix end, and a third at the southern end. Official information speaks of the southern end of the line as at Langdon, while press reports state that the work has been started near Cheadle. These two stations are seven miles apart, Cheadle being the more easterly. The contractors are Foley, Welsh and Stewart.

Lacombe Branch.—Grading on the extension of this branch easterly from Stettler, Alta., its present terminus, is in progress, the present contract covering a distance of 35.5 miles. The ultimate destination of this line is to effect a junction with the line at present under construction from Moose Jaw, which at present is close up to the crossing of the South Saskatchewan River. Foley, Welsh and Stewart are the contractors.

Edmonton.—The C.P.R. has recently been purchasing considerable areas of land in Edmonton, Alta., for terminal purposes. The areas acquired are in the vicinity of Ninth St., one block north of Jasper Ave.; the price paid for the lots purchased is said to have been $102,000. Options have been secured on other properties. It is stated that the company has secured its entire right of way for the projected extension from Strathcona into Edmonton. The construction of such a line involves the erection of a high level bridge across the ravine between Strathcona and Edmonton. The city corporation is desirous that in the construction of the bridge provision be made for pedestrian and vehicle traffic in return for civic, provincial and Dominion contributions towards its cost, which is estimated at $1,000,000. There has been an agreement with regard to the erection of this bridge, but negotiations are in progress for a new one. The matter has been before the city council on several occasions recently, and on May 5 it was stated that a difficulty in the negotiations is as to the damages to property in the neighborhood of a proposed subway on Jasper Ave., which the plans prepared by the company provide for.

Lethbridge-Calgary Line.—On a recent visit of W. Whyte, Second Vice-President, to Lethbridge, Alta., he said he would be disappointed if this line was not completed to Carman, on the Little Bow River, in time to carry out this year's crop. The line starts at Kipp, on the Blood reserve, south of Lethbridge, and runs to the Little Bow River, 28.5 miles. The contractors are Foley, Welsh and Stewart, and press reports state that Fitzgerald and O'Connor are sub-contractors.

Lethbridge and Macleod.—On his recent visit to Lethbridge, Alta., W. Whyte, Second Vice-President, said it was expected to have the big bridge at that point completed by Sept. The bridge over the Old Man River at Macleod would be finished soon after, and the Lethbridge-Macleod cut-off will then be completed.

The latest reports as to the state of construction of the big bridge over the Belly River is that there are two towers to erect before the big span is reached. These were expected to be completed by the end of May, when work on the big span, of 170 ft. 3 in., will be started. The false work necessary for the erection of this span will be 150 ft. high. About two months will be necessary to complete the span, and a month later the other spans will be in position and the bridge finished ready for the operation of trains over it.

Field-Hector Grade Reduction.—The work which has been in progress for a couple of years on the grade reduction loops and tunnels between Field and

DOMINION IRON & STEEL CO.

LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1909. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICES AND WORKS: **SYDNEY, CAPE BRETON, CANADA**

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for Sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

Canadian Gold Car Heating & Lighting Co. Ltd.

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished. Improved System of Acetylene Car Lighting.

Send for Circular of our New Combination Pressure and Vapor Car Heating System

Largest Manufacturers in the World of Car Heating Apparatus

Hector, B.C., is now approaching completion, and it is expected that trains will be running over it about June 15. The boring of the last tunnel was completed May 6. A plan showing the old and new routes with a description of the work was given in our Sept., 1907, issue. The new route adds 4.19 miles to the length of the line, but with the gradients reduced from 4.37% to 2.2%, the haulage capacity of the engines is doubled.

Okanagan Lake.—The company is applying to the B.C. Government for permission to lease certain pieces of land in Peachland, on the north-west shore of Okanagan Lake, B.C., having a total area of 356 acres, for improvements.

Vancouver.—The report has been revived that the company has again under consideration the erection of a bridge from the foot of Burrard St. to its wharves, in order to relieve the congestion of traffic at the main Granville St. entrance to the station and wharves. The latest report is that construction of the bridge will start soon after Jan. 1, 1910, but the company's officials state that no appropriation has been made for any part of the work during the current construction year.

Port Simpson, B.C.—Press reports from Montreal, May 14, stated that the C.P.R. had under consideration the desirability of constructing a line from Edmonton, Alta., through the Yellowhead Pass to Port Simpson, B.C., about 30 miles from Prince Rupert, the G.T. Pacific Ry. terminus. The report stated that several parties of engineers were in the field making surveys for the line, and that plans are in preparation for developing a deep water harbor at Port Simpson, in connection with the trans-Pacific trade. The reports are ridiculed at C.P.R. headquarters.

Bridge at Seymour's Narrows.—Local press reports state that C.P.R. officials have been again examining the possibility of bridging Seymour's Narrows so as to enable trains to be run through on to Vancouver Island, with a view of developing a new deep water port for the trans-Pacific trade. Sir Sandford Fleming suggested the construction of such a line and bridge 30 years ago, but its great cost was against it then, and the project has been revived in one form or another from time to time since, the most recent being by the Vancouver Island and Eastern Ry., which has power to operate a ferry service across the Narrows.

Esquimalt and Nanaimo Ry.—Among the works of betterment to be carried out during the current season is the erection of a cantilever bridge, to replace the present structure over the Niagara canyon, 15 miles northerly from Victoria. (May, pg. 355.)

Kootenay Central Ry.—Construction is being proceeded with on the portion of this line from Golden South, some 12 or 15 miles. No announcement has been made as to the starting of construction from the south end of the proposed route.

After several days' hearing at Toronto, the action of M. A. Piggott & Co., to recover $523,574 for work done during the construction of the Guelph and Goderich Ry., has been adjourned until the fall. The G. & G. Ry. Co., in addition to contesting the whole of the claim has filed a counter claim of $250,000 for delays in the work.

Railway Finance, Meetings, Etc.

Alberta Ry. and Irrigation Co.—Approximate net profits, exclusive of land sales for Mar., $39,116, against $25,963 for Mar., 1908. Cumulative net profits for 9 months ended Mar. 31, $332,552. Approximate railway traffic receipts for Apr., $22,753, against $14,736 for Apr., 1908. Aggregate railway traffic receipts for 10 months ended Apr 30, $265,649.

Algoma Central and Hudson Bay Ry.—See Lake Superior Corporation.

Canadian Northern Ry.—There has been deposited with the Dominion Secretary of State a mortgage made by the C.N.R. to the National Trust Co., Toronto, securing an issue of bonds to the amount of $10,000 a mile for 88.1 miles of railway from Etoimami to Pas Mission, Sask.

Dominion Atlantic Ry.—Gross earnings for Mar., $71,150, against $70,373 for Mar., 1908. Aggregate gross earnings for 3 months ended Mar. 31, $200,950, against $201,059 for same period 1908.

Lake Erie and Detroit River Ry.—The business transacted at the company's annual meeting at Detroit, Mich., May 4, was of an entirely formal character. The road is leased to the P.M. Rd., which absorbs the earnings, etc., and no separate report is issued. The directors were re-elected for the current year, as follows:—President, W. Cotter, Detroit, Mich.; Vice-President, A. Leslie, Walkerville, Ont.; Secretary-Treasurer, J. E. Howard, Detroit, Mich.; and A. H. Skirring, Chatham, Ont.

Lake Superior Corporation.—A London, Eng., cable states that 60% of the company's issue of $5,000,000 first consolidated mortgage bonds at 90 have been taken up. At the time of the issue the company's common stock was quoted at 28, and the income bonds at 55 on the Philadelphia, Pa., exchange, where these securities are most largely traded in. At these prices, including the $9,000,000 of first mortgage bonds at 90, the total market valuation of the company's securities is $20,950,000, against which there has been actually invested $28,000,000 by the old company, and $7,000,000 by the present company. The company owns the Algoma Central and Hudson Bay Ry. and the Manitoulin and North Shore Ry., both of which are to be extended from the proceeds of the bond issue.

Manitoulin and North Shore Ry.—See Lake Superior Corporation.

Montreal and Vermont Jct. Ry.—The annual meeting was held at Stanbridge, Que., May 12. Following are the directors for the current year;—President, C. M. Hays; Vice-President, E. H. Fitzhugh; G. C. Jones, E. C. Smith, A. H. Gilmour, C. W. Witters and W. H. Chaffee.

Quebec and Lake St. John Ry.—Gross earnings for Mar., $53,135.78; Apr., $44,090.97, against $39,891.51 and $39,880.05 respectively, for Mar. and Apr., 1908. Aggregate gross earnings for 4 months ended Apr. 30, $180,546.99, against $147,988.14 for same period 1908. Mileage operated, 285.6, against 240 at same date, 1908.

Quebec Central Ry.—Gross earnings for Mar., $94,110.96; net earnings, $33,622.73, against $98,931.74 gross and $31,719,77 net for Mar., 1908. Aggregate gross earnings for 3 months ended Mar. 31, $763,051.20; net earnings, $219,534.98, against $807,357.86 gross and $238,129.89 net for same period, 1908.

Temiskaming and Northern Ontario Ry.—Gross earnings for Feb., $101,813.32; expenses, $83,374.23; net operating earnings, $18,439.09; for Mar., gross earnings, $142,006.38; expenses, $84,658.49; net operating earnings, $54,347.89; for Apr., approximate gross earnings, $143,744.17; expenses, $65,000; net operating earnings, $78,744.17.

White Pass and Yukon Ry.—Gross earnings for Mar., $41,665; total for 9 months ended Mar. 31, $945,879.

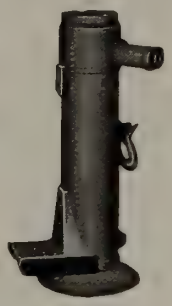
Sanitary Regulations for Cars and Stations

The Board of Railway Commissioners passed the following order, 6965, May 7: The application of Montreal Board of Trade for adoption of regulations requiring railway companies to clean and disinfect railway cars, stations, and waiting rooms, in order to prevent dissemination of tuberculosis or other infectious diseases: In pursuance of powers conferred upon it by secs. 30 and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf. It is ordered that every railway company subject to the legislative authority of the Parliament of Canada, be, and it is hereby directed and required: To keep all its passenger stations, waiting-rooms, and closets clean and well ventilated; to keep the closets and those portions of passenger stations, where germs of disease are likely to exist, properly disinfected; and to get reports at least monthly from employes charged with care of passenger stations, on the cleanliness, ventilation and disinfection of its stations, waiting-rooms and closets. To keep all its cars in which passengers may travel, including closets and smoking compartments of same clean, ventilated, and in cold weather properly heated; to have at least one employe on every passenger train, whose duty it shall be to see that every such car in the train is kept clean, ventilated, and when necessary properly heated. To adopt a by-law (if no such by-law has already been adopted), under sec. 307 of the Railway Act, prohibiting spitting in passenger stations, waiting-rooms, closets, or other premises of the company, and in or upon platforms of cars in which passengers may travel, except in receptacles suitable for the purpose, and providing a penalty for breach thereof, and to post up and maintain in a conspicuous place in passenger stations and in such places in its cars, in which passengers may travel where smoking is permitted, notice of such by-law and penalty for breach thereof. Such notices in the Province of Quebec to be printed in French and English. To provide and maintain cuspidors in such places in passenger stations and in cars in which passengers may travel where smoking is permitted; and to have such cuspidors emptied and washed clean whenever necessary, but at least once in every 48 hours. To fumigate promptly and thoroughly all cars known or suspected to have carried and all stations known or suspected to have contained any passenger or passengers suffering from any infectious disease. To fumigate thoroughly all sleeping cars which are regularly in service at least once every 30 days. And it is further ordered that every such railway company be liable to a penalty in a sum not exceeding $50 for every failure to comply with any of the provisions of this order; and that every railway employe whose duty it is to carry out any of the provisions of this order, be liable to a penalty of not less than $2 nor more than $15 for every failure to do so.

H & E Patent Ball-Bearing Lifting Jacks

For Railway and Bridge Work, Contractors' and Builders' Use

Foot-Lift

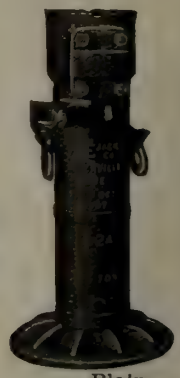


For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed.

Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

Square Base

Journal Jack



Plain

MANUFACTURED BY

H & E LIFTING JACK COMPANY = = WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

CANADIAN LOCOMOTIVE CO., LTD.,

KINGSTON, ONT.

Builders of Simple and Compound **LOCOMOTIVES** **Adapted to every variety of service**

THE CANADA IRON CORPORATION

Successors to: **LIMITED**

CANADIAN IRON & FOUNDRY CO., LIMITED
CANADA IRON FURNACE CO., LIMITED
ANNAPOLIS IRON CO., LIMITED
JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE ——— MONTREAL, P.Q.

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and Gas Pipe, Specials, Valves, Hydrants, Etc.
Castings of All Kinds

Canadian Northern Ry. Construction, &c.

Quebec and Lake St. John Ry.—By an act passed at the recent session of the Quebec Legislature the company has been granted an extension of time within which it may construct certain branch lines and extensions.

Canadian Northern Ontario Ry.—The company has several survey parties working on the Port Arthur-Sudbury line in the clay belt north of Nipigon, westerly towards Port Arthur. As stated in our May issue the company has about 1,000 men engaged upon construction work westerly from near Sudbury, Ont.

Canadian Northern Ry.—A press report from Ranier, Minn., stated recently that the C.N.R. traffic between Fort Frances and Port Arthur, Ont., was shortly to be diverted over the Duluth, Rainy Lake and Winnipeg Ry. into Duluth, pending the reconstruction of the section of the C.N.R. mentioned. It was stated that track on this mileage was to be relaid, and that all the bridges were to be reconstructed. We are officially advised that there is no truth in the statement that the C.N.R. is going to divert to Duluth any of its business that can be handled through Port Arthur. It is true, however, that the company will do considerable work on the line between Port Arthur and Winnipeg during the summer, but it will not interfere with the free movement of the traffic to and from Port Arthur in any way.

The new and heavier rails for relaying the track between Port Arthur and Fort Frances, are being delivered at Port Arthur, and as soon as a sufficient quantity have been delivered work will be started. Rails to lay 200 miles of track are to be received.

The work of pushing the last lift of ballasting on the line between Brandon, Man., and Regina, Sask., is in progress, and is expected to be completed at an early date. M. H. McLeod, Chief Engineer and General Manager, stated May 11, that it was expected to have the line in thorough shape to put on a fast passenger service by the end of the summer or early fall.

As a result of the final conference of the principal C.N.R. officers at Winnipeg recently, W. Mackenzie, President, stated that it was the intention to construct between 400 and 450 miles of track during the season. In Manitoba there would be constructed about 100 miles of new lines; in Saskatchewan the programme covered from 200 to 250 miles, and in Alberta it was expected to construct from 100 to 150 miles. M. H. McLeod, General Manager, in an interview at Regina, Sask., May 10, said the principal construction work of the season would be carried on in Saskatchewan. About the only work to be undertaken in the vicinity of Regina would be the relaying of the track between Regina and Lumsden, on the Regina-Prince Albert branch (the old Qu'Appelle, Long Lake and Saskatchewan Ry.). It was proposed to relay this with heavier steel, and to make it, with the new roadway over the Disley hill, equal to any other part of the system. Some work would also be done on the line into the Eagle Lake country, branching off the Regina-Prince Albert line a short distance north of Regina; and the Maryfield line would also be rushed. He was not in a position to state what mileage on these lines would be completed, however. As to the work to be undertaken on the Pas Mission line, all he could say was that the gangs out there would devote their attention to ballasting the track already laid; it was not the present intention to undertake any extension northerly from Pas Mission this season.

G. N. Weeks, who has been engaged on the company's engineering staff in Saskatchewan and Alberta, while on a visit to relatives in London, Ont., is reported to have stated that the line between Saskatoon, Sask., and Calgary, Alta., which is partly constructed, would be continued during the season. West of Edmonton the line under construction to Athabasca Landing would be progressed with; and further work would be done on the lines under construction from Prince Albert to Battleford, Sask., and from Vegreville to Camrose, Alta.

In connection with the Vegreville-Calgary line, W. J. Cowan, of the Cowan Construction Co., and A. R. Mann, another contractor, were in Edmonton May 5. The first named stated that both of them had contracts on the work, and it was expected to have 125 miles graded by the end of the season, starting from the Vegreville end. Track laying will be commenced as soon as ever the roadbed can be got in shape. The 125 miles to be constructed will carry the line past Camrose to the New Norway country. At Camrose the line will be joined by a line running south from Strathcona.

The surveys for the extension of the line from Morinville to Athabasca Landing, are in progress, S. A. Dixon being in charge. The surveys were expected to be completed May 31, and reports state that construction work will be started shortly.

W. J. Cowan, of the Cowan Construction Co., stated in Winnipeg May 13, that his company and the Northern Construction Co. (of which A. R. Mann is manager) had been given contracts covering the construction of over 600 miles. The Cowan Construction Co. has been given the following: Extension from Maryfield southwesterly 125 miles; Prince Albert branch, 30 miles; Oak Point branch, 20 miles; Rossburn extension, 30 miles; while the Northern Construction Co. has been given the following: From Vegreville to Calgary, 235 miles; Goose Lake extension, 100 miles; Morinville branch, 50 miles; Ochre River through St. Rose du Lac, 20 miles; the completion of the 30 miles from Rapid City westerly. A contract has also been let to N. K. Boyd, Carberry, Man., for an extension of the line west from Wakopa. The work contemplated for the year, however, does not include the completion of all these lines, for instance, on the Vegreville-Calgary line, the work laid out for the year is for 125 miles to near Camrose.

A bill has been under discussion in the House of Commons at the instance of the Minister of Railways with the object of interpreting the act passed during the session of 1908, guaranteeing the company's bond issue with respect to the construction of its lines west of Edmonton, Alta. The new act simply makes more clear and definite the act of last year, and does not grant any further aid to the company.

In a recent interview at Winnipeg D. D. Mann, Vice-President, stated that among other work to be done on the line during the season, something would be undertaken upon the construction of the line westward to the Pacific coast, for which surveys were in progress. Mayor Douglas, of Vancouver, B.C., is reported to have received a letter from D. D. Mann, in which it is stated that the C.N.R. will be in operation to that city within five years.

T. H. White, C.E., who has his headquarters at New Westminster, B.C., has established a base at Kamloops, B.C., for the B.C. location surveys, of which he is in charge, with C. F. Hannington as assistant. Five parties are in the field, two of them are reported to be working westerly from the present terminus of the line, about 30 miles west of Edmonton, Alta., into the Rocky Mountains, and the other three are taking the country between the mountains and the coast. These latter parties, which include J. Irving, J. F. Dalgliesh, and W. Killaly, from Mackenzie, Mann & Co.'s Toronto office, are working along the North Thompson River Valley. One party is located at Fruitlands and is working northerly; the second 40 miles up the river, and the third 20 miles further on.

As to the location of the terminal point on the coast it is stated that instead of following the Fraser River valley, the survey will cross that river at Lytton, and run through the Nicola River valley, and finally reach New Westminster, which city has made an offer of a free site for yards and shops, and as there is plenty of available water front there at comparatively cheap rates, it is thought, that if a satisfactory location can be obtained, that city may be able to secure the terminals.

Saskatchewan Northern Ry.—Notice has been given to the Board of Railway Commissioners of the amalgamation with the C.N.R. of the S.N.R. The charter of the S.N.R., which is a provincial one and carries a guarantee of bonds, provides for the construction of the following lines: From Craven, on the Craven branch of the C.N.R. Regina-Prince Albert branch, to the line near Prince Albert; a line connecting the company's line near Long Lake, with its Saskatoon-Calgary line; a line from Maryfield on the Manitoba boundary, south of the C.P.R., towards Lethbridge, Alta. (which is also covered by a Dominion charter); a cut-off from this line to the Roche-Perce coal fields, and a line northwesterly from North Battleford.

Alberta Midland Ry.—The Board of Railway Commissioners has received notice that the A.M. Ry. has been amalgamated with the Canadian Northern Ry. The A.M.R. Co. was incorporated by the Provincial Legislature, and has a guarantee of bonds for the lines authorized to be constructed, which consist of a line to connect Calgary and Edmonton, a line to Lethbridge, connecting with the Calgary line, and some other lines, a total of about 500 miles. The application for the amalgamation of the two companies will come before the Governor-General in Council at Ottawa, June 10.

Duluth, Rainy Lake and Winnipeg Ry.—Reports from Ranier, Minn., state that the company is preparing to complete the ballasting and gravelling of the line between there and Virginia. Several boarding cars were reported to have arrived at Ranier at the end of April, in connection with the work.

The Duluth, Winnipeg and Pacific Ry. is the title of a company which has been incorporated in Minnesota, with a capital of $3,000,000, and D. B. Hanna as its President, for the purpose of constructing a line from Virginia, Minn., the present southerly terminus of the Duluth, Rainy Lake and Winnipeg Ry., to Duluth. The D.R.L. & W.R. at present obtains an entrance into Duluth over the Duluth, Missabi and Northern Ry.

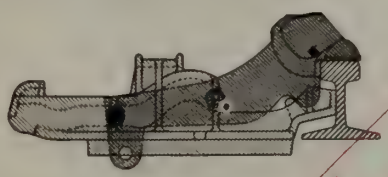
W. T. RODDEN, Managing Director J. F. JOHNSON, Secretary-Treasurer
T. L. GALLAGHER, Sales Manager

Standard Explosives
Limited

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL
Works: L'ISLE PERROT, NEAR VAUDREUIL, P.Q.



When used in signaling plants both the operating and locking connections of Hayes Derails are attached direct to the moving piece. The pull of the operating pipe is in line with the motion of the derail block and the force required to throw the derail is small. The locking rod is attached to a second lug on the derail block rendering the indication of the lock simple and positive. Fine adjustment of the locking mechanism, such as is required in the closed position of a split switch derail, is unnecessar in either direction.

They are made in Canada at Hamilton, Ontario.

Address: Hayes Track Appliance Co., Geneva, N.Y.

CROSSEN CAR MFG. COMPANY
OF COBOURG, LIMITED

MODERN HIGH-CLASS
ROLLING STOCK
Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows

CAR CASTINGS, FORGINGS AND REPAIR PARTS

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

PUBLICATION OFFICE,
157 Bay Street, Toronto, Canada.
Local and Long Distance Telephone, Main 3201

UNITED STATES REPRESENTATIVE
A. Fenton Walker
143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.

SUBSCRIPTION PRICES, INCLUDING POSTAGE:

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, JUNE, 1909

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, A. S. Hobson, Sherbrooke, Que.; MANAGER, J. E. Duval, 121 Board of Trade, Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. J. Mossman, Buffalo, N.Y.; SEC.-TREAS., T. Marshall, Toronto.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, H. H. Vaughan, Montreal; SECRETARY, J. Powell, St. Lambert, Que. MEETINGS 1st Tuesday each month 8 p.m., except June, July and August.

Canadian Street Railway Association.

PRESIDENT, J. E. Hutcheson, Ottawa; SEC.-TREAS., Acton Burrows, 157 Bay St., Toronto.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal. MEETINGS at Montreal, alternate Thursdays, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, R. J. Craig, Cobourg, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto. MEETINGS at Toronto, 3rd Tuesday each month, except June, July and August.

Dominion Marine Association.

PRESIDENT, C. J. Smith, Montreal; COUNSEL, F. King, Kingston, Ont.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto.
SECRETARY, R. B. Wolsey, C.E., Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee.

CHAIRMAN, A. A. Heard, Albany, N.Y.
SECRETARY, Jas. Morrison, Montreal.

Quebec Transportation Club.

PRESIDENT, E. A. Evans.
SECRETARY, A. H. Davis, Box 324, Quebec.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

Western Canada Railway Club.

PRESIDENT, G. Hall, Winnipeg; SECRETARY, W. H. Rosevear, Winnipeg. MEETINGS at Winnipeg, 2nd Monday each month, except June, July and August.

Alphabetical List of Advertisers

	PAGE
Abbott, W.	Cover 1
Allan, A. A. & Co., Ltd.	446
Alexander Car Replacer Mfg. Co.	456
American Brake Shoe & Foundry Co.	446
American Hoist & Derrick Co.	406
Babcock & Wilcox, Ltd.	468
Banwell, Hoxie Wire Fence Co., Limited	444
Beatty, M., & Sons, Ltd.	463
Boker, Hermann & Co.	460
Bowser, S. F. & Co., Limited	420
Bradstreet Company	448
Brevoort Hotel, Chicago	422
Brown Hoisting Machinery Co.	394
Burnham, Williams & Co.	448
Burns. R. M. & Co.	458
Burrows,—Acton Burrows, Limited	Cover 1
Butterfield & Co.	458
Canada Car Co., Ltd.	418
Canada Iron Corporation, Ltd.	426
Canadian Bridge Co., Ltd.	456
Canadian Bronze Co., Ltd.	466
Canadian Gold Car Heat'g & Light'g Co., Ltd.	424
Canadian Locomotive Co., Ltd.	426
Canadian Northern Railway	442
Canadian Office & School Furniture Co., Ltd.	466
Canadian Pacific Railway Land Department	454
Canadian Railway Accident Insurance Co.	462
Canadian Ramapo Iron Works, Ltd.	452
Canadian Rand Co., Ltd.	436
Canadian Road Machine Co., Ltd.	440
Canadian Westinghouse Co., Ltd.	Cover 2
Chicago Ry. Equipment Co.	446
Cleveland City Forge & Iron Co.	456
Clifton Hotel, Niagara Falls, Ont.	454
Coddington, W. H.	458
Coghlin, B. J., & Co.	466
Continental Iron Works	430
Crossen Car Mfg. Co., of Cobourg, Ltd.	428
Date, John	462
Delaware and Hudson Co.	460
Dominion Bridge Co., Ltd.	448
Dominion Car & Foundry Co., Ltd.	Cover 4
Dominion Iron & Steel Co., Ltd.	424
Dominion Wire Rope Co., Ltd.	412
Dougal Varnish Co., Ltd.	Cover 1
Drake & Wiers Co.	464
Drewry, E. L.	460
Drummond, McCall & Co.	420
Duner & Co.	466
Engineering News Book Dept.	438
Falls Hollow Staybolt Co.	454
Farlow Draft Gear Co.	440
Flannery Bolt Co.	434
Fuce, Edw. O.	429
Galena Signal Oil Co.	390
Galt Malleable Iron Co.	466
Gardner, J. T.	452
Gartshore, J. J.	462
Gartshore-Thomson Pipe & Foundry Co., Ltd.	458
General Railway Signal Co.	398
Goldschmidt Thermit Co.	464
Grand Trunk Railway	430
Greening, The B. Wire Co., Ltd.	458
Ground Anchor Co., Ltd.	432
H. & E. Lifting Jack Co.	426
Hamilton Pattern Works	466
Hamilton Steel & Iron Co., Ltd.	406
Harrison Dust Guard Co.	452
Hart-Otis Car Co., Ltd.	404
Hayes Track Appliance Co.	428
Hicks Locomotive and Car Works	446
Holden Co., Ltd., The	432
Hopkins, F. H. & Co.	404
Hotel Cadillac, Detroit, Mich.	Cover 1
Hudson's Bay Company	424
Hunt, Robert W., & Co.	463
Hutton, James & Co.	464
Illinois Central Railroad	462
Imperial Bank of Canada	466
Imperial Guarantee & Accident Insurance Co.	458
Intercolonial Railway	422
International Marine Signal Co.	460
International Mercantile Marine Co.	456
Jardine, A. B., & Co.	432
Jessop, Wm., & Sons, Ltd.	462
Kerr Engine Co., Ltd.	444
Knowlton, W. H.	466
Lehigh Valley Rd.	458
Lewis, Rice & Sons, Ltd.	420
Lufkin Rule Co.	Cover 1
McConway & Torley Co.	448
McCord & Co.	410
McGregor-Banwell Fence Co., Ltd.	438
Meaford Wheelbarrow Co.	460
Metcalf, John S., Co.	450
Midland Towing & Wrecking Co., Ltd.	466
Modoc Soap Co.	466
Montreal Locomotive Works	396
Montreal Rolling Mills Co.	436
Montreal Steel Works, Ltd.	416
Mussens Limited	Cover 1 and 392
National Malleable Castings Co.	Cover 1
New Brunswick Wire Fence Co., Limited.	458
Niagara Navigation Co.	434
Northern Electric and Mfg. Co., Ltd.	450
Northern Navigation Co.	434
Norton, A. O.	412
Ontario Wind Engine and Pump Co.	462
Orford Copper Co.	466
Ottawa Car Co., Ltd.	Cover 1
Owen Sound Wire Fence Co., Ltd.	462
Page Wire Fence Co., Ltd.	452
Parry Sound Lumber Co., Ltd.	466
Phillips, Eugene F., Electrical Works, Ltd.	464
Piper, The Hiram L., Co., Ltd.	466
Piper, N. L., Railway Supply Co., Ltd.	438
Polson Iron Works, Ltd.	408
Positive Lock Washer Co.	458
Preston Car & Coach Co., Ltd.	460
Provincial Steel Co., Ltd.	464
Pyke, J. W., & Co.	422
Pyle National Electric Headlight Co.	Cover 2
Rail Joint Co., of Canada, Ltd.	Cover 1 and 414
Rendle, A. Edgcumbe.	Cover 1
Rhodes, Curry & Co., Ltd.	408
Robb Engineering Co., Ltd.	410
Robertson Machinery Co.	466
Safety Car Heating & Lighting Co.	416
Saxby and Farmer, Ltd.	Cover 1
Sheriffs Mfg. Co.	452
Silliker Car Co., Ltd.	414
Smart, James, Mfg. Co., Ltd.	—
Southam Press	463
Standard Coupler Co.	452
Standard Explosives, Limited.	428
Standard Paint & Varnish Co., Ltd.	466
Standard Steel Works Co.	448
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold	430
Toronto Bolt & Forging Co., Ltd.	436
Toronto Pressed Steel Co., Ltd.	442
Union Draft Gear Co.	400 and 456
Vulcan Iron Works	464
Waugh Draft Gear Co.	Cover 1
Williams, A. R., Machinery Co.	418
Williams Boltless Rail Joint Mfg. Co.	402
Wire & Cable Co.	Cover 1

EDW. O. FUCE
Hon. Grad., Univ. Tor. (S.P.S.)
A. M. CAN. SOC. C. E.
ONT. LAND SURVEYOR,
Consulting Civil Engineer
GALT, ONT.
Railway Location & Construction.
Reinforced Concrete Structures.

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON (via Boston & Maine R.R. and Cent. Vermont Ry.) MONTREAL, TORONTO and CHICAGO.

THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.

Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, Gen. Passenger and Ticket Agent, MONTREAL, QUE.

Dominion Malleable Iron Journal Box

Manufactured in Canada.

—ALSO—

Malleable Iron Journal Bearing Wedges

Strong and Light Simple and Tight

Taylor & Arnold, Montreal

MORISON Suspension Furnaces

The Universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine Boilers

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

Manufactured by

THE CONTINENTAL IRON WORKS, WEST AND GALVER STS. BOROUGH OF BROOKLYN. Near 10th and 23rd St. Ferries. NEW YORK

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

Railway Rolling Stock Notes.

The I.C.R. has received 4 second class sleeping cars from Rhodes, Curry & Co., Amherst, N.S.

In addition to those already mentioned, the Crossen Car Mfg. Co., Cobourg, Ont., has shipped 100 stock cars to the C.N.R.

The I.C.R., between Apr. 16 and May 18, received 4 second class sleeping cars from Rhodes, Curry & Co., Amherst, N.S.

The Canadian Northern Ry. Co. has deposited with the Dominion Secretary of State agreements made between it and the Imperial Rolling Stock Co. and the National Trust Co., securing bonds, series S. and T. 1909.

The C.N.R., between Apr. 15 and May 15, ordered rolling stock as follows:—2 cafe parlor cars from Rhodes, Curry & Co., Amherst, N.S.; 27 refrigerator cars and 100 flat cars from the Crossen Car Mfg. Co., Cobourg, Ont.

The C.P.R., between Apr. 8 and May 13, ordered rolling stock as follows:—4 store supply cars, 2 horse cars, 54 box cars, 1 stock car, 1 Hart ballast car and 1 locomotive, at its Angus, Montreal, shops, and 32 vans at its Farnham, Que., shops.

The C.N.R., between Apr. 15 and May 15, received additions to rolling stock as follows:—75 stock cars from the Crossen Car Mfg. Co., Cobourg, Ont.; 31 box cars from the Canada Car Co., Montreal; and 262 box cars from Rhodes, Curry & Co., Amherst, N.S.

The 500 all steel dumping gondola cars which the Dominion Car & Foundry Co. is building for the C.P.R. and which were referred to in our April and May issues, were specially designed by the Hart-Otis Car Co., and are of that company's 1909 design.

The Silliker Car Co., Halifax, N.S., has received orders as follows:—18 flat cars and 27 box cars from the Anglo-Newfoundland Development Co.; 4 first class cars, 4 combination second class and baggage cars, 2 combination baggage and mail cars, from the C.N.R.; and 7 conductors' vans from the T. & N.O.R.

The C.P.R., between Apr. 8 and May 13, received additions to rolling stock as follows:—4 locomotives, 172 30-ton box cars, 6 baggage and smoking cars, 272 stock cars, 4 baggage and express cars, and 2 dining cars, from its Angus, Montreal shops; 8 vans from its Farnham, Que., shops; and 9 Pacific type locomotives from the Montreal Locomotive Works.

A letter from the General Manager of the Inverness Ry. and Coal Co., read in the Nova Scotia Legislature, May 6, set out that the company's contract called for the placing on the line of rolling stock to the value of $150,000. Up to April 20 the company had placed on the line $220,000 worth of rolling stock, and had an order with Rhodes, Curry & Co., for additional rolling stock to the value of $40,000. The delivery of this additional rolling stock was expected to be made by May 30.

The Montreal Locomotive Works has sold one 4-wheel locomotive to the Robertson Asbestos Co. Following are particulars:—

Gauge of track	42"
Weight	25,000 lbs.
Wheel base	4'—6"
Cylinders	9" x 14"
Drivers, diar.	29"
Boiler, type	Straight top
Boiler, diar.	29⅞"
Boiler, pressure	150 lbs.
Firebox	34" x 23¾"
Tubes, no. and diar.	56—1¾"
Tubes, length	7'—4¾"
Capacity, water	325 U.S. galls.
Capacity, coal	300 lbs.

The Montreal Locomotive Works has received an order from the Intercolonial Coal Co. for one Forney mogul locomotive (2-4-4). Following are particulars:—

Weight, on drivers	73,500 lbs.
Weight, on truck	6,500 lbs.
Weight, on trailer	14,000 lbs.
Weight, total	94,000 lbs.
Wheel base, driving	7'—0"
Wheel base, total	28'—2"
Cylinders	15" x 24"
Drivers, diar.	44"
Boiler, type	Straight top
Boiler, diar.	46"
Boiler, pressure	160 lbs.
Firebox	75" x 55¼"
Tubes, no. and diar.	146—1¾"
Tubes, length	18"
Journals	7½" x 9"
Capacity, water	1,200 U.S. galls.
Capacity, coal	2½ tons

The M. C. Rd. has ordered 6 Atlantic type, 2 six-coupled, and one ten-coupled, locomotives from the Montreal Locomotive Works. Following are chief particulars:—

	Atlantic	6-coupled	10-coupled
Weight on drivers	153,000 lbs.	163,300 lbs.	274,000 lbs
" " truck	44,000 lbs.	.....	.....
" " trailer	47,000 lbs.	.....	.....
Wheel base, driving	13'-0"	11'-6"	19'-0"
" " total engine	33'-7½"	.....	.....
" " " and tender	65'-8½"	42'-5½"	54'-5½"
Cylinders	22"x26"	21"x28"	24"x28"
Driving wheels, diar.	75"	57"	51"
Boiler, type	Straight top	Straight top	Straight top
" diar.	72 1-16"	67⅞"	80"
" pressure	200 lbs.	180 lbs.	210 lbs.
Firebox	108⅛"x75½"	72⅛"x65⅛"	108⅛"x78⅛"
Tubes, no. and diar.	56-1⅝"	394-2"	308-2"
" length	21 ft.	16 ft.	19 ft.
Journals	10"x12"	9"x12"	main 10½"x12" others 9½"x12"
Brakes	Westinghouse	American	
Capacity, water	7,100 U.S. galls.	5,100 U.S. galls.	8,000 U.S. galls.
" coal	12 tons	7½ tons	12 tons
Tender truck, type	4-wheel		arch bar
Wheels, diar.	36"	33"	33"
Journals	5½"x10"	5"x9"	5½"x10"

The Temiskaming and Northern Ontario Ry. has ordered 2 passenger and 4 freight locomotives (10 wheel) from the Canadian Locomotive Co., Kingston, Ont. Following are chief particulars:—

Weight on drivers	114,000 lbs.
Weight total	145,500 lbs.
Wheel base, rigid	13' 6"
Wheel base of engine	23' 8"
Wheel base of engine and tender	52' 6"
Length over-all	61' 10"
Width over-all	10' 0"
Height over-all	14' 9½"
Heating surface, firebox	139 sq. ft.
Heating surface, tubes	1693 sq. ft.
Driving wheels, diar., passenger	63"
Driving wheels, diar., freight	57"
Driving wheels, centres	Cast steel
Driving journals	8½" by 10"
Cylinders	19" by 24"
Boiler, type	Extended wagon top
Boiler, pressure	200 lbs.
Tubes, no. and diar.	245—2"
Tubes, length	13' 2¼"
Brakes	Westinghouse
Tender, weight loaded	120,000 lbs.
Capacity, water	5,000 imp.galls.
Capacity, coal	10 tons
Truck	4-wheel arch bar type
Wheels, diar.	33"
Wheels	Cast steel centres, steel tires
Journals	5" by 9"
Brake beams	Simplex

The Temiskaming and Northern Ontario Ry. is having built by the Preston Car & Coach Co. an official car which presents several new features of construction. Its extreme length over end sills is 70 ft. 2 in., with platforms at each end 3 ft. 5 in. over all. The width over side sills is 9 ft. 10 in; the width of deck opening, 5 ft. 6 in., and the height between sill and plate, 6 ft. 10 in. The layout shows that the car is divided into the following compartments, starting from the front end; Observation room, 10 ft., fitted with four revolving chairs and one upper and lower berth; three staterooms, each 7 ft. 6 in. in depth, each fitted with a stationary brass bed, chair, folding washstand, wardrobe, lounge, and closet; there is a passage, 2 ft. 2 in. wide, extending from the observation room, alongside these staterooms, to the dining room, which is 14 ft. 6½ in. deep, and is fitted with a centre table with six seats; an upper and lower berth; a table at one side and a desk at the other, while four additional chairs are provided; over the table and desk are cupboards. Leading from this is a berth room, 6 ft. 4 in. deep, in which are four upper and four lower berths. This completes the accommodation set apart for the three commissioners and the other officials who may accompany them on their trips of inspection. Immediately to the rear of the berth room is the heater, coal box, and a general toilet room. Then comes the servants' room, fitted with upper and lower berth; china closet, refrigerator, kitchen, etc. The provisions refrigerator is placed on the end platform. Following are extracts from the specifications; Underframe, to be of the best grade O.H. structural steel throughout; body framing, to be as per Pullman standard throughout, continuous blocking; double body bolsters; tower steel couplers; sheathing, poplar or white wood, 2 in. width; roof and hoods as per Pullman standard; inside finish to be quarter sawn oak throughout; inside finish design full Empire type; deck sash, gothic sash; interior trimmings, statuary bronze; lighting, Pintsch gas throughout and wired for electric lights; heating, Safety Car Heating and Lighting Co.'s system; Pullman wide vestibule on front end; observation platform on back and with bronze hand rails and gates; refrigerator, white enamelled, iced from top of car; air brake, Westinghouse; trucks, standard 6 wheel, equalized, 80,000 lb. capacity; wheel base, 10 ft. 6 in.; steel wheels, 38 in. diameter; axles, steel, journals 5 x 9 in., M.C.B. standard; journal boxes, McCord malleable brake beams, Simplex, with automatic brakeheads; brake shoes, steel back; bearings, Canadian Bronze Co.; painting, striping, etc., in accordance with T. & N.O. standard.

Railway Tie Preservation.—The question of the preservation of ties is an important one to railway companies. In Great Britain the method of preservation adopted has been by a creosoting process, which has been adopted with satisfactory results by a number of the lines in the U.S. The life of an untreated tie is usually about seven years, but experiments have shown that creosoted ties of jack pine and tamarac will last for 16 years, and creosoted oak ties for 18 years. Experiments have been made with steel and concrete ties, but these have been found unsatisfactory on account of their rigidity. It is understood that the C.P.R. has decided to make an exhaustive test of the creosoting process and will treat 100,000 ties during the present season. Plants will be erected at suitable centres on the line so that the tests may be made under varying conditions. Local press reports state that a plant for the treatment of ties will be located in London, Ont., and another one at Fort William, Ont.

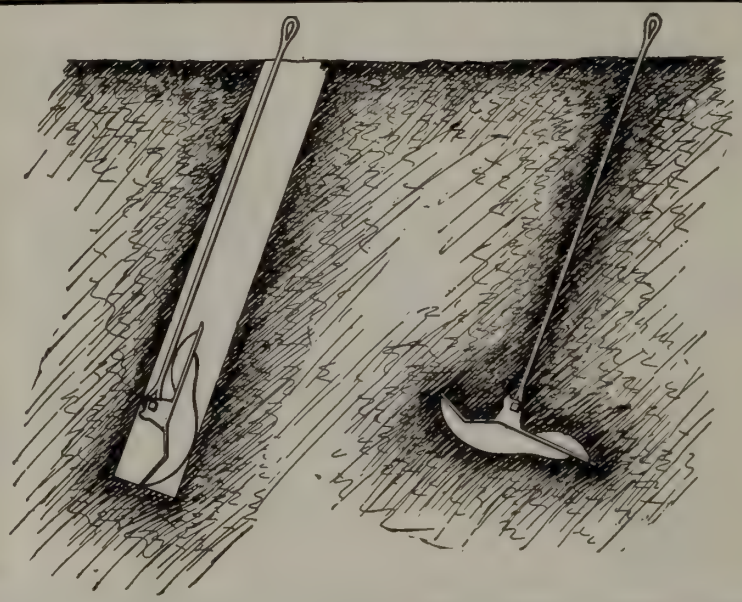
"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes

Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.



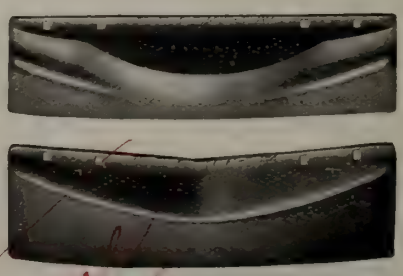
"AULD" TYPE GUY ANCHORS

Write us about your pole line; we can increase its efficiency and save you money.

Sole manufacturers under letters patent No. 90301 and No. 101462

THE GROUND ANCHOR CO.
LIMITED
Street Railway Chambers
MONTREAL

McCord Journal Box.



Fewings Car Replacers.

Steel Back Brake Shoes.

We highly recommend including the McCORD Malleable Iron Journal Box in specifications for new passenger, freight or locomotive tender equipment. The Mechanical features of the lid make the box dust and sand proof, and insure constant lubrication of the journal. No engine is complete without our FEWINGS Cast Steel Car Replacers, which are used to-day by all the leading Roads in Canada. The use of our STEEL BACK Brake Shoes insures the maximum of efficiency and economy in this connection. Write us for descriptive literature and prices, and watch for illustrations of our other specialties.

THE HOLDEN COMPANY, Limited

MONTREAL—302 St. James Street. TORONTO—42 York Street. WINNIPEG—291½ Portage Ave

MAINLY ABOUT PEOPLE

Mrs. A. P. Walker, wife of the Assistant Division Engineer C.P.R., Toronto, died there May 3.

Miss A. Apps, daughter of W. Apps, formerly Master Car Builder, C.P.R., died at Toronto, recently.

C. R. Hosmer, director C.P.R., returned to Canada from Great Britain on the s.s. Empress of Britain, May 15.

R. Meighen, director C.P.R., and Mrs. Meighen, sailed for England, May 7, on the C.P.R. s.s. Empress of Ireland.

T. P. Phelan, President Canada Railway News Co., has bought a house in Rosedale, Toronto, for about $18,000.

Sir H. Montagu Allan has been re-elected Honorary President of the Montreal Amateur Athletic Association.

The Governor-General occupied D. D. Mann's house, Scarboro Cliff Park, during the Ontario Jockey Club's spring races.

Mrs. J. H. Fulford, wife of the G.T.R. ticket agent at Brockville, Ont., died there suddenly of heart failure April 29, aged 66.

Lieutenant-Colonel E. G. Piche, C.P.R. Ticket Agent, Joliette, Que., and First Vice President, Canadian Ticket Agents' Association, died May 19, aged 51.

D'Arcy Scott, Assistant Chief Railway Commissioner, was a guest at the banquet of the Canadian Club, New York, May 14.

The marriage of Miss Bertha Brodeur, daughter of the Minister of Marine, to J. G. Delorimier, Montreal, is announced for June 15.

Wm. Haldane, brewer, Prescott, Ont., father of W. R. Haldane, General Freight Agent, Pacific Division, C.P.R., died May 15, aged 78.

W. H. Caryer, chief clerk, C.P.R. local freight department, Montreal, died May 13. He had been with that department for over 20 years.

T. C. Frew, a native of Guelph, Ont., has been appointed General Freight and Passenger Agent, Beaumont and Great Northern Ry., Onalaska, Tex.

S. J. McLean, Dominion Railway Commissioner, spoke on "Some Considerations on Railway Regulation" before the Empire Club, Toronto, April 29.

Mrs. Nicholls, wife of F. Nicholls, Second Vice-President and Managing Director, Canadian General Electric Co., died suddenly at Toronto, April 27.

J. Sutherland has been appointed Acting Deputy Commissioner of Railways, Telegraphs and Telephones for Saskatchewan, with headquarters at Regina.

Jas. Mills, Dominion Railway Commissioner, who recently underwent an operation at Miss Lash's Cottage Hospital, Toronto, returned to Ottawa early in May.

N. L. Luther, steamship and passenger ticket agent, and Canadian Passenger Agent, London & Northwestern Ry. of England, Montreal, died there suddenly May 23.

Lady Shaughnessy and Miss Shaughnessy returned to Canada by the C.P.R. ss. Empress of Britain, May 15, from Great Britain, where they have been on a long visit.

Wm. Whyte, Second Vice-President C.P.R., accompanied by Mrs. Whyte and T. C. Irving of Toronto, returned to Winnipeg May 1, after a two weeks' trip to the Pacific coast.

E. J. Melhuish, clerk in charge of advertising, C.P.R. District Passenger Agent's Office, Toronto, left there May 14 on a two months' visit to his old home at Malvern, England.

S. L. Shannon, Comptroller and Treasurer, and C. F. Burns, Auditor of Disbursements, I.C.R., Moncton, N.B., attended a convention of Railway Accountants at Cincinnati, Ohio, early in May.

Mrs. E. Tiffin, wife of the General Traffic Manager, I.C.R., Moncton, N.B., spent some time in Toronto early in May, afterwards going to Preston, Ont., with her daughter before leaving for Europe.

W. Mackenzie, President Canadian Northern Ry., and Mrs. Mackenzie left Toronto May 21 for England. On their return they will be accompanied by the Misses Mackenzie, who are now in England.

J. Meagher, a former contractor on C.P.R. construction between Montreal and Ottawa, and Port Arthur and Winnipeg, also on G.T.R. construction near Prescott, Ont., died at Kelowna, B.C., recently.

Mrs. Reid, mother of the late Sir Robert G. Reid, and grandmother of W. D. Reid, President and General Manager, Reid Newfoundland Co., died at Coupar Angus, Scotland, recently, aged 90.

J. Hyde, formerly connected with the Paymaster's Department of the Toronto, Hamilton and Buffalo Ry., was sentenced to three years' imprisonment, at Hamilton, Ont., May 13, for forging time checks and so defrauding the company.

L. A. Hamilton, ex-Land Commissioner C.P.R., who is living at Clarkson, Ont., has been elected President of the Clarkson and Lorne Park Fruit Growers' Association. He has also been re-elected President of the Mississauga Golf Club.

C. T. Jafferay, Chicago, Ill., who has been elected a director of the Wisconsin Central Ry., under the control of the Minneapolis, St. Paul and Sault Ste. Marie Ry. (controlled by the C.P.R.) is a native of Galt, Ont., where his brothers now reside.

H. J. Varlow, formerly of Stratford, Ont., and latterly engaged as a shop foreman in the C.P.R. shops at Fort William, Ont., is reported to have been transferred to Vancouver, B.C., as general foreman over the erecting and machine shops there.

Scott Griffin, Manager Canadian Northern Express & Telegraph Companies, is building a 20 room house on Clarendon Ave., Toronto, immediately in rear of Benvenuto, the residence of his father-in-law, Wm. Mackenzie, President Canadian Northern Ry.

Hon. W. Pugsley, Minister of Public Works, has accepted an invitation to a banquet to be held in New Brunswick in the near future. He will subsequently take a trip to the Pacific coast, on a visit of inspection of the various works in progress under his department.

J. B. Laflamme, who died in Montreal, May 10, was for many years engaged in superintending construction on the railway contracts carried out by the late Sir Robert G. Reid, in Canada and the United States. Latterly he was engaged in a similar capacity with W. J. Poupore, contractor, Montreal.

W. R. Baker, Secretary and Assistant to President, C.P.R., returned to Montreal, May 3, after a visit to Great Britain, the Continent and Egypt. While in England he was received by the Prince of Wales, whose host he was, on behalf of the C.P.R., during H.R.H.'s visit to Canada in 1902.

A rumor is current in Montreal, that Sir Wm. C. Van Horne will, in the near future, enter politics. The matter appears to be discussed in all sincerity, but in the face of any such pronouncement by Sir William himself, we merely mention the rumor for what it is worth, at the same time doubting its accuracy.

Jno. Williams, bridge engineer for the Toronto City Council, who died in Toronto, May 1, aged 67, was on the engineering staff of the old Great Western Ry. at Hamilton, Ont., from 1870 to 1874. After residing some years in England, he returned to Canada in 1887 and entered the Toronto City Council's service.

H. E. Vautelet, C.E., one of the engineers in charge of the plans for the construction of the Quebec bridge, was a passenger on the Allan Line s.s. Tunisian, which had to put in at St. John's, Nfld., May 13, while en route from England to Montreal, owing to the starting of a plate while forcing a passage through the ice.

T. McHattie was entertained at a reunion by the foremen and engineers of the Eastern Division G.T.R., at Montreal, recently, and was presented with a cabinet of silver and an address, in connection with his retiring from the position of master mechanic of that division, to become Superintendent of Motive Power of the Central Vermont Ry.

R. Lawrie was recently presented with a gold headed cane, and Mrs. Lawrie with a silver tea service, on leaving Wiarton, Ont. Mr. Lawrie has been in the G.T.R. service since 1886, and has latterly been station agent at Wiarton. He has been appointed joint station agent for the G.T. Pacific Ry. and the Great Northern Ry., U.S., at Portage la Prairie, Man.

Sir Wm. Van Horne, Chairman of the Board, C.P.R., is reported to have said in England, May 3, in the course of an interview on a reciprocal trade agreement between Canada and the U.S.: "I estimate there are only about 6½% of fools in Canada. So long as this percentage does not materially increase, we are in no danger of reciprocity—or such reciprocity as would throw down all customs barriers."

The U.S. press plays many parts. From the latest sample from Boston, Mass., it would appear that it has now adopted the role of a prophet. The Boston News Bureau has published an interview with "Sir" William Mackenzie, President Canadian Northern Ry.

H. C. Grout, whose appointment as Assistant Superintendent, District 3, Ontario Division, C.P.R., Toronto, was announced in our May issue, was born at Wausau, Wis., Mar. 14, 1881, and entered C.P.R. service June, 1898, since when he has been to Feb., 1899, rodman; Feb., 1899, to Apr., 1901, leveller; Apr., 1901, to Apr., 1903, transitman; Apr., 1903, to Apr., 1, 1907, resident engineer, Toronto; Apr. 1, 1907, to Apr. 1, 1908, Assistant Division Engineer; Apr. 1, 1908, to Apr. 20, 1909, Resident Engineer, Toronto.

C. W. Cooper, who has been appointed General Passenger Agent, C.N.R., was born at Montreal, Nov. 16, 1868, and entered railway service Feb. 24, 1885, since when he has been successively, in the

NIAGARA NAVIGATION COMPANY

STEAMERS CONNECTING

Toronto-Niagara Falls-Buffalo

6 trips daily (except Sunday).

Write for illustrated booklet. Dining service on all steamers.

B. W. FOLGER, General Manager, Toronto

The Northern Navigation Co.

OF ONTARIO, Limited

GRAND TRUNK LINE

"A FRESH WATER SEA VOYAGE"---1500 Miles up the Great Lakes.

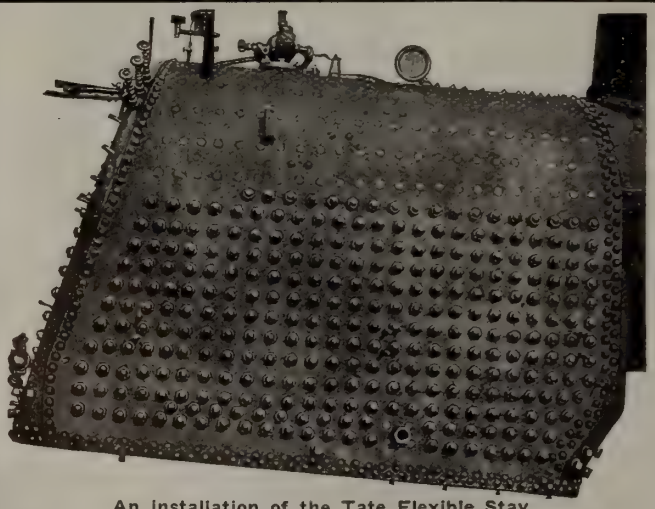
Frequent Sailings for Sault, Port Arthur, Fort William and Duluth.

"THAT GEORGIAN BAY TRIP." Sailings from Collingwood and Owen Sound for Manitoulin Island Points and Sault Ste. Marie.

Also from Penetang and Midland for Parry Sound and Point Au Baril after June 15th.

TICKETS and INFORMATION from all Agents, or address

C. H. NICHOLSON, Traffic Manager, SARNIA.



An installation of the Tate Flexible Stay.

THE TATE FLEXIBLE STAYBOLT

THE PERFECT STAY

For Locomotive Fire Boxes

Over a million and a half bolts in service on over 100 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited

TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, = Pittsburgh, Penn., U.S.A.

G.T.R. Passenger Department, Montreal; secretary to D. McNicol, then General Passenger Agent, C.P.R., Montreal, and later in Montreal and Ottawa ticket offices, until 1901, when he was appointed chief passenger clerk, C.N.R., and from Jan., 1907, to Apr. 30, 1909, Assistant General Passenger Agent, C.N.R., Winnipeg.

W. S. Cookson, who has been appointed Assistant General Passenger Agent, G.T.R., Chicago, Ill., was born at Port Jervis, Orange Co., N.Y., June 12, 1871, and entered railway service July 15, 1886, since when he has been, to Nov. 1, 1886, clerk, car record office, Erie Rd., Jersey City; Nov. 1, 1886, to Dec. 1, 1886, clerk, General Roadmaster's office, Chicago and Western Indiana Rd., Chicago, Ill. (the G.T.R. is part owner of this railway); Dec. 1, 1899, to May 1, 1909, chief clerk, G.T.R., Assistant General Passenger Agent's office, Chicago, Ill.

Geo. Stephen, who has been appointed General Freight Agent, C.N.R., Winnipeg, was born at Montreal, July 5, 1876, and entered railway service in 1889, since when he has been, to 1899, clerk in C.P.R. service; 1899 to 1900, chief clerk to Assistant General Freight Agent, C.P.R., Winnipeg; 1900 to 1901, Travelling Freight Agent, C.P.R. lines in Manitoba; 1901 to 1903, Contracting Freight Agent, C.P.R., Nelson, B.C.; 1903 to Jan., 1907, chief clerk to General Traffic Manager, C.N.R., Winnipeg; Jan., 1907, to May, 1909, Assistant General Freight Agent, C.N.R., Winnipeg.

G. W. Vaux, General Passenger Agent, G.T.R., Montreal, whose portrait appeared in our May issue, was born at Montreal, Mar. 21, 1866, and entered G.T.R. service July 13, 1881; since when he has been, to June 13, 1885, office boy, General Passenger Department, Montreal; June 13, 1885, to Feb. 1, 1897, clerk same department, Montreal; Feb. 1, 1897, to Aug. 1, 1899, chief clerk, same department, Montreal; Aug. 1, 1899, to May 1, 1900, Assistant General Passenger and Ticket Agent, Montreal; May 1, 1900, to May 1, 1909, Assistant General Passenger and Ticket Agent, Chicago, Ill.

L. J. Rouleau, who has been appointed Travelling Freight Agent, and Agent National Despatch—Great Eastern Line, which operates in connection with the G.T.R., Central Vermont Ry., Boston & Maine Rd., and connections, Montreal, was born there Jan. 6, 1879, and entered G.T.R. service Apr. 1, 1899, since when he has been, to Mar., 1903, clerk and timekeeper, local freight department, Montreal; Mar., 1903, to Nov., 1905, claims investigator, freight claims department, Montreal; Nov., 1905, to Apr., 1907, rate clerk, divison freight office, Montreal; Apr., 1907, to Apr. 1, 1909, Soliciting Freight Agent, Montreal.

H. R. Charlton, who has been appointed General Advertising Agent, G.T.R. and G.T.P.R., was born at St. John's, Que., Feb. 6, 1866, and after some three years' newspaper work at St. John's, Que., was engaged on railway survey work in 1883 and 1884 on the Waterloo and Magog Ry.; he was engaged in commercial pursuits in St. John's, Que., until 1887, when from Feb. to June he was engaged with the C.P.R. travelling exhibition car, and after four years' newspaper work was given charge of the C.P.R. advertising department in April, 1891, remaining there until April, 1896, when he again went into private employ. In Jan., 1898, he was appointed Advertising Agent, G.T.R.

Trade and Supply Notes

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

The Hamilton Stamp & Stencil Works have installed one of the largest and latest improved vulcanizers in its rubber stamp department.

The Dominion Iron & Steel Co., Sydney, N.S., has received an order for 5,000 tons of bull-head steel rails, from the Great Northern Ry. of England.

The Canadian Westinghouse Co., Hamilton, Ont., has issued illustrated pamphlets dealing with the Westinghouse multiple Tungsten lamps, and Westinghouse type M.S. mill motors, also Textile Motor Talks, No. 6, and Motor Talks, No. 4.

The Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio, has received a large order for Staybolt iron from one of the largest railway companies in England, which wishes to give it a trial with a view to its adoption on the entire system by them.

The Union Draft Gear Co, J. R. Cardwell, President, announces that it has taken over the Cardwell Manufacturing Co.'s draft gear business, in connection with which it proposes to manufacture and sell other improved types of friction and spring draft gear appliances.

The Safety Car Heating and Lighting Co., New York, has issued a complete and comprehensive catalogue in loose leaf form in a special soft binder, the contents of which make clear the thorough way in which the company is meeting demands in the car-lighting and heating fields.

The Canadian Gold Car Heating & Lighting Co. has during the past year made several improvements in its car heating specialties, which will be on exhibition in secs. 301 to 311 exhibition hall, Master Mechanics' and Master Car Builders' convention at Atlantic City from June 16 to 23.

The Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio, has appointed Mussens Limited, Montreal, as its agent for Canadian territory east of Lake Superior, and the Brydges Engineering & Supply Co. as agent for territory west of Lake Superior. H. J. Skelton & Co., of London, Eng., have been appointed the representatives for the British Isles and India.

The U. S. Lighthouse Establishment has recently decided upon more liberal lighting for the lower New York harbor and has placed orders with the Safety Car Heating & Lighting Co. for a sufficient number of Pintsch Gas buoys to enable the largest steamers to enter the harbor at night. There are over 2,200 of these buoys in service throughout the world, the principal countries using them as follows: United States and Canada, 497; England, 439; Argentine, 296; France, 209; Germany, 166; Holland, 166.

The Union Draft Gear Co., Chicago, has been organized with the following officers: J. R. Cardwell, President and General Manager; C. A. Jennings, Vice-President; J. D. Ristine, Secretary and Assistant Treasurer; C. H. Tobias, Treasurer and Assistant Secretary. This company, which has a paid-up capital of $2,000,000, has bought the Cardwell Manufacturing Co.'s patents and business, relative to draft gear, and will continue the manufacture and sale of the friction draft gear, which was started by this company in the latter part of 1904.

The G.T. Pacific Ry. has put on a regular passenger service on its line between Winnipeg, Man., and Biggar, Sask.

The Donald Ross Incline Ry. Co., Ltd., has been incorporated under the Northwest Territories Ordinance, with office at Edmonton, Alta.

The C.P.R. proposes to lay out a 20-acre vegetable and fruit farm at Kerrisdale, B.C., for the purpose of supplying its dining cars and mountain hotels with fruits, vegetables, etc.

J. J. Conway, St. Maurice Lumber Co., Pentecost River, Que., in remitting his subscription, writes: "I assure you I find the Railway & Marine World a most welcome friend along the north shore."

The Minister of Railways made the definite statement in the House of Commons, May 11, that it was not the intention of the Government to ask Parliament to vote any subsidies in aid of railway construction at the session which has since closed.

The installation of the telephone on the Michigan Central Rd., between Windsor, Ont., and Buffalo, N.Y., was completed May 4. Connections are made with the principal points on the line and the system will be used as a subsidiary agent to the telegraph system for the more expeditious despatch of the company's business. The results are reported to have been thoroughly satisfactory.

The Guelph, Ont., City Council, in fixing a rate of 14½ mills on the dollar for the current year, has taken credit for estimated receipts of $25,000 from its interest in the Guelph Junction Ry. (operated under lease by the C.P.R.), and $3,240 profit from the electric street railway, which it owns and operates. The city also owns and operates the water works system, and the gas and electric light plants.

The U.S. Bureau of Railway News and Statistics has compiled figures of the results of the operation of the 2-cent passenger fare legislation in operation there. The figures estimate that during 1908, the railways lost in gross earnings $25,000,000, although a larger number of passengers was carried. This is accounted for by a reduction in the average receipts per passenger mile on 94 per cent. of the mileage, from 2.014 cents in 1907 to 1.932 cents in 1908.

J. D. McLennan, who has been appointed Auditor of Freight Accounts, G.T.R., Montreal, was born at St. Mary's, Ont., Apr. 6, 1863, and entered railway service July, 1878, since when he has been, to Sept., 1881, in G.T.R. Freight Office, Brockville, Ont.; Sept,. 1881, to Dec., 1884, in Treasurer's Office, Chicago, and Grand Trunk Ry., Port Huron, Mich.; Dec., 1884, to Aug., 1890, Chief Freight Clerk, Chicago, and G.T.R., Detroit, Mich.; Aug., 1890, Travelling Auditor, G.T.R. lines west of Detroit and St. Clair Rivers; and subsequently, to May 1, 1909, Chief Clerk to Auditor of Freight Accounts, G.T.R., Montreal.

IMPERIAL PNEUMATIC TOOLS

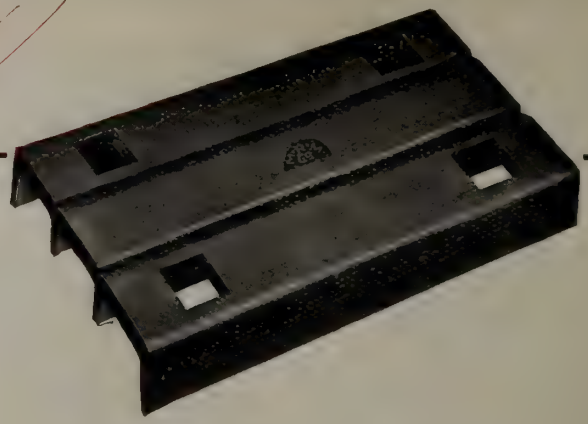
Two Photos, showing "IMPERIAL" Air Tools at Works of Locomotive and Machine Company, Montreal.

CHIPPERS
RIVETERS
AIR DRILLS
MOTOR HOISTS

Built in all Standard Sizes. Efficiency Guaranteed.

A complete line of the above appliances and all sizes of Air Compressors for pneumatic work carried in stock for immediate shipment.

Canadian RAND Co. Limited
MONTREAL, QUE.
Branches at:
TORONTO, WINNIPEG, ROSSLAND, COBALT, HALIFAX, MONTREAL.



TIE PLATES

Rolled from best quality of steel. Punched to fit any weight rail, and sheared exact to specifications.

ALSO

ANGLE BARS, TRACK SPIKES. TRACK BOLTS, ETC.

The Montreal Rolling Mills Co.

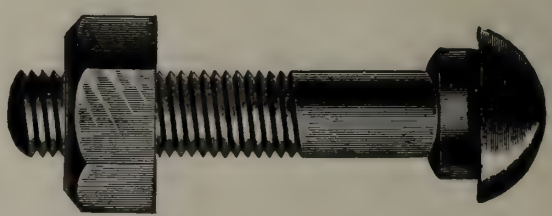
TORONTO BOLT AND FORGING CO. LIMITED

Manufacturers of

BOLTS AND NUTS

OF ALL KINDS, INCLUDING

Track Bolts
Track Spikes
Lag Screws
Boiler and
Bridge Rivets



TORONTO — CANADA

Misrepresentation of the Northwest.

Some time ago there was considerable discussion of the misrepresentation of Canada by writers who, apparently, had more regard for picturesqueness than for accuracy. Many, if not most of Arthur Stringer's criticisms in a Western magazine had to do with the climate, and life in the northern woods. So long as misrepresentation is confined to details such as were pilloried by Mr. Stringer, no special harm to the country is discoverable, except, possibly, a prolonging of the tradition which obtained south of the international boundary line, that when it does not show in Canada it freezes, and that the Niagara River, flowing north and south, is a sharp dividing line between the temperate and the frigid zones. The writers referred to have possibly had no malice against the country. They probably did not know as much as they thought they did. It may be assumed that this is true, also, of those who, in reputable publications, assail enterprises that are of great importance to Canada's development. For the latest case in point, we are indebted to The World's Work, a United States magazine, which has published two articles which surely could not have been passed by any editor who was not under the glamor of Miss Agnes Laut's vigorous, picturesque and entertaining style of writing. There are some things in which it is better to be matter-of-fact than dramatic. Railway enterprise is one of them. After the exhibition in The World's Work, magazine editors should be more careful before they succumb to the temptation to accept the obiter dicta of a woman who, apparently, aspires to be regarded as an authority on railway construction, accomplished and prospective.

The first World's Work article is entitled, "On the Frontier of the Fur Country: The Struggle of the Hudson's Bay Company and Revillon Freres over the Canadian trade in pelts in a country forever impassable to railroads." Before taking up the credibility of the railway references in the article, two or three other statements may be referred to. An account of the appearance of the Revillon's first ship, in James Bay, is given, which, in the absence of corroborative evidence, discriminating readers, with Canadian knowledge, will hesitate to accept; especially the suggestion that the Hudson's Bay Co.'s office at Moose Factory might have deliberately caused the wreck: "Whether he cut harbor buoys and put out beacon lamps, as they used to of old, I was unable to learn. Probably he did not."

It is said the Revillon crew "were more than 1,000 miles from help overland." But Moose Factory is less than 300 miles, as the crow flies, from Missanabie, a station on the C.P.R. main line.

We are told about "tracking canoes from island to island on lakes; of a riverman who, in winter regularly drove his dog-team from Fort Garry to the Rocky Mountains, 1,800 miles, averaging from 60 to 90 miles a day;" and of "many a trapper who sets out for a 2,000 mile tramp with nothing but a single blanket wrapped up in a lean-to, firearms, and a gunny sack of flour and bacon strapped on his dog's back." Of course, it is impossible to track a canoe from island to island. It is doubtful if any man ever averaged from 60 to 90 miles a day with a dog-team. The idea of a blanket "wrapped in a lean-to" is too grotesque for comment. But the statements about railways and railway possibilities along the Saskatchewan are the most remarkable of all. Miss Laut says:

"North of the railroads stretch 2,000 miles of muskeg country, where roads can never be built. Between the wheat plains and Hudson's Bay, lies an area, 400 by 70 miles, of pure muskeg, quaking silt on a bed of water, covered by goose-grass and muskrat reed 16 ft. high, with lanes of water cris-crossing in endless maze. Will there be any great game preserve left in America? Having canoed along the southern edge of the fur country for 1,500 miles, frankly, I do not think settlement can ever encroach on the great game preserve of the North. I think it will exist always, and for these reasons: When you go 70 miles north of the Saskatchewan you are in a muskeg region. This swamp land cannot be reclaimed. It is 5 ft. deep at the shallowest, and forever bars out settlers. It will also bar out railroads except along two or three ridges of rock—from Lake Winnipeg to Hudson's Bay, from Prince Albert to Lac La Rouge, from Edmonton to Athabasca and the Peace. Even if you build your railroad elsewhere—as the 90 miles built by Mackenzie and Mann from the wheat plains to the Pas prove—you cannot operate it in summer. You cannot operate it with a hand-car or a wheelbarrow for the floods. You can run your train over muskeg only in winter when the water is adamant ice; and then you have the consideration of blizzards to keep your track open. The Pas road to-day cannot be used."

If it were not notorious that feminine writers on engineering subjects are full of lovingkindness to those who undertake constructive works, some ulterior motive might be suspected in such an attack on the sanity of men who were among the most experienced railway builders on this continent. But the statements printed are so absurd, on the face of them, that even malice could not invent them. They are probably merely the result of neglect to ascertain the facts, and of desire to make out a case for an inviolable game preserve. But the innocent reader does not know this, and gets a wrong impression, accordingly.

The article referred to is self-contradictory. The title says the country in which the Hudson's Bay Co. and Revillon Freres are competing is "forever impassable to railroads," and that "north of the railroads stretch 2,000 miles of muskeg country, where roads can never be built." But the muskeg area, in another place, is said to be 400 miles by 70, and still, in this "2,000 miles of country where roads can never be built," there are three ridges on which railways can be built.

Perhaps the coolest thing ever printed about a railway enterprise is the paragraph about the Canadian Northern branch line from Etoimami to the Pas. It is so foolish that one marvels how it can have passed an experienced copy-reader. It intimates that most experienced railway builders have constructed a line which can never be used, as part of a road across a strip of country "where roads can never be built * * * * pure muskeg, quaking silt in a bed of water." It assumes that they have not examined the country north of the Saskatchewan; or that, if they have, their engineers are incompetents who have not learned as much about the country as a woman did, who canoed down the Saskatchewan, with Indian or half-breed guides. The Pas branch is still in the contractors' hands, but it is being used and work trains will this summer complete the ballasting for which first-class material is found on the right of way.

The Canadian Northern engineers' reports on the country north of the Pas are not made public. But Government reports are. In The Hudson Bay Route and Canada's Fertile North Land, issued by the Department of the Interior, there is abundance of evidence, not only of the simplicity of building a railway from the Pas to Fort Churchill over the limestone formation which begins at the river itself, but of a big belt of fertile clay land through which it will pass. The Government maps show that where, according to Miss Laut, there is only "pure muskeg, quaking silt in a bed of water," there is timber, some of it 18 inches in diameter. There is, according to the evidence of Mr. McInnes, of the Geological Survey, and of every other traveller northward from the Pas, no unusual difficulty in the way of building a railway. The Government reports have been out for more than a year, and have been widely noticed in the press. They are amply confirmed by the reports of the Dominion Government survey parties, which, last fall and winter, explored the country from the Pas to Hudson Bay. The first party, which was in charge of Mr. Law, travelled to the Pas over the road which "cannot be used." Mr. Law states, apropos of the 70 miles of "pure muskeg, quaking silt," etc., that "the country was wooded from first to last."

Why should a writer who has achieved Miss Laut's reputation, write such nonsense? It is not necessary to suggest a motive. The facts are enough. The most careful writer may make slips. Miss Laut's offences against accuracy have long been notorious among those who know Western Canada. They have now become serious; for they are giving the American business public totally wrong ideas about the scope of railway construction in Western Canada; and the time has come to denounce them.

Renewals of licenses for G.T.R. refreshment rooms at Niagara Falls and Stratford, Ont., have been refused by the license commissioners of Welland and Perth Counties.

Judgment was reserved in the Claresholm, Alta., District Court, May 12, in the C.P.R.'s appeal against a conviction at Stavely, last fall, under the Manitoba Grain Act, when a $500 fine was imposed. It was contended that if the conviction stood, it would be impossible to make shipments of grain to the west, and that there was no act to prohibit the company from shipping east or west as it desired. The question was also discussed as to whether the Manitoba Grain Act applied to western shipments.

The recent friction between the C.P.R. and its mechanical employes is reported to have been settled, an agreement on all points in dispute having been reached at Montreal, May 8. The terms of the agreement have not been made public, but it has been stated that those men who were not taken back, at the time of the collapse of the strike last fall, will be reinstated in their old positions, and that the strikers will not be restored to their old places on the pension list. H. H. Vaughan, Assistant to the Vice-President, acted for the company.

SIX GOOD

BOOKS

FOR

RAILROAD MEN

THE ENGINEERING NEWS BOOK DEPARTMENT

220 BROADWAY, NEW YORK

ECONOMICS OF RAILWAY OPERATION

By M. L. Byers

C.E., Ch. Eng. M. of W., Mo. Pac. Ry.

672 pp., many diagrams and forms illustrating the best modern practice - $5 net

The only publication explaining in detail the operative systems of American railways. Sir William Van Horne says of it: "I regard it as a most useful and valuable book."

TRACK AND TRACK WORK

(Third Edition, Revised and Enlarged)

By E. E. R. Tratman

Assoc. M. Am. Soc. C. E.

520 pages, 232 illustrations, 44 tables and an appendix of statistics of standard track construction - - - - - - $3.50 net

The standard treatise on this subject.

DESIGN OF TYPICAL STEEL RAILWAY BRIDGES

By W. Chase Thomson

M. Can. Soc. C.E. Assist. Eng. Dominion Bridge Co.

178 pages, 21 figs., 5 fold. plates - $2 net

FIELD PRACTICE OF RAILWAY LOCATION

By Willard Beahan

270 pages, 50 illustrations - $3.00 net

RIGHT OF WAY SURVEYING

By A. I. Frye

8vo, 50 pages - - - - - - $1.00 net

RAILWAY LOCATION AND CONSTRUCTION

By E. N. McHenry

88 pages, 2 folding plates - $1.00 net

Any of these books will be sent, postpaid, on receipt of price, or further details with full list of contents will be given if desired.

KEEP YOURSELF POSTED ON THE LITERATURE OF YOUR SPECIALTY

For the guidance of technical men we issue, at intervals, notices of **new** and **recommended** books on various subjects, by all publishers. This service is **absolutely free** to all and involves no obligation of any kind whatever.

Mark on the attached coupon the special subjects on which **you** wish to be kept informed regarding **new** publications, adding any subjects not mentioned thereon in which you are interested. Send us this coupon **at once** and we will send you these notices as issued.

Engineering News Book Dept. R.M.W. 69
220 Broadway, New York

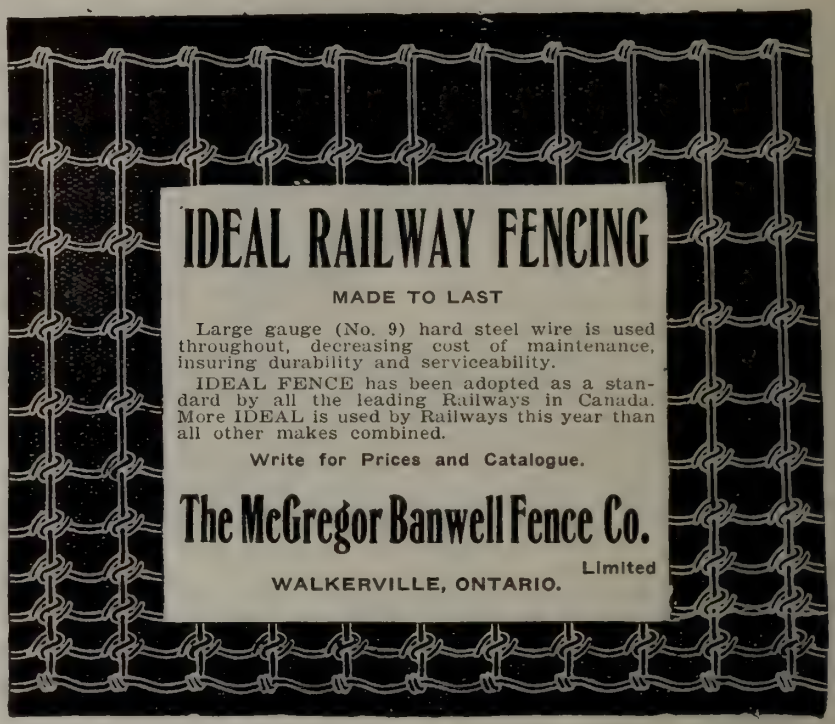
Send me notices of new books on

Engineering: ..Mining ..Cement and ..Civil ..Municipal Concrete ..Electrical ..Railroad ..Contracting ..Mechanical ..Architecture ..Metallurgy ..Chemistry

Name .....

Address .....

.....



IDEAL RAILWAY FENCING

MADE TO LAST

Large gauge (No. 9) hard steel wire is used throughout, decreasing cost of maintenance, insuring durability and serviceability.

IDEAL FENCE has been adopted as a standard by all the leading Railways in Canada. More IDEAL is used by Railways this year than all other makes combined.

Write for Prices and Catalogue.

The McGregor Banwell Fence Co. Limited

WALKERVILLE, ONTARIO.

— THE —

N.L. Piper Railway Supply Co.

Limited

314 Front St. West

TORONTO

PARK, STATION, DECK OR CABIN SEATS

HARDWOOD BARS. MALLEABLE IRON LEGS.

SPECIAL LENGTHS TO ORDER.

Our Station Seats are made of thoroughly seasoned Hardwood and perfectly annealed Malleable Iron Legs. Finished in Natural Wood or painted Red or Green and fastened together with Bolts.

Everlasting **Comfortable** **Good Value**

National Transcontinental Railway.

Replying to a question in House of Commons recently, the Minister of Railways said the total amount expended to Mar. 31 upon the construction of the eastern section of the line was $49,326,678.47, of which $27,335,663.32 had been upon the Moncton-Quebec section and $21,991,015.15 upon the Quebec-Winnipeg section. For the year ended Mar. 31, 1909, the amounts expended had been: Moncton-Quebec section, $13,556,842.04; Quebec-Winnipeg section, $9,562,082.82. The amounts for the year, however, were not complete, as there were several outstanding accounts which had not been finally settled.

Owing to representations from New Brunswick, the question of the adoption of electricity as a tractive power upon that portion of the N.T.R. lying between the St. Lawrence River and Moncton, N.B., has been under discussion. The N.B. Legislature has passed a resolution to the effect that inasmuch as the line between the two points named runs through a heavily timbered country it would be advisable to use electricity as a motive power, in order to prevent forest fires, and calls attention to the large number of water powers which could be developed along the route and so provide the energy necessary. The principal water power pointed out is that at Grand Falls, on the St. John River, 270 miles from the St. Lawrence River, and 160 miles from Moncton. At this point the river has a natural fall of 130 ft., and it is estimated to be capable of developing 100,000 to 125,000 continuous h.p. The requirements of the line are estimated to be 40,000 h.p. An officer of the Department of Railways stated May 7 that the matter had not been brought before the notice of the Department either in connection with the N.T.R. or the Intercolonial Ry. He further pointed out that as there were supplies of coal available in New Brunswick for railway purposes there would not be so much benefit from the electrification of that section as there would be for that between Quebec and Winnipeg. However, the question of the electrification of trunk lines is still in its infancy, and railways will probably rely upon coal for some few years to come.

No new features in connection with the construction of the line between Moncton and Winnipeg are reported, except that tracklaying was commenced at Lake Superior Jct., Ont., May 1, to meet the gang working easterly. J. D. McArthur, the contractor, is reported as having stated that the work will be completed so as to have trains running by July 31. The contract for the erection of stations on the N.T.R. between Winnipeg, Man., and the junction with the Lake Superior Branch of the G.T. Pacific Ry., is reported to have been let to —. Vopin, of Winnipeg.

Quebec Bridge.—A large staff of engineers is engaged in Montreal in preparing designs for the bridge which the Dominion Government proposes to erect across the St. Lawrence River, to take the place of that partially erected (which collapsed, Aug., 1907) by the Quebec Bridge & Ry. Co., whose franchises and assets have been taken over. It is expected that the general plans will be completed within six months, and it is understood that they provide for a bridge at a height of 150 ft. above high water mark, with a centre span of 1,800 ft. as in the original. The commission in charge of the work makes monthly progress reports to the Government, but these are not made public.

An unconfirmed press report from Ottawa, May 20, stated that the board of engineers appointed by the Government had prepared plans for the new bridge and that tenders might be called for at an early date. This does not agree with the ministerial announcements made during the recent Parliamentary session.

St. Boniface Shops and Yards.—The yards with shops which are being laid out by the Commissioners, for the N.T.R., are situated six miles east of St. Boniface, Man. The buildings now under construction consist of locomotive machine and erecting shop, 170 by 612 ft., provided with 25 pits; boiler and tank shop, 185 by 210 ft.; power house, 110 by 150 ft.; grey iron foundry, 130 by 200 ft., with clearing room adjoining, 48 by 80 ft.; locomotive carpenter and pattern shop, 70 by 100 ft.; store room, 60 by 260 ft., with oil house, 40 by 60 ft.; and stores platform, 60 by 120 ft. adjoining; forge shop, 100 by 260 ft.; stores and scrap shop, 40 by 220 ft.; crude oil house, 20 by 60 ft.; frog and track shop, 60 by 100 ft. A chimney and high water tank are also included in the shop contract. The contractors for these shops are Haney, Quinlan and Robertson, and the contract for the structural steel work has been sublet to the Dominion Bridge Co.

The plans for the layout of the yard show that provision has been made for the construction of a second track along the main line. The freight shed and tracks for team delivery of freight are situated between Springfield road and the main line. On the other side of the main line is situated the east bound receiving and classification yard, while further on is the westbound lead, with various tracks for repair and other purposes branching off therefrom. Beyond the westbound lead is situated the track scales, icehouse, wrecking outfit tracks, etc., and further on again come the special tracks for locomotives going to and from the roundhouse, the coaling trestles, water tanks, ashpits, etc., necessary for the operation of the line. The roundhouse is a double one built round a 75 ft. turntable, and having accommodation for 37 engines. Adjoining it is a shop for making running repairs. The contractor for the construction of the roundhouse is J. D. McArthur. A map showing the location of the shops and yard and a plan showing the layout of the yards appeared in our Nov., 1908, issue.

It is said that tenders will be asked at an early date for the erection of the following shops for the car department:—Freight car shops, 200 by 600 ft.; paint shop, 100 by 325 ft.; coach shop, 125 by 250 ft.; planing mill, 100 by 300 ft.; lumber shop, 60 by 115 ft.; dry kiln, 40 by 50 ft.

Red River Bridge.—An act has been passed by the Dominion Parliament authorizing the commissioners to make arrangements with the city of Winnipeg for the provision of a roadway for passenger and vehicle traffic, if thought necessary, upon the bridge which they have power to construct over the Red River between the cities of St. Boniface and Winnipeg. The Manitoba Legislature has granted the city of Winnipeg the necessary power in this respect, and the present act is the complement to it.

The Commissioners have let contracts for the construction of this bridge as follows:—For the substructure to Haney, Quinlan and Robertson, and for the superstructure to the Dominion Bridge Co. The estimated cost is stated to be $265,000 for the concrete piers and abutments, and $240,000 for the steel work. These contracts cover all the work for the completion of the roadway from the bank of the Red River, on the St. Boniface side, up to and including Water St. in Winnipeg. The bridge crosses at the foot of Lombard St., and has a total length of 780 ft. 8 in. It will be carried on six concrete piers, having their foundation on cemented gravel over solid rock, and two shore pedestals. The approach to the bridge proper is over an ordinary deck plate girder span; then comes a bascule lift span of 100 ft. clear waterway at low water, the whole span with its operating parts and counter weight having a length of 132 ft. The other four spans are truss spans of 144 ft. each. The floor of the bascule span is 36 ft. above the bed of the river, and is about 10 ft. above the average of high water. The construction in Winnipeg consists of elevated tracks with retaining walls and solid filling crossing over Mill, Notre Dame and Water streets, with through plate girder spans, on a curve of 6 degrees 44 minutes. At Water St. the N.T.R. tracks will join those of the G.T. Pacific Ry.

GRAND TRUNK PACIFIC RY.

The Minister of Railways replying to a question in the House of Commons recently, said the G.T.P.R. had its Lake Superior branch open from Fort William to the point of junction with the N.T.R., 188.77 miles, but it had not been taken over by the operating departments. Including bond interest, but inclusive of terminals, the cost of the line had been $9,686,457.98, while the estimated cost of the line was $9,986,457.98. Towards the cost of this line the Dominion Government voted a subsidy not to exceed $6,400 a mile for 220 miles, and the Ontario Government granted $2,000 a mile for 200 miles and 675,000 acres of land. The city of Fort William granted $300,000 to be applied on the terminals in the city, and $50,000 to be applied upon the bridge over the Kaministikwia River.

E. J. Chamberlin, General Manager, returned to Ottawa, April 29, from his tour of inspection over the line, and made a statement confirmatory of the interview which he gave some days previously at Winnipeg, reproduced in our May issue.

W. G. Mehan, of the company's construction department, started out from Saskatoon, Sask., in April to hurry on the work of tracklaying on the line into Edmonton, Alta. He stated that it was expected to finish the work by June 20. In connection with this it is stated that arrangements are being made to have a big celebration in connection with the opening of the line through from Fort William to Edmonton. The date for such a celebration depends largely upon the completion of the Winnipeg, Peninsular Junction section by the N.T.R. Commission. A feature of the celebration will, it is said, be the inspection of the line by a large party including the President and some of the directors of the G.T.R., officers of the G.T. Pacific Ry., the Premier and representatives of the Dominion Parliament, as well as

leading railway men and others. Fort William, Winnipeg, and Edmonton are planning to have hotel banquets and other celebrations on the occasion of the special train reaching those points.

The company has sent out a number of survey parties to locate branch lines principally in Saskatchewan. R. P. Graves is reported to be in charge of a party running a line from Melville to Yorkton; D. Bergen is reported to be in charge of a party locating a line from Scott to Battleford.

West of Edmonton, the work is proceeding rapidly, between the Pembina and the McLeod rivers. C. R. Schacht, a sub-contractor on this section, took on his men from Edmonton May 3, and before starting said he expected the grading between the two rivers would be completed by the autumn. The first divisional point beyond Edmonton, will be located at Edson about six or eight miles west of the crossing of the McLeod River. D. M. Murphy, engineer in charge of construction for the Government, has completed an inspection of the work. He says the work to the crossing of the Pembina River is practically completed, and the work is going on in good shape between there and the McLeod River.

Supplies for engineering parties have been delivered at Kamloops, and C. C. Van Arsdol is said to have taken charge of the work there, with the object of making surveys along the North Thompson River Valley in the direction of Vancouver.

A Vancouver press report dated May 10, states that the delay in the letting of the contract for the construction of the line beyond Kitselas canyon for 100 miles, for which tenders were asked

---

Notice is hereby given that a duplicate original of an amalgamation agreement made between The Canadian Northern Railway Company and The Edmonton, Yukon and Pacific Railway Company duly sanctioned by the Governor General in Council by Order in Council dated 23rd April, 1909, has been filed in the office of the Secretary of State of Canada.

GERARD RUEL,
Chief Solicitor.

Dated at Toronto, this 8th day of May, 1909.

Notice.—Application will be made on behalf of the Alberta Midland Railway Company and the Canadian Northern Railway Company to the Board of Railway Commissioners for Canada at the Board's office, Ottawa, on tenth June, 1909, at 12 o'clock noon for a recommendation to the Governor General in Council for the sanction of an agreement amalgamating the said companies.

GERARD RUEL,
Solicitor.

Dated at Toronto, 5th May, 1909.

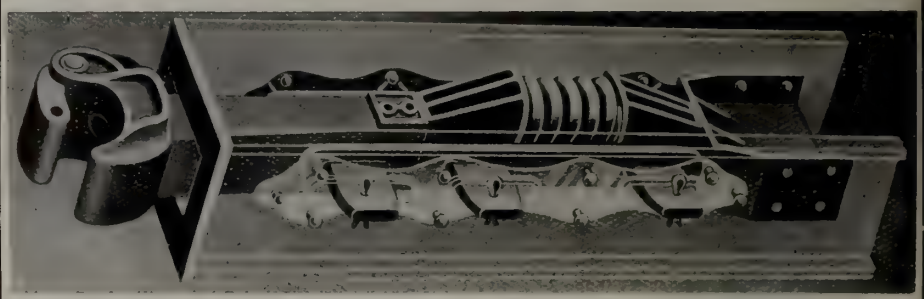
Notice.—Application will be made on behalf of the Saskatchewan North-Western Railway Company and the Canadian Northern Railway Company to the Board of the Railway Commissioners for Canada at the Board's office, Ottawa, on June tenth, 1909, at twelve o'clock noon, for a recommendation to the Governor General in Council for the sanction of an agreement amalgamating the said companies.

GERARD RUEL,
Solicitor.

Toronto, 5th May, 1909.

THE

Farlow Twin Spring Draft Gear



Designed for Wooden or Steel Cars and Engines.
Pulling Strains Distributed Equally on the Three Cross Keys.
Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.

Baltimore, Md. **Chicago, Ill.**

Champion Revolving Dump Car

The CHAMPION CAR is radically different from any now on the market. It is simple, strong, compact and being built entirely of iron except the bed, is extremely durable. The bed revolves and may be dumped on either side or end. Write for catalogue of cars and drums.

The Canadian Road Machine Co., Limited
HAMILTON, CANADA

some time ago, is due to a possible abandonment of the located line up the Skeena River Valley via Hazleton and Bulkley Valley, in favor of the Copper River route. C. C. Van Arsdol has had direction of some surveys through the Copper River country, and it is stated that the results show that a saving of 80 miles in distance can be effected. The only difficulty in the way is said to be at Pine Pass on the divide between the Copper River and Telkwa River basins. These it is said can be overcome by the construction of a tunnel at a cost of $1,000,000. The matter was investigated by E. J. Chamberlin, General Manager, on his recent western trip, and is now being discussed at headquarters.

Grand Trunk Pacific Branch Lines Co.—The Dominion Parliament has passed an act authorizing the construction of the following additional branch lines: From west of Pembina River crossing southwesterly to Embarras River, and southerly to the headquarters of the Little Pembina River, about 100 miles; from Embarras River southwesterly to the McLeod River, about 25 miles; from between Calgary and Coutts southwesterly to Macleod, thence via Pincher Creek to the western boundary of Alberta, about 100 miles; and from Regina, Sask., to Moose Jaw, about 45 miles.

G.T. Pacific Townsite and Development Co.—Replying to a question in the House of Commons recently, the Minister of Railways stated that the directors, C. M. Hays, E. J. Chamberlin, W. Wainwright, W. H. Biggar and E. H. Fitzhugh, held two shares each, while the G.T.P. Ry. Co. held the remaining 29,990 shares of common stock issued; the balance of the $5,000,000 of authorized capital consisted of $2,000,000 of preferred stock, which had not been issued. The property held by the company consists of 81 townsites, and a three-quarter interest in the townsite of Prince Rupert, B.C., the total area being 78,648 acres. The Department of the Interior gave the additional information that the Crown sold to the company 12,905.45 acres at $3 an acre, receiving therefor $38,716.35, while it is agreed that as the lands are sold the Government will receive one-quarter of the net proceeds of the sales. The Government further permitted the company to buy 11,279.81 acres from the holders of unpatented lands, receiving therefor $1 per acre, the company buying out the various holders of the lands. (May, pg. 337.)

G. F. Hichborn, formerly Agent of the Great Eastern Line at New York, and now General Traffic Manager, United States Rubber Co., has also been appointed General Traffic Manager of the General Rubber Co., New York; Rubber Goods Mfg. Co., New York; Peerless Rubber Mfg. Co., New Durham, N.J.; New York Belting & Packing Co., Passaic, N.J.; Fabric Fire Hose Co., Sandy Hook, Conn.; Hartford Rubber Works Co., Hartford, Conn.; Morgan & Wright, Detroit, Mich.; Indianapolis Rubber Co., Indianapolis, Ind.; India Rubber Co., New Brunswick, N.Y.; Sawyer Belting Co., Cleveland, Ohio; Mechanical Rubber Co., Cleveland, Ohio; Mechanical Fabric Co., Providence, R.I.; Stoughton Rubber Co., Stoughton, Mass.; Mechanical Rubber Co., Chicago, Ill.; C. & J. Tire Co., Indianapolis, Ind., and Sandy Hook Reclaiming Works, Sandy Hook, Conn.

A Railway to Hudson Bay.

E. H. Drury, who had charge of one of the survey parties sent out by the Dominion Government into the Hudson Bay country, has returned to Montreal, and in an interview May 7, stated that when the railway was constructed the country between Pas Mission and Hudson Bay would undoubtedly prove to be a most productive one. He expressed an opinion, however, in favor of the line starting from a point further west, and suggested the possibility of using Saskatoon as a starting point, on the ground that all competitive lines would then have an even chance in freight matters. There were no engineering difficulties in the way of construction—few bridges would be required, and the gradients were easy. The records of snow showed that the maximum fall was only three feet in the year, therefore the cost of maintenance in winter would not be great.

The progress report of the Government surveyor for the projected railway to Hudson Bay, recently presented to the House of Commons, deals with the result of the preliminary survey in sections. Starting from Pas Mission, one party covered a section of 150 miles to Setting Lake. This section will be the lightest in point of construction, being mainly earthwork, with some small stretches of muskeg. The cost of clearing and grubbing will be heavy, but on the whole it presents no great difficulties. The second section of the route extends from Setting Lake to the summit between the waters of the Nelson and the Churchill Rivers, a distance of 175 miles. This country is badly broken up, and will necessitate the making of a number of heavy rock cuts, particularly along the Oder and the Burntwood rivers. An alternative route is being surveyed along the east side of Setting Lake and Grass River, which it is thought may turn out to entail less expensive work. The third section from the summit to Fort Churchill, a distance of about 140 miles, presents great difficulties in the way of making an estimate of the cost of construction. There are a great many muskegs, and in the last hundred miles, the route passes through a moss-covered tundra, which appears to be permanently frozen to within a few inches of the surface. Detailed information as to the cost of handling this material, or how it will carry a railway is not available. This last 100 miles being over an open country, more or less trouble with snow may be expected.

The route to Port Nelson from the Pas follows that surveyed to Fort Nelson for about 120 miles, and then on to a point fixed for the crossing of the Nelson River. Between this crossing and Port Nelson a preliminary examination has been completed, and a more detailed survey is now being made. The results at present obtained show that very little rock work will be necessary, the location being almost entirely in a bush country. The snow problems which will have to be dealt with on some points of the line to Fort Churchill will not be encountered on this line, and the hinder country is not passed through to any great extent, such stretches as are met with being short detached pieces, resembling more the spruce swamps found in Manitoba.

The gradients adopted throughout have been 0.4 of 1% north bound, and 0.6 of 1% south bound. No difficulty or particularly heavy work has been encountered which could have been materially lessened by the adoption of heavier gradients. In fact, it seems probable that the southbound gradient might be reduced to 0.5 of 1% without greatly increasing the cost. It is estimated that the cost of grading will average 55 cents a yard; the price used being $1.50 per yard for solid rock, 60 cents a yard for loose rock, and 25 cents a yard for earth or common excavation. The estimate includes the material to be moved in the construction of the roadbed, including side tracks, terminal tracks, and drainage ditches.

Granting of Railway Charters.

A bill was laid before the Dominion Senate, May 7, having for its object the simplification of the granting of charters to companies proposing to construct railways. It was explained that the bill was designed to relieve Parliament of the consideration of the applications for the incorporation of railway companies, which took up a lot of time each session, by enabling railways to be incorporated by letters patent on terms analagous to those relating to joint stock companies. The bill provided that seven persons might petition for incorporation upon filing an agreement of association which should set forth particulars as to name of company, terminals of projected route, gauge, capital, shares, subscribed shares, head office, provisional directors, names of officials, etc. The railway to be constructed, it was provided, should be subject to the provisions of the Railway Act and any other general act relating to railways. Within twelve months after publication of the notice of agreement of association the provisional directors might apply for a certificate that the public interest required that a railway should be constructed as proposed. This certificate would determine all such matters as were set out in the articles and not provided for by the Railway Act, but the Commission was to be given power to grant certain additional powers if deemed advisable. It would not be compulsory on any company to take advantage of the act, but the act would afford an opportunity to companies to obtain incorporation under more favorable conditions than at present, while at the same time it would prevent the securing of charters for purely speculative purposes.

The C.N.R. reports that an increased acreage of from 10 to 30% will be put under crop in the Northwest this year. The greatest increase is reported to be along the company's main line through Saskatchewan and Alberta.

E. Tiffin and F. P. Brady, of the Government Railways Managing Board, were in St. John, N.B., May 1, in the course of a trip over the I.C.R. Discussing the work of the Board, Mr. Tiffin is reported to have stated that the change of system, would be little felt and that no radical measures would mark its accomplishment. The Board, he said, had simply taken over the duties of Mr. Pottinger, who had been appointed a member of it. Three members of the Board are to reside in Moncton. The fourth, the Deputy Minister of Railways and Canals, will as chairman, continue to direct the work from Ottawa. Mr. Tiffin stated that there would be no immediate change in the personnel of the staff.

Recent Dominion Legislation.

Among the acts passed during the recent session of the Dominion Parliament to which Royal assent was given May 20, were the following:

Algoma Central and Hudson Bay Ry.—Extending time for construction.

Arnprior and Pontiac Ry.—Incorporation.

Athabaska Northern Ry.—Extending time for construction.

British Columbia Southern Ry.—Extending time for construction.

Brockville, Westport and Northwestern Ry.—Extending time for construction.

Cabano Ry.—Incorporation.

Canada Shipping Act.—Amendments.

Canadian, Liverpool and Western Ry.—Incorporation.

Canadian Northern Ontario Ry.—Authorizing extensions.

Canadian Northern Quebec Ry.—Extending time for construction.

Canadian Northern Ry.—Aids for extension.

Central Ry. of Canada.—Extending time for construction.

Cobalt Range Ry.—Extending time for construction.

Government Harbors and Piers Act.—Amendments.

G.T. Pacific Branch Lines.—Authorizing extensions, etc.

G.T. Pacific Ry., Lake Superior branch.—Respecting subsidy.

G.T. Pacific Ry.—Authorizing loan.

Intercolonial and P.E.I. Rys.—Amending Employes' Provident Fund Act.

Joliette and Lake Manuan Colonization Ry.—Extending time for construction.

Kettle River Valley Ry.—Authorizing extensions.

Kootenay and Alberta Ry.—Incorporation.

Kootenay and Arrowhead Ry.—Extending time for construction.

London and Northwestern Ry.—Incorporation.

Manitoba and Northwestern Ry.—Extending time for construction.

Manitoba Radial Ry.—Extending time for construction.

Montreal Bridge and Terminal Co.—Change of name and amendments.

Montreal Harbor Commissioners.—Respecting advances, etc.

National Transcontinental Ry.—Financial.

Niagara-Welland Power Co.—Extending time for construction.

Ocean Steamships Subsidies Act.—Amendments.

Ontario, Hudson's Bay and Western Ry.—Extending time for construction.

Ottawa Northern and Western Ry.—Extending time for construction.

Prince Albert and Hudson Ry.—Incorporation.

Quebec and New Brunswick Ry.—Extending time for construction, etc.

Quebec Oriental Ry.—Extending time for construction.

Quinze and Blanche River Ry.—Extending time for construction.

Railway Act.—Amendments.

St. Maurice and Eastern Ry.—Incorporation.

Superior and Western Ontario Ry.—Incorporation.

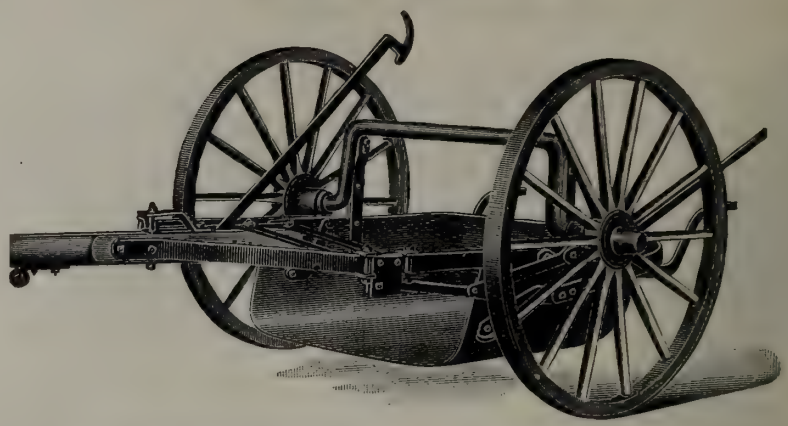
Thessalon and Northern Ry.—Amendments.

Tillsonburg, Lake Erie and Pacific Ry.—Extending time for construction.

Victoria and Barclay Sound Ry.—Incorporation.

Windsor, Essex and Lake Shore Rapid Ry.—Extending time for construction.

THE TORONTO PRESSED STEEL CO.
LIMITED
TORONTO, CANADA



Our **SOLID PRESSED BOWL DRAG** and **WHEEL SCRAPERS** are the most satisfactory in the market. They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies including

PLOUGHS
DUMP CARS
DUMP WAGONS
DUMP CARTS
WHEELBARROWS
TRUCKS
CEMENT MIXERS
WAGONS
etc., etc.

PROMPT SHIPMENTS
SEND FOR CATALOGUE

New Ways To The Woods

The six railways of the Canadian Northern Railway system offer the widest choice of new territories for the fisherman, canoeist, camper and hunter.

IN NOVA SCOTIA the Halifax and Southwestern Railway, from Halifax to Yarmouth, serves seven hundred miles of ocean shore; two score generous trout streams and the famous Rossignol lake system.

IN CAPE BRETON, sixty miles of the Gulf of St. Lawrence shore is skirted by the Inverness Railway, which gives easy access to the Margaree valley—far-famed for its salmon fishing.

IN QUEBEC, the Canadian Northern, Quebec and Quebec, and Lake St. John Railways give easy access to the Saguenay, Upper St. Maurice, the Batiscan, the La Tuque game and fish preserve, and the valleys of the St. Lawrence and Ottawa. All good fishing waters, abounding with ouananiche, trout and bass.

IN ONTARIO, the entire range of the Muskokas, the Georgian Bay hinterland, the French, Pickerel, Still and Maganetawan rivers—well stocked with bass, mascalonge, and pickerel, are best reached by the Canadian Northern Ontario Railway.

IN WESTERN ONTARIO and the prairie provinces, the Canadian Northern Railway serves over three thousand miles of splendid territory. The Rainy River section follows the old Dawson fur trail, which is the finest canoe trip on the continent. There is an amplitude of sporting opportunities for the camera hunter, the fisherman and canoeist.

For literature and general or special information inquire of the information Bureau, Canadian Northern Railway System, Toronto.

Transportation Appointments.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Alberta and Great Waterways Ry.—E. A. James, formerly Manager, Canadian Northern Ry., is reported to have been appointed General Manager of this recently incorporated company.

Canadian Northern Ry.—M. A. Murphy has been appointed Superintendent, district 1, office Port Arthur, Ont. He will also continue to act as Superintendent, Duluth, Rainy Lake and Winnipeg Ry., with office at Virginia, Minn.

Geo. Stephen, heretofore Assistant General Freight Agent, has been appointed General Freight Agent. Office, Winnipeg.

C. W. Cooper, heretofore Assistant General Passenger Agent, has been appointed General Passenger Agent. Office, Winnipeg.

W. G. Manders, heretofore chief clerk, Freight Traffic Department, Winnipeg, has been appointed Assistant General Freight Agent, vice G. Stephen promoted. Office, Winnipeg.

J. B. Sheppard, heretofore Contracting Freight Agent, Toronto, has been appointed City Freight Agent, Winnipeg, vice J. M. Horn, promoted.

A. Wilcox, heretofore Superintendent, Port Arthur, Ont., has been appointed Superintendent, district 3. Office, Dauphin, Man.

C. D. Fisher has been appointed Chief Dispatcher, district 3, vice S. S. Foley promoted. Office, Dauphin, Man.

S. S. Foley, heretofore Chief Dispatcher, Dauphin, Man., has been appointed Superintendent, district 5. Office, Saskatoon, Sask.

J. M. Horn, heretofore City Freight Agent, Winnipeg, has been appointed District Freight Agent, Edmonton, Alta. In mentioning this appointment in our May issue we referred to his former position as Contracting Freight Agent. It should have been as given above.

G. R. Hall, heretofore Traffic Manager, Duluth, Rainy Lake and Winnipeg Ry., Duluth, Minn., has been appointed Commercial Agent, C.N.R., and D.R.L. and W.R. Office, 430 Commercial National Bank Bldg., Chicago, Ill.

Canadian Pacific Ry.—The jurisdiction of J. R. Gilliland, Superintendent, Montreal Terminals, has been extended over the Smith's Falls section of district 2, W. B. Cronk, heretofore Superintendent, district 2, having been transferred to district 1, at Farnham, Que.

G. Pratt has been appointed Locomotive Foreman, Fort William, Ont., vice G. H. Reed promoted.

G. B. McGougan has been appointed Car Foreman, Fort William, Ont., vice J. Moore transferred to Winnipeg.

W. Bryce, heretofore Locomotive Foreman, Minnedosa, Man., has been appointed Locomotive Foreman at Ignace, Ont., vice A. E. Hough.

H. F. Mathews, heretofore Assistant General Superintendent, Sleeping, Dining and Parlor Cars and News Service, Eastern Lines, has been appointed Assistant General Superintendent, same service, Western Lines, vice W. Bell assigned to other duties. Office, Winnipeg.

C. C. Barclay, heretofore District Superintendent, Pullman Co., St. Paul, Minn., has been appointed Superintendent, Sleeping, Dining and Parlor Cars and News Service, Central Division, vice N. F. Paterson, who has left the service. Office, Winnipeg.

O. V. Dotts, heretofore in Dining Car Service, Pennsylvania Rd., Jersey City, has been appointed Assistant Superintendent Sleeping, Dining and Parlor Cars and News Service, Central Division. Office, Winnipeg.

W. R. White, heretofore General Baggage Master, Winnipeg, has been appointed Station Master, Winnipeg, vice P. F. Weisbrod, transferred.

W. F. Lowe has been appointed Locomotive Foreman at Minnedosa, Man., vice W. Boyce transferred to Ignace, Ont.

P. F. Weisbrod, heretofore Station Master, Winnipeg, has been appointed Trainmaster at Brandon, Man., vice W. M. Ansley, transferred to Revelstoke, B.C.

Alex. Crawford has been appointed acting Locomotive Foreman, Souris, Man., vice A. Peers, who has been granted leave of absence.

F. W. Sadlier, heretofore Locomotive Foreman at Field, B.C., has been appointed District Master Mechanic, district 1, Western Division, vice R. A. Pyne transferred. Headquarters, Moose Jaw, Sask.

J. K. Allen, heretofore Car Foreman, Calgary, Alta., has been appointed Car Foreman, Medicine Hat, Alta., vice T. G. Taylor transferred.

T. G. Taylor, heretofore Car Foreman, Medicine Hat, Alta., has been appointed Car Foreman, Calgary, Alta., vice J. K. Allen transferred.

A. Hall has been appointed Locomotive Foreman, Macleod, Alta.

F. W. Hoskins has been appointed Car Foreman, Red Deer, Alta.

A. E. Bennetts, heretofore Locomotive Foreman, Kamloops, B.C., has been appointed Locomotive Foreman, Field, B.C., vice F. W. Sadlier promoted.

R. A. Pyne, heretofore District Master Mechanic, district 1, Western Division, Moose Jaw, Sask., has been appointed District Master Mechanic, district 3, Pacific Division, vice E. E. Austin transferred to Revelstoke, B.C. Headquarters, Nelson, B.C.

W. M. Ansley, heretofore Trainmaster, Brandon, Man., has been appointed Trainmaster, Revelstoke, B.C.

C. H. Tedlock has been appointed Locomotive Foreman, North Bend, B.C.

J. C. Reed, heretofore General Foreman, Locomotive Shops, Vancouver, B.C., has been appointed Locomotive Foreman, Kamloops, B.C., vice A. E. Bennetts transferred.

G. H. Reed, heretofore Locomotive Foreman, Fort William, Ont., has been appointed General Foreman, Locomotive Shops, Vancouver, B.C., vice J. C. Reed.

W. Bell, heretofore Assistant General Superintendent Sleeping, Dining and Parlor Cars and News Service, Western Lines, Winnipeg, has been appointed Assistant Commissary Agent in connection with the Purchasing Department. Office, Victoria, B.C.

Detroit River Tunnel Co.—F. O. Waldo, Auditor, M.C. Rd. and T.H. & B. Ry., has also been appointed Auditor, D.R.T. Co. Office, Detroit, Mich.

Duluth, Rainy Lake and Winnipeg Ry.—D. T. Murphy, heretofore Trainmaster, has been appointed Assistant Superintendent. Headquarters, Virginia, Minn.

See also Canadian Northern Ry.

Grand Trunk Pacific Ry.—B. B. Kelliher, Chief Engineer, has been transferred to Winnipeg, Man., from Montreal, H. A. Woods, Assistant Chief Engineer, remaining at Montreal.

D'Arcy Tate, Assistant Solicitor, has been transferred from Montreal to Winnipeg.

It is reported that the headquarters of the Vice-President and General Manager, E. J. Chamberlin, will be transferred to Winnipeg, but no official announcement had been made up to May 27.

Grand Trunk Ry.—J. D. McLennan, heretofore chief clerk to Auditor of Freight Accounts, has been appointed Auditor of Freight Accounts, vice W. Clark, who has been given special work. Office, Montreal.

F. Rockhill, heretofore General Foreman Bridges and Buildings, has been appointed Master of Bridges and Buildings, Southern Division, vice P. Brass, who has resigned on account of ill health. Office, St. Thomas, Ont. The position of General Foreman of Bridges and Buildings has been abolished.

The following agents have been appointed:—Powassan, Ont., W. W. Langford (acting); Lisle, Ont., R. Johnston; Hamilton, King St., Ont., E. T. Mannix; London East, W. J. Burr; Caldwell, Ont., M. J. Egan; Kearney, Ont., J. M. Joynt (temporary). Outside Agencies: Clinton, Ont., Jno. Ransford; Sault Ste. Marie, Ont., Thos. Taylor.

Intercolonial Ry.—C. White, heretofore night foreman of roundhouse, Moncton, N.B., has been appointed day foreman there, vice N. Sinclair transferred to engineman.

T. A. Trites, heretofore fitter, has been appointed night foreman of roundhouse, Moncton, N.B., vice C. White promoted.

National Despatch-Great Eastern Line.—L. J. Rouleau, heretofore Soliciting Freight Agent, G.T.R., Montreal, has been appointed Travelling Freight Agent and Agent, vice H. A. Laird.

National Transcontinental Ry.—F. W. Walker, heretofore in charge of plans and specifications of shops, roundhouses, etc., G.T.P.R., has been appointed Superintendent of the erection of the Winnipeg shops.

Northern Pacific Ry.—H. Swinford, General Agent, Winnipeg, has been appointed General Agent, Vancouver, B.C., vice C. E. Lang, assigned to other duties.

W. C. Hartnett, heretofore Travelling Freight Agent, Chicago, Ill., has been appointed General Agent, Winnipeg, vice H. Swinford, transferred to Vancouver.

G. Barnes has been appointed General Agent Freight Department, Detroit, Mich., vice W. E. Belcher, assigned to other duties.

Reid Newfoundland Co.—A circular states that J. A. Boak, with headquarters at 217, Royal Insurance Building, Chicago, Ill., will have charge of this company's traffic in U.S. territory, west of St. Clair River, Detroit, Buffalo and Pittsburg. His title is General Agent. He is also Intercolonial Ry. Freight Agent for the same territory.

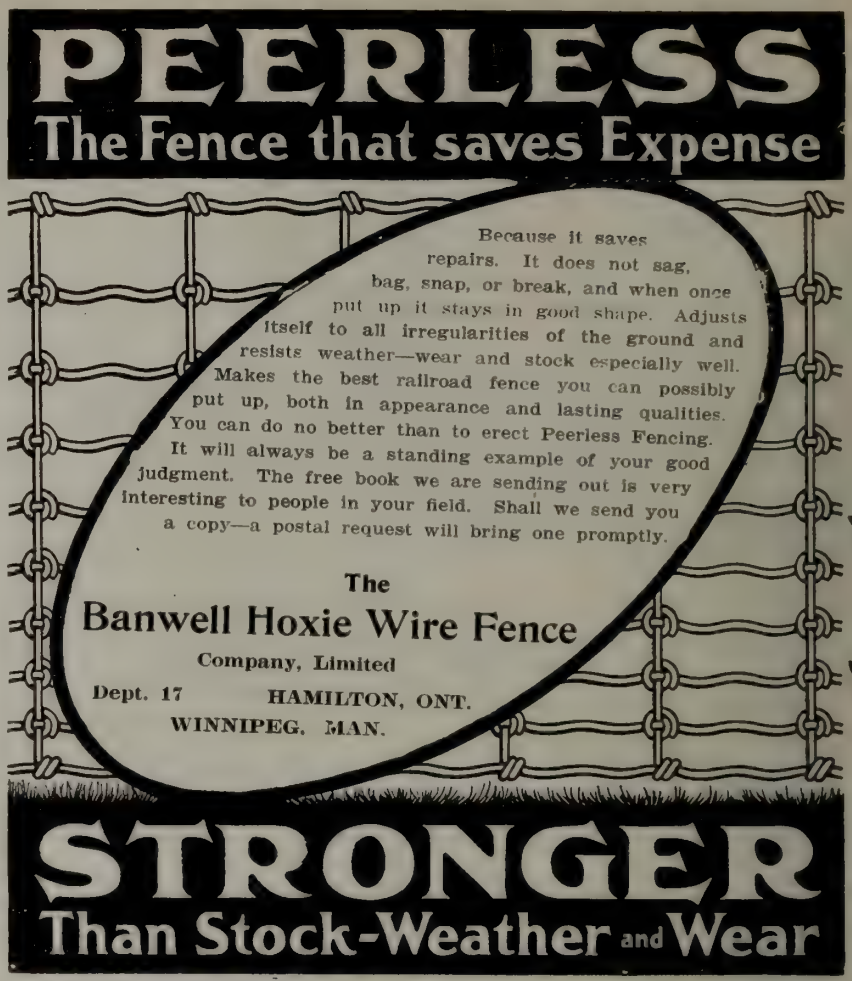
Thousand Islands Ry.—P. B. Whiteley, heretofore agent Bay of Quinte Ry., Deseronto, Ont., has been appointed agent, T.I.R., Gananoque, Ont., vice E. R. Chapman, resigned to enter private business.

The Transportation Salesman.

By W. B. Lanigan, Assistant Freight Traffic Manager, C.P.R., Western Lines

Every large business to-day, manufacturing or wholesaling various commodities, includes in its organization a department which supervises the introduction of its wares to the public, the extension of its commerce, and its relation with its patrons. This department is called the sales department, and its relative importance to the other departments composing the business organization may be described, briefly, as the department delivering the tangible result of what the other departments have been laboring to produce. The sales department is generally under the supervision of a sales manager who instructs and controls the operation of the selling force, who cover certain cities or districts as resident agents or as commercial travellers, and sell to the trade the output of the houses they represent. It can, therefore, be readily seen that a department forming the channel by which a business house reaches its patrons and does its business must necessarily be of great importance, and must, to perform its duties successfully, require the strong co-operation of every department behind it. A railway offering its transportation (the principal source of its revenue) to the public, must likewise have its sales organization to determine its tolls, and to divert to its rails the greatest possible tonnage. This it effects through the traffic department whose traffic manager, general freight and passenger agents, district agents and travelling agents occupy the same relative position as the sales manager and commercial travellers I have already mentioned do to the business houses they represent.

The success of a sales department must necessarily depend, first on the quality of the goods it offers, second on the price, and third on its living up to the representations of the selling agent. No business house can extend its operations or ever retain its customers that fails in any of these three requirements. The sales or traffic manager of a railway company must interest himself in the purchasing capacity of the community served by his line, because as the community prospers the more of the higher class merchandise is transported at the higher rate and the greater the general tonnage. He is consequently interested in what may be regarded as his staple business, the successful movement and marketing of the raw product of the country, knowing that this movement which is, generally speaking, in this country towards the Atlantic seaboard, will be exchanged for a west-bound movement of higher class merchandise of perhaps a lesser tonnage, but carrying higher and more profitable revenue. It is this tonnage that tests his sales organization. Its destination is to wholesale and distributing points which are nearly always competitive with other carriers. Only persistent effort in the way of canvassing, prompt attention to his customers' requirements and the co-operation of every department of his line, can make his work successful. No commercial traveller can continue to sell goods his company cannot deliver, nor can he continue to sell goods of an inferior class at the same price as his competitor. It must be remembered that the traffic department is selling, not the staple class of transportation on which there is little or no profit, but the fancy


PEERLESS
The Fence that saves Expense
Because it saves repairs. It does not sag, bag, snap, or break, and when once put up it stays in good shape. Adjusts itself to all irregularities of the ground and resists weather—wear and stock especially well. Makes the best railroad fence you can possibly put up, both in appearance and lasting qualities. You can do no better than to erect Peerless Fencing. It will always be a standing example of your good judgment. The free book we are sending out is very interesting to people in your field. Shall we send you a copy—a postal request will bring one promptly.
The
Banwell Hoxie Wire Fence
Company, Limited
Dept. 17 HAMILTON, ONT.
WINNIPEG, MAN.
STRONGER
Than Stock-Weather and Wear

KERR'S GLOBE AND GATE VALVES
STRICTLY HIGH GRADE. TESTED & PACKED
THE KERR ENGINE CO. LIMITED
VALVE AND HYDRANT MANUFACTURERS
WALKERVILLE, ONT.

merchandise lines on which his company must reap their surplus over operating expenses. Every member of each department has, or should have, a personal interest in a matter upon which depends not only the profit of the company, but which affects his own employment and remuneration. The old proverb that you cannot make bricks without straw needs no elaborate explanation. No company without profits can increase wages or afford increased employment by extending its operations. The departments back of the sales department must, in their own interests, deliver the goods the sales manager has contracted for or the organization of which they are members must be cut down, economies introduced, reductions made. The maintenance of way man who fails to maintain, the mechanic whose machine does not work, the engineer whose engine does not steam, the conductor who fails to remember, the yardman who fails to place, the operators whose operations are neglected, the superintendent who fails to superintend, all and every department who fails to co-operate with the salesman are working for reduced profits, and to lower the standard of wages. That without speaking of the common honesty of doing well the work we are paid for, without speaking of the loyalty every man should have for the source of his daily bread is the personal interest we all have in the prosperity of the company that employs us.

There is, perhaps, no employment that offers greater reward than railway service, none with a greater field for personal advancement; but all classes of employment in every line require the candidate to deliver the goods. The world, a writer has said, reserves its big prizes for but one thing, and that is initiative. Initiative is doing the right thing without being told. Next to doing the right thing without being told, is to do it when you are told once.

The foregoing was read before the Western Canada Railway Club recently.

The G.T.R. is suing the Ottawa and New York Ry., and F. J. Balch, Assistant General Freight Agent, O. and N.Y.R., for the return of certain papers and correspondence respecting a shipment of cotton consigned to the Montreal Cotton Co., which it is alleged, were handed to F. J. Balch on or about May 28, 1907. Damages are claimed for their alleged wrongful detention.

The branches of the Trainmen's Brotherhood at Winnipeg have asked the Department of Labor to take up, under the Alien Labor Law, the question of the operation of Great Northern Ry. trains from North Dakota into Manitoba. They suggest that the company be directed to make up new trains, manned by Canadians at the boundary for operation over the company's lines in Manitoba.

During Mar., 30 railway employes were killed and 23 injured in the course of their work on Canadian railways. Of the fatalities, 8 each were due to being run over and to falling material; 5 each to collisions and to explosions of dynamite; 2 to boiler explosion, and one each to a fall and to being caught between cars. Of the other accidents, 11 were due to collisions; 4 to being caught between cars; 3 to falls; 2 to being run over; and one each to falling material, to being struck by a passing object and to machinery.

Railway Subsidy Contracts.

The Department of Railways has entered into contracts for the construction of the following lines:

NORTH SHORE RY.—From the main line to Mount Carlyle, N.B., 2½ miles. (Dec. 22, 1908.)

MARGAREE COAL AND RY. CO.—From the I.C.R., near Orangedale, to Chimney Corner Cove, 46 miles; and from the I.C.R., between Orangedale and Point Tupper, to Caribou Cove, N.S., 4 miles. (Dec. 31, 1908.)

CANADIAN PACIFIC RY.—From Moose Jaw, Sask., in a northwesterly direction, 123 miles. (Jan. 8, 1909.)

CANADIAN NORTHERN ONTARIO RY.—From Toronto, via the east side of Lake Simcoe, through Parry Sound, to near Sudbury, Ont., 265 miles. (Jan. 23, 1909.)

From Sudbury Jct., to Hutton Mines, Ont., 30 miles. (Feb. 4, 1909.)

QUEBEC, MONTREAL AND SOUTHERN RY.—From Yamaska to a point in Lotbiniere Co., Que., 70 miles, and from Mount Johnson to St. Gregoire Station, Que., 1½ miles. (Feb. 25, 1909.)

CANADIAN NORTHERN QUEBEC RY.—From Garneau Jct., to Quebec, Que., with branch lines towards the Quebec Bridge, 83 miles. (Apr., 5, 1909.)

ELECTRIC RAILWAYS.

Niagara Falls Electric Car Fares.

The Ontario Railway and Municipal Board gave the following judgment, May 6:—This is an application made by the Board of Trade of Niagara Falls against the International Ry. Co., alleging that the company in the operation of its electric railway from Chippewa to Queenston charges the public travelling on its cars a minimum cash fare of 10c. no matter how short the distance, contrary to section 171 of the Ontario Railway Act, 1906, and praying that relief may be granted by this Board, compelling the company to accept a 5c. cash fare for conveying passengers for any distance not exceeding three miles south of Bridge St. The purpose of this application, evidently, is to compel the company to comply with section 171 of the act, which provides that fares on railways operated by electricity shall not exceed 5c. for any distance not exceeding three miles, and where the distance exceeds three miles then not exceeding 2c. per mile or fraction thereof for the distance actually travelled.

On hearing of the application before the Board, the company alleged, as its sole defence, that this Board had no jurisdiction to fix passenger rates which can be charged by the company, but on the contrary that the Commissioners for the Queen Victoria Niagara Falls Park had the power to fix such rates. The issue is therefore clear cut. Who has the power and authority to fix the passenger rates, this Board or the Commissioners? It is necessary to carefully consider the original act incorporating the company (Ontario, 1892, 55 Vic., chap. 96), as well as the agreement set forth in schedule B to that Act. The agreement was made between the Commissioners and E. B. Osler and others. At the time the agreement was entered into, the parties thereto had no authority to make it, consequently it was necessary to validate it by act of Parliament. This was done by section 1 of the act referred to. Sec. 32 of the agreement in schedule B to that act provides that the company's tariff for passengers shall be a reasonable one and shall be subject to the Commissioners' approval, provided that the Commissioners are not to have the right to insist upon such a tariff as will prevent the company operating the railway at a fair profit, but it shall be their privilege to exact from the company the imposition of reasonable rates only. It is upon this clause of the agreement and subsec. 5 of sec. 171 of the Ontario Railway Act, 1906, that the company rests its contention that the Commissioners and not the Board have authority to fix the rates.

By sec. 5 of the company's incorporation act, 55 Vic., cap. 96, the clauses and provisions of the Ontario Railway Act and amendments thereto, except subsec. 18 of sec. 9 and save as barred, varied or excepted by the act itself, &c., &c., formed part of the act. By the same section certain portions of the Railway Act were expressly excluded from the Act of Incorporation. Shortly stated, the effect of section 5 of 55 Vic., cap. 96, was to incorporate therein sec. 31, R.S.O. 1887, cap. 170, the then Railway Act of Ontario, and make such section part thereof. Subsec. 9 of section 31 provides that no tolls should be levied or taken until approved of by order-in-council, &c. An order-in-council was passed January 5, 1894, approving the company's by-law fixing tolls to be levied for the conveyance of passengers and express. It was ably argued by Mr. Fraser on behalf of the company that clause 32 of the agreements barred or varied sec. 31, R.S.O. 1887, cap. 170, and that subsec. 5 of sec. 171 of the Railway Act, 1906, applied and therefore the Commissioners and not this Board had the sole power and authority to fix the company's passenger rates. It will be observed that the agreement of Dec. 4, 1891, schedule B to the act, is only validated. It is not made part and parcel of the company's Act of Incorporation. Parliament said in effect, we will validate your agreement, but when it comes to fixing your tolls or passenger rates, sec. 31 of the Railway Act of Ontario will apply. No matter what agreement you make between yourselves, the rates for the conveyance of the public on your railway must be fixed in accordance with sec. 31. If Parliament had intended that clause 32 of the agreement should vary sec. 31 of cap. 170, it would have said so, and sec. 5 would have read "save as barred, varied or excepted by the agreement." But the act does not say that. It says "save as barred, varied or excepted by this act." The conflict is between the agreement and the positive enactment of the statute, and the Board's opinion is that the statute must prevail. We therefore have before us a special act, not an agreement, providing for the fixing of tolls or passenger fares. Sec. 171 of the Ontario Railway Act, 1906, provides that "notwithstanding anything contained in any agreement with any municipal or other corporation or person, or any provision contained in any special act to the contrary, the fares to be taken by the company on a railway operated by electricity for each passenger shall not exceed 5c. for any distance not exceeding three miles, and where the distance exceeds three miles then not exceeding 2c. per mile or fraction thereof for the distance actually travelled."

The Board are of the opinion that subsec. 5 of sec. 171 of the Ontario Railway Act, 1906, does not apply in this case, for the reason that there is no

Get exactly the Cap you want at Allan's

We have spent a lifetime gathering cap knowledge, and we are using it in the biggest cap output of any firm in Canada. Our specialty is Uniform Caps.

We make them in every required style—at any price you want to pay. We can work up to any specification and make them quickly.

"Railroad"

Write—just telling what you want—to

A. A. ALLAN
& CO., LIMITED
51 Bay Street
TORONTO - CANADA

"Steamboat"

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.

The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.

THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

American Brake Shoe and Foundry Company

NEW YORK MAHWAH, N.J. CHICACO, ILL.

THE HOLDEN CO., Limited, Agents, 302 St. James St., MONTREAL

E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES
46th, Robey and Lincoln Streets.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.

Manufacturers of

DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:
22 St. John Street
MONTREAL, QUEBEC

I. A. YOUNG,
AGENT

Largest Dealers Rebuilt Equipment in United States

TWO SEPARATE PLANTS

EAST PLANT
Capacity, 25 New Freight Cars per day
10 New Coaches per month

WEST PLANT
Capacity, 10 Heavy Repairs Locomotives per month
Besides Coach and Freight Car Repairs

PROMPT DELIVERY—New Passenger and Freight Equipment—Rebuilt Locomotives, Passsenger and Freight Equipment

HICKS LOCOMOTIVE AND CAR WORKS, = = Chicago, Ill.

act or statute which makes the company's tariff of passenger fares subject to the approval of any Commissioners, &c., and that we are in no wise bound to consider clause 32 of the agreement, but that we are bound to fix the company's tariff for passenger fares in conformity with sec. 171. We might also refer to secs. 16 and 17 of the Ontario Railway and Municipal Board Act of 1906, as having a bearing on the question of the Board's jurisdiction. The following statutes may be referred to, in connection with the change from the Niagara Falls Park and River Ry. Co. to the International Ry. Co., but otherwise they have no bearing upon this controversy: Statutes of Canada, 1900, cap. 54; 1902, cap. 43; Statutes of Ontario, 1901, cap. 86; 1902, cap. 12.

It was suggested by Mr. Ferguson on behalf of the applicants, that this Board should state a case for the opinion of the Court of Appeal. This we declined to do. We prefer to decide the question involved, as well as we can, so that a concrete case may be presented to that court for their determination, rather than what might appear to be an academic question. We are pathfinders, and we prefer to blaze the trail ourselves, rather than ask other people to blaze it for us. The Board directed that the Commissioners of the Queen Victoria and Niagara Falls Park should be represented upon the hearing of this application. Sir Æmilius Irving appeared for the Commissioners and very ably stated his views on the question of jurisdiction. The Board make no order as to costs except that the company shall pay $20 stamps on the formal order.

Montreal St. Ry. Service and Fares.

The Board of Railway Commissioners passed the following order:—

7045. May 4.—The complaint of city of Montreal, against rates charged by and the service and operation of the Montreal Park & Island Ry. Co., and re order 6805, dated April 6, directing that Montreal St. Ry. Co. be made a party to the application, to show cause why it should not join with the M. P. & I. Ry. Co. in establishing a through route and through rates with the M.P. & I.R. Co.: Upon hearing the application, counsel for the city of Montreal and the railway companies interested appearing at the hearing (the Montreal St. Ry. Co. declaring that it appeared only to decline the Board's jurisdiction), the evidence adduced, and what was alleged; and it appearing to the Board that the M.P. & I.R. Co. unjustly discriminates against the residents of Mount Royal ward, Montreal, and in favour of the residents of the town of Notre Dame de Grace, in respect of the rates charged and in the service and operation of its railway: It is ordered that the M.P. & I.R. Co. be directed to grant the same facilities in the way of services and operation, including the rates to be charged by it, to people residing in Mount Royal ward, that it grants to people residing in Notre Dame de Grace; and that it forthwith enter into the necessary agreements for the purpose of removing the said unjust discrimination; and that with respect to through traffic over the Montreal St. Ry., the Montreal St. Ry. Co. be required to enter into any agreement or agreements that may be necessary to enable the M.P. & I.R. Co. to carry out the provisions of this order. And it is further ordered that the operation of this order be stayed for 30 days from date, to enable the M.P. & I.R. Co., or the Montreal St. Ry. Co., or both, to appeal. If no application for leave to appeal is made within the 30 days, the order to go into effect at once at the expiration of that time.

Projects, Construction, Betterments, Etc.

Brantford St. Ry.—The question of the reconstruction of the Brantford St. Ry., which is owned by the G.V.R., has been occupying a good deal of the time of the Brantford city council recently. As a result of all the consideration a resolution was passed May 10, effecting a temporary adjustment. The resolution provides that the G.V.R. shall deposit with the city clerk a bond for $25,000 and $35,000 of the bonds of the company in lieu of the bond of a guarantee company required by the agreement, and that in the meantime the company is to be allowed without prejudice to the city's right in the event of any default being made, to proceed with the work of reconstruction. The work is to be done under the direction of the city engineer. Prior to this agreement being reached the city was considering the question of cancelling the franchise and removing the rails preparatory to repaving the streets. (April, pg. 281.)

British Columbia Electric Ry.—A contract is reported to have been let to Boyd and Craig for grading of an extension on Hastings St. east, Vancouver, to the eastern boundary of Hastings townsite; and that tenders have been asked for the grading of the Powell St. extension to the Hastings Park entrance. The council of Burnaby township has granted the company a 40-year franchise for a line from the eastern boundary of the township right across it, a distance of six miles. Two survey parties are engaged in locating the route, and as rails and other material for the work are on hand, there will be no delay in pushing construction through.

Tenders have been asked for the erection of trolley poles, etc., on the Eburne-New Westminster extension; and a press report says that a contract has been let for 390 miles of aluminum wire for overhead and other work on the new lines.

Another report states that it has been decided to proceed at once with the extension of the tracks along Westminster road from Ninth Ave. to the boundary of district lot 301, and from North Arm road south to district lot 301.

A London, Eng., cable of May 10 states that the directors have authorized the expenditure of $2,500,000 upon extensions and betterments upon the company's lines during the current season. (May, pg. 365.)

Brockville, Ont.—T. M. Kirkwood, Toronto, has written the City Council of Brockville, Ont., asking it to give a guarantee on an amount of bonds at the rate of $25,000 a mile, for 20 years, to aid in the construction of an electric railway through the city, to connect Toronto and Montreal.

Calgary, Alta.—A press despatch states that owing to the labor troubles among the marine men on the Great Lakes, construction material for the street railway is not coming forward, and that work is at a standstill.

An application has been made by the residents of Chestermere, to the City Council of Calgary, to supply power for the operation of a line from Calgary, due east to Chestermere Lake, 10 miles. The Mayor states that it must first be seen that a street car system can be profitably worked in the city before an extension as suggested could be considered. (Apr., pg. 291.)

Campbell River Power Co.—Application will be made at the next session of the B.C. Legislature for an act incorporating a company with this title. Among the objects for which power is sought, are, the constructing and operating of single or double track, aerial or other tramways, with the necessary side tracks and turnout for the passage of cars and all kinds of vehicles capable of being used in connection with a tramway; the carrying of passengers and merchandise of all kinds on such tramway, by any motive power now used or that may be discovered, the erecting of poles, wires, and lines for the transmission of electrical energy, or other power, or for telephone and telegraph messages; the generation of power, and the use of water power for mechanical purposes other than the generation of electricity. Barnard and Robertson, Victoria, are solicitors for the company.

Cobourg Radial Ry.—Upon the application of the Provincial Steel Co., which is interested in this company, the Cobourg, Ont., Town Council, has granted the company a franchise for the construction of an electric railway from its works, through the town to the lake front. (May, pg. 365.)

Dunnville, Wellandport and Beamsville Electric Ry.—Press reports state that grading has been started on the first 10 miles of the 22-mile line projected to connect up these three Ontario towns by — Lloyd, to whom a contract has been let. It is also stated that tenders will shortly be asked for the supply of rails, poles, overhead equipment and rolling stock. The construction will be light, the heaviest fill being between St. Ann's and Dunnville, and the bridge construction will involve structures of no great importance over Chippewa Creek, and three or four other streams. The gradient is a comparatively easy one, the heaviest being down the mountain where it is about 3%. It is proposed to purchase power to operate the line. Jas. A. Ross, Wellandport, Ont., is President of the company. (May, pg. 367.)

Hamilton St. Ry.—The Hamilton City Council is preparing to asphalt Barton St., and desires the H.S.R. to relay its tracks at the same time. The company desires to postpone the work on account of the disorganization of traffic which it will necessitate at a time when traffic is heaviest on this piece of line. (Mar., pg. 215.)

London and Northwestern Ry.—D. A. Stewart, London, Ont., states that the company's plans provide for the construction of an electric railway from London to Sarnia, Ont., passing through Hyde Park, Melrose, Lobo, Poplar Hill and Park Hill, and a connection to Grand Bend on Lake Huron, a total of 114 miles. It is expected to start construction within six months, and when the line is completed to give a regular service with 15 cars. London is to be the location of the car and repair shops.

Moncton Electric Tramway Co.—The New Brunswick Legislature has passed an act amending in various ways the

BALDWIN LOCOMOTIVE WORKS

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND

LOCOMOTIVES

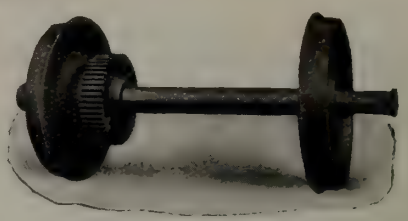
Mine, Furnace and Industrial Locomotives
Electric Locomotives with
Westinghouse Motors and Electric Trucks

BURNHAM, WILLIAMS & COMPANY
PHILADELPHIA, PA., U.S.A.
Cable Address; -"Baldwin," Philadelphia

STANDARD STEEL WORKS CO.

Harrison Building, Philadelphia, Pa., U.S.A.

THE BRYDGES ENGINEERING AND SUPPLY CO.
WINNIPEG, MAN. Limited Representatives



Wheels mounted on axles fitted with motor gear ready for application to equipment

STANDARD

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.

BRIDGES

TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

The McConway & Torley Co.

PITTSBURG, PA.

Manufacturers of the

JANNEY,
JANNEY "X"
AND
PITT FREIGHT COUPLERS

BUHOUP 3-STEM EQUIPMENT
BUHOUP VESTIBULE EQUIPMENT

MALLEABLE IRON AND STEEL CASTINGS
FOR RAILROAD USE

ESTABLISHED 1849

BRADSTREET'S

Capital and Surplus $1,500,000
Offices throughout the Civilized World
Executive Offices:
NOS. 346 and 348 BROADWAY, N. Y. CITY, U. S. A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

Correspondence Invited.

OFFICES IN CANADA:
Halifax, N.S.; Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.; Toronto, Ont.; Vancouver, B.C.; Calgary, Alta.; Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

company's powers to enter into an agreement with the City Council for the construction of an electric railway within the city of Moncton, and granting an extension of time within which the railway may be constructed. (See Moncton St. Ry., Heat and Power Co., May, pg. 367.)

Montreal and Southern Counties Ry.—Press reports state that contracts have been let to Slack and Brogan for paving Common and Mill streets, and the approaches to Black's Bridge, on the company's piece of line in Montreal city, and to G. Duncan for grading in St. Lambert, and for the excavation of the sub-station and car barns to be erected on St. Denis St., opposite Elm Ave. The work of grading to the Victoria Bridge is in progress. (May, pg. 367.)

Mount McKay and Kakabeka Falls Ry.—W. F. Hogarth, President, stated May 7, that if the arrangements with the city of Fort William, Ont., are completed at once track will be laid out to the park by July 1. The city acquired all the company's property within the boundary as the result of the vote at the last municipal election, and the company now desires to secure a connection so that it can take its traffic into the city. (Feb., pg. 136.)

Niagara, St. Catharines and Toronto Ry.—A connection has been made between the N., St. C. and T. Ry. and the Toronto, Hamilton and Buffalo Ry. at Welland, Ont. This will greatly facilitate the handling of freight traffic between the two companies. (Oct., 1908, pg. 737.)

Ontario West Shore Ry.—Grading will, it is reported, be recommenced on the section of the line between Kincardine and Goderich, early in June. The heavy rains have prevented much of the work that had been outlined for the spring. J. W. Moyes, engineer, states that 4,500 tons of rails have been purchased, half of which will be landed at Kincardine, and half at Goderich, in readiness for laying from each end of the line during the summer.

The Goderich Town Council raised the question at its meeting May 7 as to how far the rights of the various municipalities guaranteeing the company's bonds, were protected, as regards the work of construction; and in response to questions on the subject, J. W. Moyes has said that the books and reports of the company are open to inspection by the municipalities concerned, and that every dollar is accounted for, and the strictest economy practiced.

Ottawa and St. Lawrence Electric Ry.—At a meeting of shareholders at Morewood, Ont., May 4, the following were elected directors: C. M. Willard, J. K., B. and W. M. Longbridge, J. W. Bogart, A. Merkley, and J. McFarlane. C. M. Willard of Morewood, was subsequently elected President, and —. Iveson, Secretary. Meetings have been held in support of the project at Prescott and other points, and the directors state that stock enough to start the line has been subscribed by the farmers along the route; that nearly all the municipalities through which it will pass have voted cash subsidies, and that a New York firm has taken over the selling of the bonds. The route of the line as projected is as follows: Starting from Ottawa it will touch Metcalfe, Ormond, Winchester Springs, Williamsburg, Morrisburg, then west along the St. Lawrence River, passing Iroquois, Cardinal, Prescott, Maitland, to Brockville, thence northerly, taking in Lyn, Athens, Perth, Lanark and Arnprior, thence along the Ottawa River to the starting point. It was reported that surveys were started May 10, A. H. N. Bruce, Ottawa, being Chief Engineer in charge. It is stated that an arrangement has been made to obtain electric power from Morrisburg, until the company develop a power of its own which it hopes to secure in the vicinity of Ottawa. (May, pg. 367.)

People's Ry.—The by-law submitted to the taxpayers of Wilmot tp., Ont., to grant a bonus in aid of the construction of this projected railway through the township, was defeated by 42 votes. At a meeting held at New Hamburg, Ont., May 2, the directors appointed a number of business men from Stratford, Tavistock, New Hamburg, and from Wilmot and Blenheim tps., as an advisory board. A. N. Warfield, New Hamburg, is in charge of the project. (May, pg. 367.)

Quebec and Saguenay Ry.—In connection with the reported transfer of the control of the Quebec Ry., Light and Power Co., it is stated that the rearranged company will undertake the construction of the projected line from St. Joachim to Murray Bay, Que., which the Q. and S. Ry. Co. is authorized to construct. The starting point would be at St. Joachim, the terminal point of the Q., Ry. L. and P. Co.'s Montmorency division, and the line would be constructed along the shore of the St. Lawrence River, passing through Baie St. Paul to Murray Bay. The act also gives the company power to extend the line to St. Catherines Bay, where a deep water port may be established. The distance from St. Joachim to Murray Bay is 56 miles, and the cost of this portion of the line is estimated at $2,000,000. It is stated that the company's bonds have been underwritten, that construction will be started this summer and the line completed within two years. (April, 1908, pg. 283.)

Sarnia St. Ry.—During the current construction season the company proposes to relay its double track main line with 70-lb. rails, for which the city will provide a roadbed of creosoted block. The extension made during 1908 was a line of 1.5 miles through the southern part of the city, on Vidal and Christina Sts., the purpose of which was to take over the passenger and baggage business from which the Pere Marquette Rd. was withdrawing. The P.M.R. ceased operating its trains up town Jan. 1, and since that date the S.S.R. has taken over the business. (Feb., pg. 197.)

Stratford and St. Joseph Radial Ry.—At a meeting of provisional directors in Stratford, Ont., May 4, their interests were transferred to a new board which is stated to have subscribed for $125,000 of stock. The new board is said to have entered into a contract with R. H. Sherwood, of Brooklyn, N.Y., for the construction of the line, he taking payment in the company's bonds.

The projected line will have a total length of 65 miles, extending from Stratford to St. Joseph, on the shore of Lake Huron, via Carlingford, Russeldale and Exeter or Hensall. It is proposed to issue bonds to the extent of $25,000 a mile, carrying 4% interest, and to run for 30 years. The municipalities are being asked to guarantee these bonds, so as to enable the company to issue them at par. The capital is fixed at $500,000. A proposition has been submitted to the Stratford City Council that it give a guarantee of bonds up to $250,000. This is under consideration.

It is proposed to operate the line by trolley in the ordinary way, and to keep two 50-ton steam locomotives in reserve to provide a partial service in case of a breakdown of the power plant. An hourly service will be given for passengers during 15 hours each day, and during the remaining 9 hours freight will be carried. (May, pg. 367.)

Stratford Tramway Co.—A proposition has been submitted through J. C. Makins, Solicitor, to the City Council of Stratford, Ont., for the construction of an electric railway in the city. The company, he stated, was being promoted by responsible parties, and if the franchise were given a contract with guarantees, would be at once entered into. The draft contract submitted provides for the carriage of freight over the lines to be constructed, subject to regulations; the interchange of traffic with any other electric line reaching the city, and the utilization of Niagara power purchased from the city. The application has been referred to the finance committee for consideration.

A press report states that the company, which is stated to be organized under the laws of the province, and subject to the control of the Ontario Railway and Municipal Board, is being promoted by the St. Mary's and Western Ontario Ry., which in turn has the financial and moral support of the C.P.R. (See also Stratford and St. Joseph Radial Ry.)

St. Thomas Street Ry.—Construction was started May 7 on the subway under the Michigan Central Rd., at Ross St., St. Thomas, Ont. The commissioners of the municipal street railway propose laying a track on the street through the subway with a passing track 150 ft. long on the south side. The cost of track and overhead work is estimated at $5,600, which it is proposed to raise by means of debentures. (Dec., 1908, pg. 891.)

Toronto.—A letter has been received by the Toronto City Council, from the Kearney High Speed Ry. Co., London, Eng., suggesting the construction of an underground railway in the city to be constructed on the company's plans. Two routes were suggested, one along Yonge St. to the Custom House, and the other from East Toronto along Queen, Dufferin and Dundas Sts. to West Toronto. No action has been taken by the Council upon the communication.

Toronto and York Radial Ry.—As a result of its investigation of the complaints of the municipalities, and an inspection of the line as far as Mulock's corners, 28 miles north of Toronto, May 14, the Ontario Railway and Municipal Board made an order May 18, directing the company to macadamize between the rails of its Metropolitan divison at various points. Leave to appeal against the order was given. (May, pg. 369.)

Toronto Ry.—The city's appeal against the order of the Ontario Railway and Municipal Board, giving the T.R. Co. the right to lay tracks on Adelaide and Bay St., University Avenue, and Richmond and Wellington Sts., has been argued before the Court of Appeal, and judgment reserved.

The question of the construction of a car line to the eastern entrance of the exhibition grounds is still causing con-

siderable discussion. The company desires to extend its line from Bathurst St. through the grounds of the Old Fort, which the city is acquiring from the Dominion Government, while the city favors a line along Tecumseh St., outside the Old Fort grounds. The Consumers' Gas Co. is opposed to the company's plan on the ground of the possible danger to its gas-holders at the foot of Bathurst St. The matter was mentioned in the House of Commons May 12, when the Minister of Militia said the conditions attaching to the transfer of the property to the city require that the Old Fort shall, as far as possible, be restored to its original condition. There is no prohibition in the deed against letting the street railway go through the grounds, but the plan of the proposed restoration and all matters connected with it will have to be approved by the Government before anything is done. (May, pg. 369.)

Toronto Suburban Ry.—Now that the city of West Toronto has been taken into the city of Toronto, the question of the extension of the company's line towards the Lake Shore Road at Swansea is being considered by the Toronto Civic Parks and Exhibition Committee. The committee met May 20 to consider the question and went over the projected route in the vicinity of High Park. (May, pg. 369.)

Winnipeg Electric Ry.—The Manager states that the company is ready to proceed with the various extensions contemplated on the lines in the city, as soon as the City Council reaches a decision as to paving. Among the extensions contemplated are: From Maryland St., westerly on Portage Ave.; second track construction on Dufferin Ave.; extension on Academy Rd., and a second track from Main St. to Andrew St., on Selkirk Ave. (April, pg. 283.)

Electric Railway Finance, Etc.

British Columbia Electric Ry.—Gross operating earnings for Mar., $186,724; operating expenses, $114,447; net operating earnings, $72,277; renewal funds, $13,958; net earnings, $58,319; approximate income from investments, $13,550; net income, $71,869; against $158,339 gross operating earnings; $94,114 operating expenses; $64,225 net operating earnings; $10,750 renewal funds; $53,475 net earnings; $11,036 approximate income from investments; $64,511 net income for Mar., 1908. Aggregate gross earnings for 9 months ended Mar. 31, $1,712,281; net earnings, including estimated income from investments, $783,133; against $1,490,260 and $727,130 for same period, 1907-08.

Halifax Electric Tramway.—Railway receipts for Apr., $14,495.74, and for 2 weeks ended May 14, $6,623.64; against $13,303.12 and $5,738.54 for same periods, 1908. Aggregate receipts for 4 months ended Apr. 30, $54,376.56, against $51,213.85 for same period, 1908.

Montreal St. Ry.—Total earnings for Apr., $294,373.85; expenses, $173,351.62; net earnings, $120,822.23; city percentage on earnings, $22,024.96; interest on bonds and loans, $15,099.83; rent leased lines, $498.67; surplus, $83,198.77; against $280,735.83 total earnings; $170,141.23 expenses; $110,594.60 net earnings; $19,727.73 city percentage on earnings; $17,323.08 interest on bonds and loans; $444.43 rent leased lines; $73,099.36 sur-

The important saving in the power bill of the railroad shop effected by individual Motor drive

YOU are naturally interested in the problem of increasing the efficiency of your shops.

You want to get more and better work out of your shops and you want to get it at the lowest possible cost.

You realize that a saving of 25% in your power bill is a considerable item and one worth investigating.

Then you will be interested in the Western Electric Individual Motor Drive for the Railroad Shop.

Let us give you some facts—

First, with Western Electric Individual Motor Drive you pay only for the power used in actual production. There is no power wasted in turning idle pulleys, shafting, and slipping belts. From actual tests, this waste power amounts to from 25 to 50% of the total power delivered by the engine.

You know how important it is to perform every operation at the greatest possible speed. Now, on a belt driven lathe, the cone steps give speed variations of about 50% each. If the first speed is too high for the operation, the next choice of speed is 50% lower than necessary. With the Western Electric variable speed motor any desired speed can be maintained without inconvenience to the operator. Consequently the speed of the operation is greatly increased and the machine becomes much more productive.

The portable machine, an absolute necessity in operation on very large work, is made reliable and practical by means of the electric motor drive.

The saving in floor space and the ease and quickness with which any machine may be moved at any time are points which alone should recommend the direct motor drive system to you.

If you are interested—if you want to know more about this system just write us and we will gladly give you full information.

Write to-day for our Bulletin No. 714.

THE NORTHERN ELECTRIC AND MANUFACTURING CO. LIMITED

Manufacturers and suppliers of all apparatus and equipment used in the construction, operation and maintenance of Telephone and Power Plants.

MONTREAL—Cor. Notre Dame and Guy Sts.
TORONTO—60 Front Street West.
WINNIPEG—599 Henry Avenue.
VANCOUVER—424 Seymour Street.

JOHN S. METCALF CO.

ENGINEERS AND CONTRACTORS FOR

GRAIN ELEVATORS ONLY

CONCRETE—STEEL—WOOD

Plans and Specifications our Specialty

MIDLAND, ONTARIO CHICAGO, ILL.

plus for Apr., 1908. Aggregate total earnings for 7 months ended Apr. 30, $2,107,716.40; net earnings, $767,781.06; total charges, $218,866.04; surplus, $548,-915.02; against $2,027,872.71 gross earnings; $711,865.75 net earnings; $224,108.56 total charges; $487,757.19 surplus for same period, 1907-08.

Quebec Ry. Light and Power Co.—Local reports state a syndicate, headed by Rodolph Forget, M.P., has secured a controlling interest in the company, and that its members are interested in the project for an electric railway to Murray Bay, Que., under the title of the Quebec and Saguenay Ry. It is further stated that the same interests have undertaken to provide the necessary capital for the construction of the line.

St. Thomas St. Ry.—The report presented to the city council of St. Thomas, Ont., as to the operations of the municipal street railway for April shows that 32,219 passengers were carried, against 31,110 in April, 1908. The receipts were: Sale of tickets, $680.75; cash fares, $476.51; total, $1,157.26, against $1,144.66 in April, 1908.

Toronto Ry.—Gross earnings for Mar., $298,142; operating expenses, maintenance, etc., $162,286; net earnings, $135,-856; against $272,808 gross earnings; $156,046 operating expenses; $116,762 net earnings for Mar., 1908. Aggregate gross earnings for 3 months ended Mar. 31, $861,768; net earnings, $393,707; against $803,767 and $337,215 for same period, 1908. Approximate earnings for Apr., $297,858.14, against $272,929.02 for Apr., 1908. The percentage on earnings paid to the city for Apr. was $44,990, against $41,229 for Apr., 1908.

London St. Ry.—Gross earnings for Apr., $18,321.56; expenses, $13,933.49; net earnings, $4,388.07; interest charges, $2,405.61; surplus, $1,982.46; against, $17,-178.54 gross earnings; $13,811.58 expenses; $3,366.96 net earnings; $1,004.63 surplus for Apr., 1908. Aggregate gross earnings for 4 months ended Apr. 30: $70,636.40; expenses $53,054.89; net earnings, $17,581.51; interest charges, $9,-567.78; surplus, $8,013.73; against, $67,-465.68 gross earnings; $52,543.27 expenses; $14,922.41 net earnings; $9,243.77 interest charges; $5,678.64 surplus for same period 1908.

Electric Railway Notes.

The Ottawa Electric Ry. has recently received 4 semi-convertible pay-as-you-enter cars, 21 ft. bodies, from the Ottawa Car Co.

The Winnipeg Electric Ry. has purchased three car bodies in the U.S., and they are being mounted on trucks at the Toronto Ry.'s car shops, Toronto.

The Ottawa Electric Ry. has purchased a site at the corner of the Britannia line and Holland Ave., upon which it is proposed to lay out an athletic ground.

The Ottawa Valley Motor Transit Co. inaugurated its motor bus service between Ottawa and Richmond May 6. The vehicle is driven by a 16 h.p. motor.

The Grand Valley Ry. is reported to be negotiating with the Ottawa Car Co. for some cars, and with other companies for the purchase of four sets of double trucks and one set of single trucks.

The Ontario Railway and Municipal Board has been asked to make an order enforcing the original agreement made between the town of Sandwich and the Sandwich, Windsor and Amherstburg Ry.

The last link has been completed in a chain of electric railways which renders it possible for a passenger to travel by trolley between New York and Chicago, 970 miles. A system of through cars will doubtless be put on in due time.

The Quebec Ry. Light and Power Co. has filed its standard passenger tariff C.R.C. 7 with the Board of Railway Commissioners, fixing the maximum passenger elevator tolls at the Montmorency Falls elevator at 5c. each way, and no half fares.

Replying to a question in the Nova Scotia Legislature May 4, Hon. Mr. Chisholm stated that the subject of granting subsidies in aid of the construction of electric railways was under the Government's consideration. No application for such a subsidy, however, had been made.

The International Traction Co. has been ordered by the Ontario Railway and Municipal Board to reduce the fare on its line for the trip from Suspension Bridge to Niagara Falls, Ont., from 10c. to 5c. The Board refused to grant a stated case on the subject of jurisdiction for the consideration of the court of appeal.

The Chatham, Wallaceburg and Lake Erie Ry. is reported to have purchased an additional 25-ton electric locomotive for freight service, and two storage batteries; to have contracted to equip its entire stock of cars with Westinghouse automatic air brakes, and to change two of its single-end cars to double-end ones.

Rev. C. W. Gordon, Winnipeg, is chairman of the board of conciliation appointed to consider certain differences between the Winnipeg St. Ry. and its employes. W. J. Christie represents the company, and J. G. O'Donoghue, Toronto, the men. The men ask for a nine hour day, and the right for all ranks to join the union.

The Montreal Street Ry. has laid some tracks on St. Alexander St., south of St. Catherine St. Our report says they have been laid for the purpose of a Y, and another that they are for the purpose of hauling stone for some building operations going on. As the question of hauling freight on the streets is as yet unsettled, citizens are asking which report is correct.

The British Columbia Electric Ry. is sueing J. A. Fairbairn, of Vancouver, B.C., for damages occasioned to their light and power system by blasting operations on the defendant's property. The effect of one of the blasts was that one of the company's poles carrying the high tension wires was thrown down, causing the burning out of three transformers at Lake Buntzen and other damage. The damage is placed at $4,000.

The Board of Railway Commissioners has issued an order directing the Montreal St. Ry. and the Montreal Park and Island Ry. to grant the same facilities and treatment to the residents of Mount Royal ward as have been granted to Notre Dame de Grace. The present fare over the lines of the two companies is 10c., and it is claimed that this particular ward is being discriminated against in comparison with other parts of the city. The question of jurisdiction was raised, and the companies were given time to appeal.

Grain Elevator Notes

S. J. Kent is erecting a farmers' elevator at Carlyle, Sask.

The farmers in the neighborhood of Strome, Alta., are organizing an elevator company.

The C.P.R. elevator at Prescott, Ont., has been overhauled and improved at a cost of about $4,000.

The Ogilvie Milling Co. is reported to be about to erect a fireproof elevator of 300,000 bush. capacity at Winnipeg.

The Sunny Belt Elevator Co. is erecting elevators of 30,000 bush. capacity at Carstairs, Magrath and Crossfield, Alta.

The British American Grain Elevator Co. is erecting grain elevators at nine points along the Canadian Northern Ry. line between Brandon, Man., and Regina, Sask.

W. J. Bettingen & Co. are said to be planning to erect elevators at Carstairs, Crossfield, Strathmore, Gleichen, High River, Cayley, Nanton, Parkland and Warner, Alta.

Elevator sites have been applied for at Burrard Inlet, Vancouver, B.C., and it is stated to be the intention of the Alberta Pacific Elevator Co. and the Alberta Grain Co. to erect elevators there.

The Battleford Milling and Elevator Co., Ltd., Battleford, Sask., has increased its capital stock from $30,000 to $40,000.

The Islay Elevator Co., Ltd., has been incorporated under the Northwest Territories Ordinance, with office at Islay, Alta.

The Lake of the Woods Milling Co. is reported to have decided to erect a large modern flour mill at Depot Harbor, Ont., with a capacity of 5,000 barrels a day. The buildings and plant will cost about $500,000. This will make the company the largest of its kind in Canada.

An order in council has been passed approving the Montreal Harbor Commissioners' by-law, relating to the G.T.R. elevator at Windmill Point, as follows: "Shovelling grain by power or hand, as the steamer or barge will permit, $2 per 1,000 bush., to be paid by the steamer or barge."

It is reported that four elevators will be erected shortly at Carstairs, Alta., one of 30,000 bush. capacity by the Sunny Belt Elevator Co., one of 40,000 bush. capacity by the Imperial Elevator Co., one by W. J. Bettingen & Co., and another by the Alberta Grain Co. Work has been commenced there on the last mentioned.

The MacGregor Grain Growers' Elevator Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of $5,000 and office at MacGregor, to carry on a general grain warehousing and elevator business, and to acquire, build, maintain and operate all classes of elevators and warehouses. The provisional directors are: N. Chant, A. Hay, P. Poiser, D. Shaw, S. Snow, T. Rowan, J. Muir, R. Cutting, J. Irwine and C. Currie, MacGregor, Man.

Following are the officers and directors of the Goderich Elevator and Transit Co. for the current year:—President, I. A. Hunt, London, Ont.; Vice-President, S. R. Stuart, Mitchell, Ont.; Secretary, Manager and Treasurer, W. L. Horton, Goderich, Ont.; other directors: S. Dyment, Barrie, Ont.; M. McLaughlin, Toronto; E. R. Weyland, Port Arthur, Ont.; M. Goldie, Ayr, Ont. The financial statement presented at the annual meeting, recently held, was a satisfactory one.

A deputation from the Western Grain

FENCE TALK NO. 5

Page "Empire" Fences have "high-carbon" horizontal 9-gauge wire.

High-carbon wire is harder, tougher, and far stronger—from a third to a half as strong again—stands 2,400 lbs. strain-test.

Page "Empire" Fences, because of this extra strength, have ample spring in reserve to hold a long panel tight and sagless with fewer posts by a third.

Page Fence uprights are fastened to horizontals by a positive lock, clinched so tightly as to make a solid joint that cannot work loose nor slip—even under the severest strain. But the intersecting wires are not injured.

Other fences and our "Star" brand have "hard drawn" wire. Hard drawn wire is softer, is weaker—stands but 1,800 lbs. strain-test.

Other fences thus lack springiness, need three posts to Page Fences two and then sag and give.

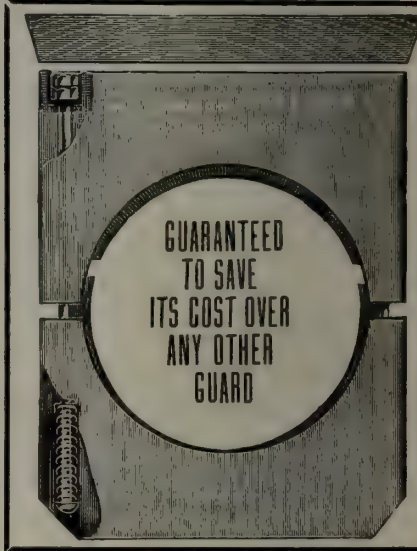
Other fences half-fasten the crossing wires together with a mere twist of wire that will slip. Some use locks that dent and weaken the wire.

These are the reasons why Page High-carbon Fences cost less and wear best, because they need a third less posts and a third less labor to erect, and yet make a tighter, sightlier, sag-proof and more enduring fencing. The Page Wire Fence Co., Limited, Walkerville, Toronto, Montreal, St. John, Vancouver, Victoria.

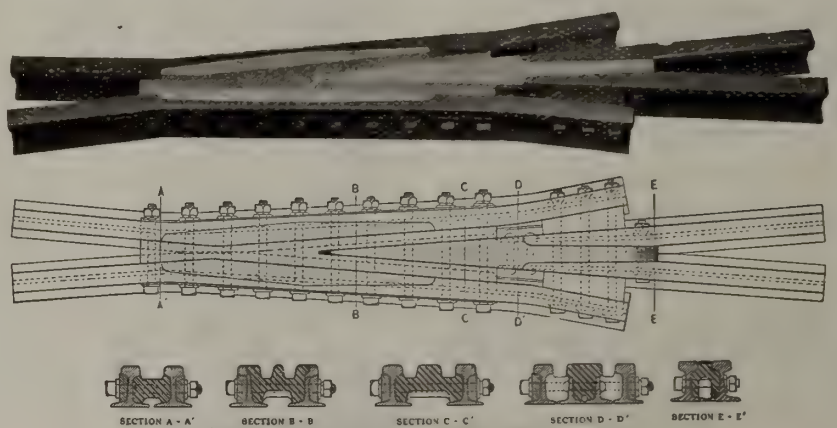
"Page Fences Wear Best"

SHERIFFS
MANUFACTURING CO.

MILWAUKEE, WIS., U.S.A.
ESTABLISHED 1854



FOR HARD SERVICE, USE



RAMAPO MANGANESE HARD CENTER FROG.—DESIGN NO. 1.

CORRESPONDENCE SOLICITED

MANUFACTURED BY **CANADIAN RAMAPO IRON WORKS, LIMITED**
NIAGARA FALLS, ONT.

JAMES T. GARDNER
RAILWAY EQUIPMENT
615 Railway Exchange
CHICAGO, ILL.

Has on hand at all times

First-Class Freight and Passenger Locomotives

Also

Contractors' Locomotives Cars, Rails, Etc.

Specifications with Prices on Application

SESSIONS-STANDARD
Friction Draft Gear
Simplest and Best

Both Made by
Standard Coupler Co.
2 RECTOR STREET NEW YORK

STANDARD STEEL PLATFORMS
Used by all Canadian Railways

Growers' Association presented a petition signed by 10,000 Manitoba farmers, to the Dominion Government at Ottawa, April 28, asking that the Government assume control of all terminal and transfer elevators between Port Arthur and the Atlantic coast. A similar petition is coming forward, signed by farmers in Saskatchewan. A further deputation waited on the Government May 2, to urge the same matter, on behalf of the Dominion Millers' Association. Sir Richard Cartwright, Minister of Trade and Commerce, received the deputations.

R. Meighen, before leaving Canada for Europe recently, gave a most emphatic contradiction to the rumor as to the merger of the Lake of the Woods Milling Co., and the Ogilvie Milling Co., so far as the first named is concerned.

The Westminster Elevator Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $250,000, to acquire lands and to erect buildings for the purpose of receiving, warehousing and delivering grain and other merchandise and in connection therewith to own and operate steam and other vessels, for the carriage of passengers and merchandise.

F. W. Peters, Assistant to Second Vice-President, C.P.R., on his return to Winnipeg from Mexico, recently, intimated that the C.P.R., in conjunction with the Tehuantepec Ry., had the question of the export of grain from the Pacific coast well in hand. He said that possibly neither company would be able to handle the first crop by means of permanent elevators, but both were quite prepared to deal with it by temporary devices. W. Whyte, Second Vice-President, confirmed this latter by saying: "We will instal permanent devices with all possible speed, but whether they will be ready for the first crop or not I cannot definitely state. I do say, however, that we will handle all the grain we are required to, possibly by means of clams, but whatever the means, we will handle it."

A bill was introduced into the House of Commons, May 3, to amend the Manitoba Grain Act, providing that grain shipped by vessel shall be officially weighed in and out of terminal elevators. The intention of the bill is to do away with numerous complaints of vessel owners that they are continually weighed out short at such elevators. It has been claimed that last year, vessel owners lost over $50,000 by this means. The Government already provides official weighmasters to weigh in at terminal elevators, but no such provision is made at transfer elevators, and the losses appear to occur between these two points. The bill provides an option, that the shippers and carriers can, by mutual arrangement, avoid weighing charges; otherwise all grain must be weighed in and out.

Grain Shipments From the Dual Ports.

F. E. Gibbs, Dominion Grain Inspector, has favored us with the following statement of shipments of grain from terminal elevators at Fort Wiliam and Port Arthur, Ont., from close of Navigation, 1908, to May 14, 1909, inclusive.

Wheat	5,528,287-20
Oats	2,093,010-08
Barley	199,025-00
Flax	187,483-20
SHIPMENTS ON CROP, 1908.	
Wheat	41,539,770-40
Oats	8,046,212-08
Barley	1,649,889-02
Flax	705,396-48
TOTAL ALL GRAIN.	
Crop, 1908	51,941,268-00

Vessels Removed from the Register.—During April, the following vessels were removed from the register for the reasons assigned:—Steam: Alma V., Kenora, Ont., 38 tons, dismantled; W. E. Gladstone, Owen Sound, Ont., 30 tons, lost; Wenonah, Toronto, 3 tons, burned. Sailing: E. A. O'Brien, Maitland, N.S., 1,037 tons, condemned; Genesta, Charlottetown, P.E.I., 29 tons, transferred to Newfoundland; Luarca, Windsor, N.S., 632 tons, lost; Mary E., Sackville, N.B., 99 tons, wrecked; Rowena, St. John, N.B., 96 tons, wrecked.

During March, 6 employes were killed and one injured in the course of their work in connection with the navigation of Canadian waters. Of the deaths, 4 were due to drowning and 2 to falls; while the other accident was caused by machinery.

SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie Canals in April.

ARTICLES.			CANADIAN CANAL	U. S. CANAL	TOTAL
Copper	Eastbound	Net tons	.....	.....	.....
Grain	"	Bushels	.....	287,100	287,100
Building stone	"	Net tons	.....	.....	.....
Flour	"	Barrels	.....	22,170	22,170
Iron ore	"	Net tons	.....	10,080	10,080
Pig iron	"	"	.....	.....	.....
Lumber	"	M. ft. B.M.	.....	.....	.....
Wheat	"	Bushels	465,500	513,000	978,500
General merchandise	"	Net tons	.....	125	125
Passengers	"	Number	20	.....	20
Coal, hard	Westbound	Net tons	.....	18,515	18,515
Coal, soft	"	"	60,594	48,375	108,969
Flour	"	Barrels	200	.....	200
Grain	"	Bushels	.....	.....	.....
Manufactured iron	"	Net tons	4,720	7,665	12,385
Iron ore	"	"	.....	.....	.....
Salt	"	Barrels	6,405	10,667	17,072
General merchandise	"	Net tons	16,352	13,808	30,160
Passengers	"	Number	85	1	86
Vessel passages		Number	85	107	192
Registered tonnage		Net	109,139	149,446	258,585
Freight—Eastbound		Net tons	13,965	35,082	49,047
" —Westbound		"	82,601	89,963	172,564
Total Freight		"	96,566	125,045	221,611

U. S. Canal opened April 20, and Canadian Canal opened April 21, 1909.

MARINE DEPARTMENT

Atlantic and Pacif c Ocean Marine.

A Canadian annex to the Passmore Edwards Sailor Palace, London, Eng., was opened May 11, by the Lady Mayoress, acting for Lord Strathcona.

The Japanese cruisers Aso and Soya arrived at Victoria, May 5, on a visit, and the officers and crew were entertained by local army officers, &c., on behalf of the Dominion Government.

The s.s. Stikstad arrived at North Sydney, N.S., from Great Britain, May 14, with her bows considerably damaged by ice. A survey has been made, and the vessel sent to Halifax, where she has been docked for repairs.

With regard to press reports to the effect that there was an exclusive compact between the G.T.R. and the White Star-Dominion Line, for the handling of ocean borne traffic, we are advised that there is no such compact, and that the statement has been officially denied.

The electric freight transporter designed by F. W. Cowie, Chief Engineer, Montreal Harbor Commission, was put into operation May 7, at No. 9 shed, Montreal, and is reported to have performed the work of unloading the C.P.R. s.s. Mount Temple, in a satisfactory manner.

The agreement between the steamship companies and the longshoremen for the current season, provides for the payment of a bonus of 2½c an hour, at the end of the season, to all those working for the entire season. A further small concession was also made regarding extra pay for night work.

Capt. T. McDowell, of the Head Line s.s. Bray Head, was presented with a gold watch, chain and pendant by the Lord Mayor of Belfast, Ireland, on behalf of the U.S. Government, recently, in recognition of his services in rescuing the crew of the U.S. schooner William H. Skinner, Feb. 22, 1908.

The Australian Government has decided that it cannot, for the present, entertain the proposals made by Canada in regard to the projected "all red" route. While recognizing the importance of the scheme, it regrets that in the present state of its finances, it is unable to concur in the proposals, but it is hoped that when the financial limitations imposed on the Commonwealth by its constitution are removed, it may be able to express a more decided opinion on the merits of the proposals.

The winter season of Atlantic traffic closed May 1, by the sailing of the C.P.R. s.s. Lake Erie from St. John, N.B. While the inward business is estimated to compare favorably with that of last year, it has not been so large as about two years ago. Outward traffic returns, it is anticipated, will show to some advantage, especially in cargoes to Great Britain. The lower freight rates will possibly detract from the advantage gained by handling increased tonnage. The total sailings for the season were 107, compared with 111 of the 1907 season.

An attempt to draw Sir William Van Horne, at Liverpool, Eng., recently, as to the C.P.R. shipbuilding programme, resulted in the statement that "it was the company's determination to keep pace with the times." The amount of satisfaction which can be taken from this re-

mark, by those press correspondents who have been busy with the reports of the laying of keels at various dockyards in England for the C.P.R., must be enormous. With regard to the latest of these rumors, in which it is said that orders have been placed in England for two vessels to have a speed of 20 knots an hour, each vessel to be equipped with combined turbine and reciprocating engines, we were authorized May 11 to say that there is no foundation for the statement.

The Dominion Iron and Steel Co. will shortly ship 15,000 tons of steel rails to Prince Rupert, B.C., for the G.T.P.R. In commenting on this, the daily press, in general, states that the decision" . . . to forward its order . . . across the Isthmus of Panama, via the Tehuantepec Ry., will be, to many, the first revelation of a new trade route." We are advised that the Dominion Iron and Steel Co. will not ship the rails in question by the route named, but they are being transported by the all-water route around Cape Horn in vessels, sailing from Sydney, N.S., in May, July and Aug. We might also say that though the statement may be, "to many, the first revelation of a new trade route," it is no new thing to those whose business is concerned with transportation matters, as, we have, at intervals, from Jan., 1908, published interesting items relative to the development of this route, in which Canada is playing no mean part.

The White Star-Dominion Line S.S. Laurentic arrived at Montreal May 7. This is the first vessel of the new service to be operated between Great Britain and Canada under the joint management of the White Star and Dominion Lines. The Laurentic is the largest vessel, at present, trading to Canadian ports, her dimensions being: Length, 565 ft.; breadth, 67.4 ft., and about 15,000 tons. She has accommodation for about 260 first-class, 430 second-class and over 1,000 third-class passengers. The accommodation generally is of the most up-to-date and luxurious description, and the equipment includes the latest improved system of Marconi wireless telegraphy and of submarine signalling apparatus. While the vessel was in port a number of receptions were held on board at which the principal men connected with or interested in the marine matters of Canada, attended. A full description of the vessel was given in our Oct., 1908 issue. The second boat of this service, the Megantic, will also be on the route during the present season.

Maritime Provinces and Newfoundland.

Capt. Neil Hall has been appointed surveyor to the British Corporation for the Halifax district.

A. Pearl, keeper of the light at Tancok, N.S., has been granted the Imperial Service Medal on his retirement.

The Bras d'Or Steamship Co., Sydney, N.S., is building a steamboat at Shelburne, N.S., which it hopes to launch June 1.

The Dartmouth, N.S., ferry commissioners have awarded the contract for the repair of the ferry wharf to Reed and Archibald.

The name of the steamboat Granville, No. 116053, registered at Yarmouth, N.S., has been changed by order in council to Connors Bros.

The French fishing schooner Dictator

THE CLIFTON HOTEL

NIAGARA FALLS, CANADA.

Rates $4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

The only Hotel that Commands an Unrivalled View of Both Falls.

HOW TO REACH THE CLIFTON HOTEL.

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes. Arriving on Michigan Central Rd., Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make Canada plain in the address.

C.P.R. LANDS

The Canadian Pacific Railway Company have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally)	8.00 to per acre.
Map No. 5 South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160	Acres at	$ 8.00	per acre,	cash payment	$191.70	first year's interest	$ 65.28	and nine instalments of	$160.00
"	"	9.00	"	"	213.70	"	"	"	73.46	"	"	180.00
"	"	10.00	"	"	239.70	"	"	"	81 62	"	"	200.00
"	"	11.00	"	"	263.60	"	"	"	89.78	"	"	220.00
"	"	12.00	"	"	287.60	"	"	"	97.96	"	"	240.00
"	"	13.00	"	"	311.55	"	"	"	106.10	"	"	260.00
"	"	14.00	"	"	335.60	"	"	"	114.32	"	"	280.00
"	"	15.00	"	"	359.50	"	"	"	122.44	"	"	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

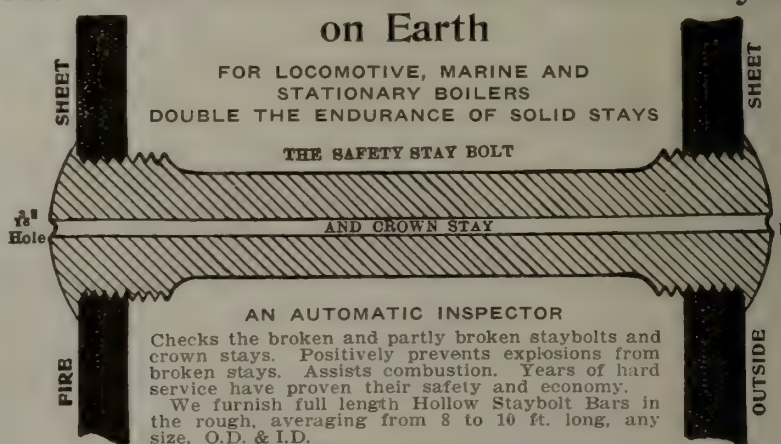
CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-selected districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

The Most Economical and Safest Staybolt on Earth

FOR LOCOMOTIVE, MARINE AND STATIONARY BOILERS
DOUBLE THE ENDURANCE OF SOLID STAYS



AN AUTOMATIC INSPECTOR

Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO

was seized, at North Sydney, N.S., May 14 for a breach of the customs regulations, committed last year.

The name of the schooner Kate A. Burns. No. 94670, registered at Charlottetown, P.E.I., has been changed by order in council to Effie J. Agnew.

The owners of the schooner Regina B. are suing the owners of the s.s. John Irwin for the value of the schooner, which was run down by the steamer last fall, near Halifax.

The s.s. Cacouna was libelled at Halifax. N.S., on a claim for $6,000 recently at the instance of G. Frecker, of St. Pierre, Miquelon, for running down his schooner near St. Pierre last year.

The wrecking steamer Lord Strathcona returned to Quebec, May 8, from Anticosti, where she went to attempt to float the s.s. King Edward, wrecked there in the fall. It is probable the wreck will be abandoned.

The Minister of Public Works, in reply to questions in the House of Commons, May 13, said that the right of way to the Panmore Island wharf, P.E.I., purchased by the Dominion Government, Apr. 9, 1906, was now open.

The Maritime Steamship Co.'s s.s. Granville commenced its new service, May 3, between St. John and St. Andrews, N.B., calling at Beaver, Dipper and Black's Harbors and Back Bay. Capt. E. H. Warnock is in charge.

The Halifax and Canso Steamship Co.'s s.s. Scotia collided with the Allan Line s.s. Siberian, May 11, near Meagher's Beach, and had her bows and forward bulwarks smashed. The damage done was all above the water line.

The Magdalen Islands Steamship Co.'s s.s. Amelia has been placed on the south shore route this season, between Halifax, N.S., and St. John, N.B., and made her first trip, May 3. The company receives a Dominion subsidy of $10,000 for operating over the route.

The Valley Steamship Co.'s new steamship Granville was launched at Shelburne, N.S., recently. She will run between Annapolis Royal, N.S., and St. John, N.B., when completed. Her dimensions are; Length, 107 ft.; breadth, 22 ft.; depth of hold, 9 ft.

The Miramichi Steam Navigation Co.'s vessels and officers for the current season are:—Alexandra, captain, J. Nowlan; chief engineer, W. Stewart. Miramichi, captain, J. P. Bullick; chief engineer, C. Johnstone. Sybella H., captain, D. S. Betts; chief engineer, E. Perkins.

The construction of the ice breaking steamer for the Northumberland Strait is proceeding rapidly. T. Ferguson, formerly of the Dominion Government s.s. Stanley, who was in England in connection with the building of the s.s. Simcoe for the Government, is remaining to overlook the construction of the ice breaker.

An order in council was passed May 3, making regulations for the health, security and safe carriage of live stock from any port in Canada to any port out of Canada, not being a port in the U.S., Newfoundland, St. Pierre, Miquelon, Bermuda, W. I. Islands, Mexico or South America, and cancelling the order in council of May 14, 1904.

The Premier of Nova Scotia had a conference with the Dominion Minister of Marine, May 10, and urged upon him the necessity for the appointment at all the principal ports of inspectors of gear and tackle with a view to the prevention of accidents to seamen. It is understood that the Department has decided to make such appointments in the near future.

In the House of Commons, May 7, the Minister of Marine decided not to proceed further with the bill having for its object the transferring of the collection of wharfage from the Public Works Department to the Marine Department, until the matter of the collection of top wharfage in addition to side wharfage at small country wharves was looked into.

At the inaugural meeting of the St. John city council, Apr. 30, F. L. Potts was elected chairman of the Ferry Committee, and stated that he considered a saving of $10,000 a year could be accomplished in the operation of the ferry service. Recommendations have been made for the doing away of the harbor facilities committee, which will be replaced by a harbor committee acting under the Board of Works.

Four spar buoys, painted red, surmounted by cross heads painted red and white, have been placed at intervals between Thrum Cap shoal and the eastern passage, Halifax, N.S., to mark the extreme limits of the danger zone of the Government rifle ranges at McNab's Island, and notice is given that vessels should not cross that area during rifle practice, during which a red flag is hoisted at the south end of the island.

The Newfoundland Government recently received tenders for the supply of a steamboat for the postal service in the Fortune Bay district. The requirements called for a vessel of from 100 to 130 tons net measurement, classed A1 at Lloyds (England) with a speed of, at least, 10 knots, and accommodation for 20 cabin and 40 steerage passengers. The service, which is to commence June 1, and continue throughout each year for 10 years, consists of one round trip each week.

Province of Quebec Marine

The name of the s.s. Restigouche, owned by Bouchard Bros., Quebec, No. 78554, registered at Quebec, has been changed by order in council to Lady of Gaspe.

The French steamboat Pro Patria, which was berthed during the winter at Halifax, N.S., is reported to have been sold to a Quebec company, for operation on the Gaspe coast. Her name has been changed to Canada.

Capt. Alex. Macleod, of the Dominion Government cruiser Constance, died May 3, aged 52 years, from heart failure as a result of the overturning of a small boat, of which he was an occupant, on the Richelieu River.

The Premier, in the House of Commons, Apr. 30, in the discussion on the G.T.P.R. loan, intimated that the Government was considering a ferry system across the St. Lawrence River, pending the construction of the Quebec bridge, which would not be ready until about 1916.

Press reports recently stated that J. G. McPhail was to be appointed Commissioner of Lights, vice J. F. Fraser dismissed, but we are officially advised that the report is incorrect, and that "the Department of Marine is in no way responsible for it, the matter not having even been considered."

La Compagnie Trans-St. Laurent, Ltd., has been incorporated under the Dominion Companies Act, with a capital of $50,000 and office at Fraserville, Que., to navigate the inland waters of Canada and especially the St. Lawrence and its tributaries; and to lease, acquire or build vessels, to carry on a general transportation, towage and salvage business. The provisional directors are: M. Fraser, J. Viel, J. C. Pouliot, F. E. Gilbert, O. Laurin, J. O. Girard, S. Belle, A. Danais, Fraserville, Que.

The Richelieu and Ontario Navigation Co.'s steamboat Laprairie, which ran ashore between Victoria bridge and Nun's Island, May 3, was subsequently floated, and towed into one of the Lachine canal basins. Considerable damage was done to the woodwork forward below the water line.

The Richelieu and Ontario Navigation Co. is suing the Crown for the recovery of certain land situated at Sorel, Que., which it is alleged is owned by the company, but was taken possession of by the Government some years ago for the construction of the present dockyards, etc.

The Marine Department announces the placing of two additional spar buoys in Lake St. Louis, north of the lightship No. 12, to indicate the northwest edge of the old channel at that point. The lower buoy 72 E. is painted red and black in horizontal bands and moored in 14 ft., on the edge of the channel, 300 ft. north of the lightship, at the point where the Ottawa River steamboat channel runs into the ship channel. The upper buoy 74 S. is a red spar, moored in 14 ft., southwest from the lower buoy. Upbound vessels must use the passage to the northwest of the lightship, and downbound vessels the new channel to the southeast.

The Montreal Corn Exchange Committee received a petition, May 3, from a firm of Montreal stevedores, asking it to take some steps to oppose the custom of some grain exporters there, of naming their own stevedores, when loading full grain cargoes, instead of allowing the steamship companies to do so. It was pointed out that if this restriction were removed, the petitioners would load vessels at Montreal with full cargoes of grain cheaper than at any U.S. port. The committee decided that the employment of stevedores was a matter entirely between the grain shippers and the steamship companies, and that it could not effectively interfere.

The 47th annual meeting of the Montreal Sailors' Institute was held there May 11, under the presidency of W. I. Gear. The following officers were elected for the current year:—President, W. I. Gear; Vice-President, J. C. Holden; Second Vice-President, D. Morrice; Hon. Treasurer, A. F. C. Ross; Hon. Secretary, Capt. J. W. Bales; Board of Management, H. A. Allan, Hon. J. K. Ward, R. White, T. Harling, D. W. Campbell, B. McLennan, J. M. M. Duff, G. Hodge, A. McPhee, R. S. Logan, J. Rodger, L. Lewis, J. R. Binning, A. Kinzman, J. Thorn, R. W. Reford, J. Hodgson, D. McNicoll, G. W. Stephens, S. A. McMurtry, and Capts. Reid, Clift, Walsh, Lindsay, Jenkins and Gillies.

The new lighthouse tower which has been erected at Father Point lightstation, on the south side of the St. Lawrence River, stands about 200 ft. east of the old lighthouse. It is constructed of re-

TURNBUCKLES

FORGINGS
OF ALL KINDS

CLEVIS NUTS

CLEVELAND CITY FORGE & IRON CO.
CLEVELAND, OHIO, U.S.A.

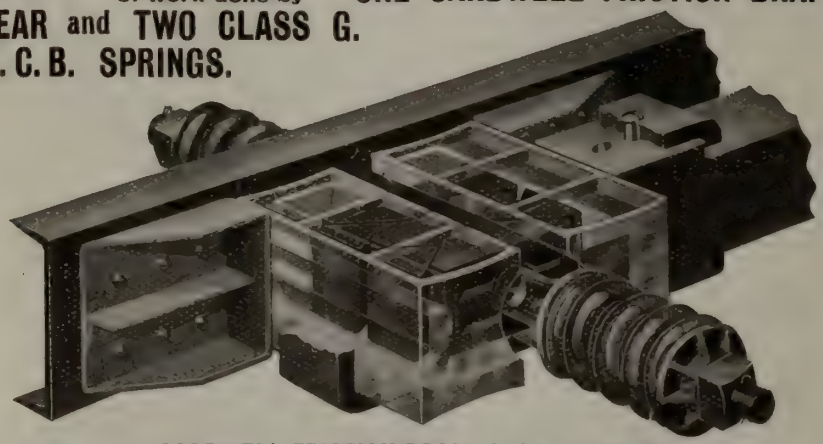
THE CANADIAN BRIDGE CO., LIMITED
WALKERVILLE, ONTARIO

LOCOMOTIVE
TURNTABLES
ROOFS
STEEL BUILDINGS

Manufacturers of
Railway and Highway
BRIDGES

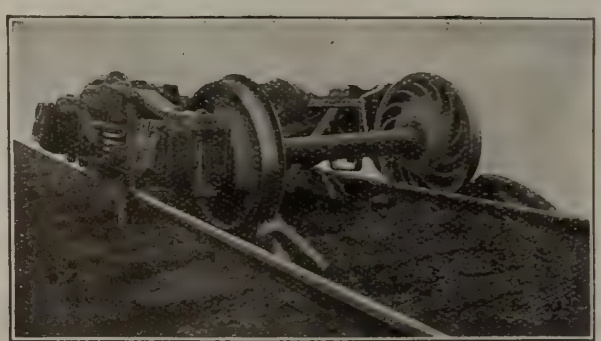
STRUCTURAL
IRON WORK
OF ALL
DESCRIPTIONS

35 to 1 is the relative amount of work done by ONE CARDWELL FRICTION DRAFT GEAR and TWO CLASS G. M. C. B. SPRINGS.



CARDWELL FRICTION DRAFT GEAR—MADE BY
UNION DRAFT GEAR CO., CHICAGO, ILL.

The Alexander Car Replacer



60,000 PAIRS IN USE.

Manufactured at Montreal, Que., and Scranton, Pa., of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY
F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

OCEAN STEAMSHIP OFFICES

AMERICAN LINE
Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.
Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE
New York—London
Sailing from New York Saturday.

WHITE STAR—DOMINION LINE
Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Docks (Bristol and Antwerp)

RED STAR LINE
New York—Antwerp—Paris
Sailing from New York Saturdays.

WHITE STAR LINE
New York—Liverpool—Queenstown
Sailing from New York Saturdays
N.Y.—Plymouth—Cherbourg—Southampton
Sailing from New York Wednesdays.
Boston—Queenstown—Liverpool
Regular Departures.

NEW YORK AND BOSTON MEDITERRANEAN SERVICE
Azores—Gibraltar—Naples—Genoa

Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured.

H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO
41 KING ST. EAST, TORONTO.

inforced concrete, octagonal in shape, with eight flying buttresses, and surmounted by a red circular lantern, showing a group of four flashes of white light every 7½ secs., with intervals of 0.75 sec. between each flash, and of 4.25 secs. between each group of four flashes. The tower is 97 ft. high from base to vane, and the light, which is 91 ft. above high water mark, is dioptric of the third order, and is produced by petroleum vapor on an incandescent mantle. The tower will be operated on or about June 1.

Ontario and the Great Lakes.

The name of the steamboat Rand, No. 126221, registered at Sarnia, Ont., has been changed by order in council to Sowards.

A. Root, keeper of the light at Rockport, Ont., has been granted the Imperial Service Medal on his retirement from the service.

The schooner Theodore Voges, of Deseronto, was towed to Oswego, N.Y., with her cargo of lumber in a waterlogged condition, May 3.

The customs outport of Leeblain, Ont., has been closed, and North Lake has been established as an outport in lieu thereof, under the survey of Port Arthur.

The S.S. City of Montreal was the first vessel for the third year in succession to reach Port Arthur, after the opening of navigation, arriving there Apr. 28.

Capt. E. B. Smith, of Picton, who has commanded the steamboat Alexandria for several years, has retired after 56 seasons in the lake and river service.

It is reported that negotiations are proceeding for the purchase of a U.S. vessel, to be operated as a ferry between Ontario and Michigan at Sault Ste. Marie.

The Department of Railways and Canals received tenders May 31, for work in connection with the abutments and approaches of the new bridge below the waste weir at Kingston Mills lock station of the Rideau canal.

A number of claims are said to have been filed by U.S. citizens for damages alleged to have been sustained owing to a diversion of current, which it is claimed has been caused by the construction of a breakwater at Brockville.

A temporary fixed red light, 28 ft. above lake level, exhibited by an anchor lens lantern elevated on a pole, is taking the place of the light from the front range lighthouse at Point Edward in Lake Huron, recently destroyed by fire.

Sylvester Bros.' schooner St. Louis, which ran aground at Gibraltar Point, and again in the western channel, Toronto, was released May 4, and towed to the harbor, where her cargo of coal was removed, and the necessary repairs to her hull made.

The s.s. Carleton was the first vessel of the season to arrive at Kingston, with grain from Fort William. She arrived at the Montreal Transportation Co.'s elevator Apr. 30, and but for the ice blockade at Sault Ste. Marie, would have been there earlier.

The Lake Coast Trading Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of $40,000 and office at Port Arthur, to carry on the business of a coast trading company. The provisional directors are: A. I. Thompson, W. C. Thompson, and J. J. O'Connor, Port Arthur, Ont.

A lighthouse tower, 19 ft. back from the outer end of the wharf, painted white, surmounted by a square wooden lantern exhibiting a fixed white light, visible 6 miles from all points of approach by water, has been established on the Government wharf at Sand Point, Ottawa River.

The Marine Department has erected a lighthouse tower at Cape Croker light station, Georgian Bay, built of reinforced concrete, to replace the old structure. The light is 67 ft. above lake level and is visible for about 15 miles. It was brought into operation May 1 and the old one discontinued.

The Lake Ontario and Bay of Quinte Navigation Co. has been awarded $460.76 and costs, for damage sustained by one of its vessels in a collision with Mrs. Fulford's yacht Magedona in Kingston harbor last summer. The counter claim was dismissed. Francis King, Counsel Dominion Marine Association, acted for the company.

The Pelee and Lake Erie Navigation Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of $40,000 and office at Pelee Island, Ont., to carry on the business of steamboat navigation. The provisional directors are: R. Harris, F. Harris, E. Diffenbach, H. Henderson, R. Piper, W. Pierce. Pelee, Ont.

The Hamilton Warehouse and Forwarding Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of $75,000 and office at Hamilton, Ont., to carry on the business of warehousing, storage and transportation in all its branches. The provisional directors are: W. W. Stewart, W. P. Witton, H. L. Roberts, T. Patterson, A. F. Hatch, Hamilton, Ont.

At a meeting of the Rainy River Navigation Co., at Kenora, May 3, it was decided not to operate its steamboat Keenora this year, on account of the low water at the mouth of the Rainy River.

The Detroit, Belle Isle and Windsor Ferry Co., incorporated under Michigan, U.S., laws, has been granted a supplementary license, authorizing it to increase the capital it may use in Ontario from $150,000 to $500,000.

The Kingston Board of Trade has appointed a committee, consisting of C. Bermingham, R. J. Carson, R. Crawford, E. Davis, J. M. Farrell, D. G. Laidlaw, C. Livingston, W. I. Minnes, Dr. Ryan, E. T. Steacey and Francis King, Counsel Dominion Marine Association, to carry on a campaign for the instruction of various Canadian municipalities as to the benefits to result from the deepening and enlarging of the Welland canal.

A meeting of representatives of various business associations, the Board of Trade, and the Board of Harbor Commissioners, was held in Toronto, May 4, when it was resolved that the various lake ports and municipalities along the St. Lawrence River, Lake Ontario and the Welland canal, be communicated with, urging them to join in impressing the Government with the necessity of deepening the St. Lawrence and Welland canals.

The Public Works Department will carry on the work of deepening and widening the channel at Telegraph Narrows in the Bay of Quinte this season. The channel on which operations will be conducted is 1,100 ft. long by 100 ft. wide, and during the progress of the work will be marked by buoys at each end and in the middle. The dredging plant to be used will consist of a drill and dredge, and navigators are warned to leave it on the port side when upbound.

The steamboat Simcoe, which the Dominion Government has had built in England, for service in the Georgian Bay, arrived at Halifax, N.S., recently. She is 180 ft. long, with a gross tonnage of 300 and net of 300 tons; with triple expansion engines driving twin screws. She has been specially constructed for lighthouse and buoy service, with large deck space forward for carrying buoys, equipped with derrick of 40 tons capacity. On her trial trip she made 12½ knots an hour.

The U.S. Lake Survey reports the stages of the great lakes, in feet above tidewater, for Apr., as follows: Superior, 601.36; Michigan and Huron, 580.25; Erie, 572.01; Ontario, 246.18. During May, it was anticipated that Superior would rise about 4 ins.; Michigan and Huron, 3½ ins.; Erie, 3 ins., and Ontario, 3 ins. Compared with the average April stage for 10 years, Superior was 8 ins. lower; Michigan and Huron 3 ins. lower; Erie, 3¾ ins. lower, and Ontario 1¾ ins. lower.

A. A. Laurie, Toronto, and F. A. Knapp, Prescott, are suing Polson Iron Works, Ltd., for $30,000 damages, for alleged negligence in the custody of the plaintiffs' chattels. The plaintiffs were the owners of the Knapp roller boat, which ran amok in the Toronto harbor some time ago during a storm, and collided with the s.s. Turbinia. The Turbine Steamship Co. subsequently obtained damages from the owners, and the roller boat was sold by order of the court to satisfy the claim.

The Fort William Warehousing and Forwarding Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of $250,000, and office at Fort William, to construct, or otherwise acquire, wharves, docks, railway and steamboat terminals, etc., and to carry on a general navigation, transportation, wharfinger and grain elevating business; and in connection therewith, to charter and navigate steam and other vessels. The provisional directors are: E. R. Wayland, S. C. Young, G. R. Duncan, F. W. Young, J. E. Swinburne, Fort William, Ont.

The Dominion Marine Association in advising the Montreal Corn Exchange Committee that the new bill of lading for lake grain shipments was suspended at the meeting of that association held Apr. 21, urged that there be no cessation in the efforts made to procure assistance from the Government in the matter of the prevention of grain shortages from the elevators. The committee at its monthly meeting, May 3, expressed its gratification at the Association's action in suspending the bill of lading, the provisions of which had been strenuously opposed by the committee, and instructed the secretary to assure the Association that it would gladly join in representing to the Government the need of action being taken to secure correctness of elevator weights at Fort William and Port Arthur.

The Keystone Transportation Co.'s steamboats Keywest and Keyport, now on the way from Great Britain to the Great Lakes, have been specially design-

JAMES THOMSON, Pres. and Mang. | J. G. ALLAN, Director. | JAMES A. THOMSON, Vice-President. | ALEX. L. GARTSHORE, Secretary. Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO.

LIMITED

MANUFACTURERS OF

CAST IRON PIPE

3 inches to 60 inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER

HAMILTON, ONT.

OUR RAILROAD FENCES

We can furnish Light or Heavy Fencing, Hinge or Straight Stay, to meet all conditions.

We are adding to and improving our plant each year, and our customers can depend on securing something better than we had previously furnished.

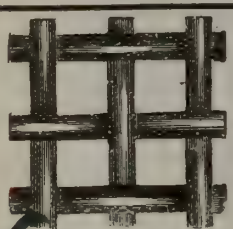
We are prepared to furnish all material and labor, and turn out to the Railroad a complete job, as we have a number of experienced fence builders always in our service.

Send us your Specifications and we shall be pleased to furnish prices either by mail or otherwise.

Steel and Wood Frame Gates for Railroads at special prices.

New Brunswick Wire Fence Company, Limited

Moncton, New Brunswick



2½ x 2½ Mesh. No. 10 Steel Wire.

WIRE CLOTH

Locomotive Steel Smoke Stack Netting
Car Ventilating Wire Cloth

EVERY DESCRIPTION OF WIRE CLOTH FOR ALL PURPOSES

—— WRITE FOR CATALOGUE ——

The B. GREENING WIRE CO., Limited

HAMILTON, ONT. MONTREAL, QUE.

REAMERS ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

LEHIGH VALLEY RAILROAD

BEST LINE FROM TORONTO AND ONTARIO POINTS

— TO —

NEW YORK, PHILADELPHIA AND SOUTH

For particulars, write to or call on
MR. ROBERT S. LEWIS
Canadian Passenger Agent
54 King St. East - - - - Toronto

CARS

NEW and REBUILT

Box, Flat, Gondola and Tank

Steam Shovels, Rails, Locomotives and Contractors' Equipment

Immediate and Prompt Deliveries
Correspondence Solicited

ROBT. M. BURNS & CO.

Railway Exchange
CHICAGO

UNIFORM CAPS

For officials and employes of Railway, Steamship, Express, Telegraph and other companies, Yacht Clubs, Etc.

Helmets and Uniform Caps for Police, Firemen, Bands, Societies, Etc.

Embroidery in Gold and Silver Bullion.

W. H. CODDINGTON

HAMILTON, - ONTARIO

THE IMPERIAL GUARANTEE AND ACCIDENT INSURANCE CO.

46 King St. West, TORONTO

Capital Subscribed $1,000,000

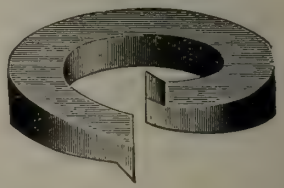
ACCIDENT AND SICKNESS Insurance protects your income in case of disablement.

GUARANTEE BONDS protect you against loss from dishonest employees.

Write us if you need a Bond or want an Accident Policy.

THE POSITIVE LOCK WASHER

Is the BEST Nut LOCK for all purposes



We also make plain coils and tail nut locks.

The Positive Lock Washer Co.

Sole Mfrs., Newark, N.J.
F.H. HOPKINS & CO., Agts., Montreal

ed for the coal carrying trade between Lake Erie and Montreal, and present some new features. They are of the single deck type, with arch beams, so as to eliminate all pillars or stanchions. The hatches are 12 by 29 feet, with the exception of the aftermost, which is 20 by 29 feet, with 36" coamings, to act as a trimmer. The machinery is of the usual triple expansion type with two single ended Scotch boilers, suitable for a speed of 10 miles an hour. The dimensions of the vessels are: Length, between perpendiculars, 249 ft.; beam, 42.6 ft.; depth, molded, 20 ft.; and the deadweight on a 14-ft. canal draught is 2,280 tons, with a capacity for over 80,000 bush. of wheat. The Keystone Transportation Co., Ltd., was recently incorporated under the Dominion Companies' Act, with a capital of $100,000, and office at Montreal. The provisional directors named at the time, were: R. C. McMichael, R. O. McMurtry, F. G. Bush, M. J. O'Brien, and H. H. W. Jackson, Montreal.

Regulations for the governance of the ferry across the St. Lawrence River between Prescott, Ont., and Ogdensburg, N.Y., have been made by order in council, providing that the limits shall be co-terminus with the easterly and westerly limits of Prescott, and a point in Ogdensburg fixed by a local ordinance. Suitable landing places must be provided at a central point in Prescott, available at all states of the river, and the vessel to be utilized must be a substantial, seaworthy steamer of not less than 100 ft. long over all, and 20.9 ft. beam, with sufficient deckroom to allow of 6 vehicles to be driven on and off without unhitching; with an engine of 180 h.p., and capable of a speed of not less than 10 miles an hour. Accommodation must be provided, with all modern conveniences, for not less than 400 passengers. During the summer season, from Apr. 1 to Nov. 30, the vessel is to leave Prescott every hour from 6 a.m. to 6 p.m.; and every hour from 6.45 p.m. to 12 midnight; and from Dec. 1 to Mar. 31, every hour from 6 a.m. to 5 p.m., and at 7.30 p.m., and 12 midnight. The summer passenger rates are fixed at 10c., and the winter at 20c., with half rate for children. The license to operate is granted for 10 years from May 1.

The Bisco-Gowganda Transport Co., Ltd., has been incorporated under the Dominion Companies Act with a capital of $150,000 and office at Montreal, to carry on a general business as common carriers and freighters, etc. The provisional directors are: L. O. Armstrong, Industrial Agent, C.P.R.; R. L. Prieur, A. Geoffrion, O. A. Goyette, Montreal, and P. Shannon, Biscotasing, Ont.

The company expects to have launches on a string of lakes, and wagon roads connecting these lakes, about June 15, from Biscotasing to Gowganda, taking in, en route, Minniesinaque, Mattagami, Duncan and Shining Tree Lakes. The lake fleet will at first consist of 7 launches, of which 5 will be about 40 ft. long by 10 ft. beam, with scows in tow. Stopping places under the company's control will be arranged at each lake. Pieces of freight will be handled up to 2,000 lbs., and it is hoped to cover the journey in 2 days for passengers and 2½ days for freight as a start, and make it a 24 hr. route towards autumn. It is intended to make the line permanent, as it is not anticipated that railway construction from Charlton or Sudbury to Gowganda will interfere with the company's traffic. The officers of the company and their locations are as follows: President, P. Shannon, Biscotasing; Vice-President, L. O. Armstrong, C.P.R., Montreal; General Manager, J. A. Shannon, Biscotasing; Terminus Manager, L. J. Labrosse, Gowganda; Secretary-Treasurer, R. Prieur, Montreal.

Manitoba, Saskatchewan and Alberta

A company is reported to be in process of organization in Winnipeg for the purpose of building a fleet of steamboats to operate on Lake Winnipeg immediately on the completion of the locks at St. Andrews.

C. D. A. Barber, General Manager, Northern Transportation Co., Athabasca Landing, Alta., is reported to have said, recently, that there are 3,600 miles of navigable waterways, with only two breaks, between Athabasca Landing and the Arctic Ocean. One break of about 87 miles is on the Athabasca River, and the other, of 16 miles, on the Great Slave River, at Smith's Landing.

The Standard Shipping Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of $5,000, and office at Winnipeg, to act as agents, brokers, etc., in connection with persons or companies operating any transportation facilities; and with power to build, purchase or otherwise acquire, deal in, and operate, steam and other vessels and any other transportation facilities excepting railways. The provisional directors are; L. H. Wolvin, J. Walker, D. N. Wemyss, G. A. H. Dysart, A. K. Dysart, Winnipeg.

The Northern Transportation Co., Ltd., of Athabasca Landing, Alta., has registered two vessels and has under construction a third one which it will operate during the current season, between Edmonton and Athabasca Landing and other points, making connections with the Hudson's Bay Co.'s vessels. The dimensions of the Northland Light are: Length, 122 ft.; breadth, 22 ft.; depth, 4.5 ft.; tonnage, 148 gross, 94 register; with engine of 5 h.p. driving a screw. The Northland Sun's dimensions are: Length, 103 ft.; breadth, 17 ft.; depth, 4.5 ft.; tonnage, 132 gross, 83 register; with engine of 3 h.p., driving paddle wheels. Both vessels were built at Athabasca Landing, in 1907, and a third vessel, to be named Northland Call, is at present on the stocks there. We are advised that the following tentative appointments have been made to the vessels for the current season:—Northland Sun, captain, C. D. A. Barber; chief engineer, A. V. Bucknam. Northland Light, chief engineer, E. R. Morton.

B.C. and Pacific Coast Marine

The Western Steamboat Co.'s steamboat Ramona ran aground in the Fraser River, Apr. 23, and has been abandoned.

A light draft river steamboat for service on the Fraser River was launched at Quesnel, May 1, for the Fort George Lumber and Navigation Co., Ltd.

It is reported that a dry dock will shortly be constructed at Vancouver, by a British syndicate, in which Swan, Hunter and Wigham Richardson are interested.

The C.P.R. s.s. Princess Charlotte is now on her summer route between Victoria, Vancouver and Seattle. At the recent inauguration of the service, Capt. J. W. Troup, Superintendent, B.C. Coast Service, entertained a number of press representatives on board.

The Premier, recently, in reply to a question in the House of Commons, as to the jurisdiction of Canada in the Hecate Straits, said that there had been correspondence with the U.S. Government on the subject, but he was not at liberty to make any announcement.

The Nelson city council has leased the city wharf to the C.P.R. By the terms of the lease it remains a public wharf, but the company reserves the right of demanding wharfage or dockage fees in the same manner as is done with other wharves owned or leased by it.

The Fort George Lumber and Navigation Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $50,000, to carry on the businesses of lumber merchants, stevedores, shipping agents and general carriers by land and water; and in connection therewith to own and operate steam and other vessels.

The Island Dock and Warehouse Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $500,000, to take over certain property at Deadman's Island, Burrard Inlet; to construct docks, slips, elevators, etc.; to own and operate steam and other vessels, and to carry on the businesses of ship builders, ship owners, wharfingers, and general carriers.

Notices to Mariners

The Department of Marine has issued the following:—

No. 31. Apr. 30. 74.—Ontario, Ottawa River, Chats Lake, Sand Point, lighthouse established. 75.—Ontario, Lake Ontario, Bay of Quinte, Telegraph narrows, dredging, caution. 76.—Ontario, River St. Mary, Sault Ste. Marie Canadian canal, back range lighthouse at lower entrance blown down, temporary light.

No. 32. May 3. 77.—British Columbia, Strait of Georgia, Burrard Inlet, off Grey point, bell buoy replaced by gas and bell buoy. 78.—British Columbia, Chatham Sound, Skeena River, middle passage, Kennedy Island, gas lighted beacon established. 79.—British Columbia, Chatham Sound, Prince Rupert harbor approach, Ellinor rock, buoy established. 80.—British Columbia, Chatham Sound, Prince Rupert harbor, western entrance, Petrel rock, buoy established. 81.—British Columbia, Chatham Sound, Prince Rupert harbor approach, Kestrel rock, gas buoy withdrawn. 82.—British Columbia, Chatham Sound, Prince Rupert harbor approach, Georgia rock, gas and bell buoy established. 83.—British Columbia, Brown passage, western entrance, Stenhouse shoal, gas and whistling buoy withdrawn.

No. 33. May 4. 84.—Nova Scotia, Halifax harbor, McNab Island, Government rifle ranges. 85.—Quebec, River St. Lawrence, below Quebec, Red Islet lightship temporarily replaced by lightship No. 7.

No. 34. May 8. 86.—Quebec, River St. Lawrence, chart of Lake St. Louis issued. 87.—Ontario, Lake Huron, south end, Point Edward, front range lighthouse rebuilt. 88.—Ontario, Georgian Bay, east side, Byng Inlet approach, westward of Maganetawan ledges, gas buoy established.

No. 35. May 10. 89.—British Columbia, list of buoys, beacons and day marks on

THE INTERNATIONAL MARINE SIGNAL CO.

OTTAWA, CANADA

Manufacturers of

Automatic Acetylene Gas Buoys, Beacons and Fog Signals

Mariners describe our lighted buoys as "floating lighthouses."

THE MEAFORD WHEELBARROW CO., LIMITED

MEAFORD, ONTARIO

MANUFACTURERS OF ALL STYLES

WHEELBARROWS, both wooden and steel

WHEEL SCRAPERS, square box and pressed bowl

PRESSED STEEL SEAMLESS DRAG SCRAPERS

ALSO

DUMP CARS for hand work

GRADING PLOUGHS

DUMP CARS, and other Contractors' Supplies

Newest Patterns Prompt Shipments

E. L. DREWRY

REDWOOD BREWERY

WINNIPEG, MANITOBA

MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE, EXTRA STOUT AND REDWOOD LAGER

Also the GOLDEN KEY BRAND AERATED WATERS

Delaware & Hudson

RAIL AND STEAMER LINES

Shortest, Quickest and Best Rail Line between

MONTREAL AND NEW YORK

Trains leave Montreal 8.45, 10.55 a.m. and 7.40 p.m. Steamers through Lake Champlain the Magnificent and Lake George the Beautiful, which connect with trains to Albany via Saratoga Springs.

D. I. ROBERTS, Gen. Can. Pass. Agent.

W. H. HENRY, Can. Pass. Agent, 286 St. James St., Montreal, P.Q.

A. A. HEARD, Gen. Pass. Agent, Albany, New York.

NOVO SUPERIOR

THE NEWLY-INVENTED

HIGH SPEED STEEL

HARDENS IN

WATER—OIL—AIR BLAST

The Steel accounts of which were so extensively published in the Trade Journals, Periodicals and Papers.

CUTTING Power and Durability many times greater than that of present high speed steels.

Hermann Boker & Co.

332 ST. JAMES ST. - - MONTREAL

THE PRESTON CAR & COACH CO.

PRESTON, ONT. Limited

—MANUFACTURERS OF—

Steam and Electric Railway Cars

the Pacific coast of Canada, second edition. 90.—British Columbia, Juan de Fuca Strait approach, Swiftsure bank, lightship established.

No. 36. May 13. 91.—British Columbia, Vancouver Island, south coast, Juan de Fuca Strait, Race rocks, intended change in fog alarm. 92.—British Columbia, Chatham Sound, Malacca Passage, Lawyer Islands, new lighthouse tower under construction.

No. 37. May 17. 93.—Ontario, River St. Lawrence, Thousand Islands, Fiddlers Elbow, dredging in progress, caution. 94.—Ontario, Lake Erie, Port Colborne, change in color of back range light.

Compulsory Pilotage Dues.

A bill was introduced in the House of Commons, May 7, having for its object the removal of what is alleged to be a discrimination against Ontario vessels, by inserting the word "Ontario" in the section of the Canada Shipping Act, referring to the exemption of the vessels of other provinces from the compulsory payment of pilotage dues. In explaining the details, J. W. Edwards, M.P., Frontenac, said:—

The amendment proposed by this bill has been the subject of negotiations between the Ontario and Dominion Governments, and of representations on the part of the Dominion Marine Association, which represents practically all the vessel owners of Canadian inland waters. By section 477 of the Canada Shipping Act, there is a discrimination against vessels in Ontario which appears to me, and to others who are more directly interested, to be entirely unwarranted and unjustifiable. The section referred to exempts the following vessels from the payment of pilotage dues: Vessels employed in sailing from port to port in the same province; employed in trading between any one or more ports of the provinces of Quebec, New Brunswick, Nova Scotia, Prince Edward Island, and any other or others of them; employed in voyages between any port or ports of any of the said provinces and the port of New York or any port of the United States of America on the Atlantic north of New York, or employed in voyages between any port in any of the said provinces and any port in Newfoundland.

Previous to June of last year, exemption was granted to vessels with a draft when loaded not exceeding 16 ft. and employed exclusively in voyages between any port or ports on the Great Lakes or any of the waters connecting those lakes, and any port or ports on the River St. Lawrence or between any ports on the River St. Lawrence. In the last hours of the 1908 session this section was repealed at a time when the Ontario vessel owners were urging their claims to have Ontario put on an absolute parity with the other provinces. Why should a vessel sailing from Montreal to Sydney or Halifax or Newfoundland or New York be exempt from compulsory payment of pilotage dues, and the same vessel if beginning her voyage at Owen Sound, or Toronto, or Kingston, or Brockville or any port in Ontario be obliged to pay these dues? Another point which makes this proposed amendment all the more necessary is the working of by-law 25 of the Montreal Pilotage District which reads:

"Every vessel liable to compulsory payment of pilot dues and moved into or out of the limits of the harbor of Montreal or from one point to another within the same shall pay such dues for the services of a branch pilot except in the case of vessels which are merely shifting their position at the wharf and attached thereto by their moorings."

Since Ontario vessels are the only ones obliged to pay pilotage dues under section 477 it follows that Ontario vessels alone come under the provisions of by-law 25, and therefore have to pay this additional tax from which the others are exempt. I wish to point out that notwithstanding this extra taxation and evident discrimination, the liability of the master or owner of the Ontario vessel is not lessened in the slightest degree, but on the contrary is emphasized. This is made abundantly clear by sec. 477 which reads:

"Nothing in this part shall exempt any owner or master of any ship from liability for any loss or damage occasioned by his ship to any person or property on the ground either of such ship being in charge of a licensed pilot or of such loss or damage being occasioned by the act or default of a licensed pilot, or on any ground."

This section makes it clear that Ontario vessel owners are discriminated against and put at a disadvantage in the carrying trade. I therefore propose this amendment which by inserting the word "Ontario" in sub-sec. 2 of sec. 477 will place the province of Ontario on an equality with the other provinces and will relieve Ontario vessel owners from this unfair discrimination and unjust tax. I hope the Minister of Marine will take this up as a government measure. There are many interests that want this amendment carried, and I hope he will see his way clear to have the bill passed even at this late hour of the session.

The Minister of Marine, in replying, said:—"As the bill will not probably be reached this session, I may be permitted to inform the mover that an order in council has been passed lately, providing that vessels from Ontario coming through the Lachine rapids and moving in the harbor of Montreal shall not be obliged to pay pilotage dues. This was done in order to meet a serious complaint made by the Dominion Marine Association. The reason why the legislation was passed was to improve the safety of navigation in the St. Lawrence, and it was done at the request of the Shipping Federation."

In response to a question, the Minister emphasized the point that the order in council and the complaint previously mentioned referred only to vessels which passed through the Lachine Rapids. The concession thus granted to Ontario vessel owners, in fact, only benefits one company, the majority of Ontario owners are in exactly the same position as before. Regarding the statement made by the Minister of Marine, that "the

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING APR., 1909.

Name	No.	Where and When Built	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Boothby	126,421	Vancouver, B. C., 1909	Screw 10 N.H.P	45.0	11.6	4.4	27	18	Vancouver B. C.	Vancouver Power Co., Ltd., Vancouver, B.C.
Daughter of the Peaks	122,609	Minnewanka, Alta., 1906	" 6 "	50.0	9.0	5.0	13	9	Kenora, Ont	J. Standly and W. D. Watson, Bankhead, Alta.
Gordon McDonald	122,610	Simcoe, Ont., 1908	" 2 "	42 0	12.0	3.6	20	14	" "	Keewatin Lumber Co., Ltd., Keewatin, Ont
Gray Lady	126,422	Vancouver, B.C., 1909	" 3 "	38.2	10.4	5.4	20	13	Vancouver, B.C.	E. A. C. Studd, Vancouver, B.C.
Ida E	126,222	Oskosh, Wis., 1887	" 10 "	121.6	25.5	7.6	285	136	Sarnia, Ont	G. G. Horne, Wolfe Island, Ont.
Loup Garou	126,358	Tetraultville, Que., 1908	" 5 "	53.5	11.4	6.4	23	16	Montreal	C. O. Clark, Westmount, Que.
Lowmoor	126,267		" 20 "	47.0	9.5	7.0	15	10	Toronto	F. H. Gooch, Toronto, and J. Laurendeau, Montreal
Northland Light	122,607	Athabaska Lindig., Alta. 1907	" 5 "	122.0	22.0	4.5	148	94	Kenora, Ont	Northern Transportation Co., Ltd., Athabaska Landing, Alta.
Northland Sun	122,608	" " "	Paddle 3 "	103.0	17.0	4.5	132	83	" "	" "
Samuel Marshall	107,426	Grand Haven Mich., 1888	Screw 72 "	198.0	33.4	14.6	772	540	Brockville, Ont.	Central Canada Coal Co., Ltd., Brockville, Ont.
Shanly	126,269	Parry Sound, Ont., 1908	" 4 "	53.5	14.5	6.2	50	19	Toronto	Parry Sound Lumber Co., Ltd., Toronto.
Totem	126,339	Vancouver, B.C., 1909	" 5 "	45.2	12.0	5.9	25	17	Vancouver, B.C.	Packers Steamship Co., Ltd., Vancouver, B. C.
Marvel S.	126,340	" "	" 1 "	33.0	9.4	4.5	13	9	"	W. J. Smith, Vancouver, B. C.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING APR., 1909.

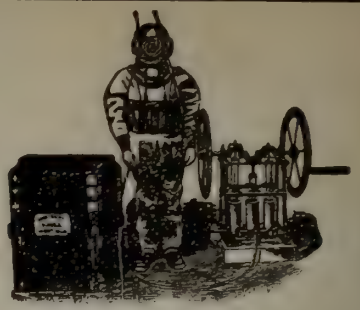
Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
Bertie Calkins	126,127	Two Rivers, Wis., 1874	Schr	134.4	27.2	9.3	227	Kingston, Ont.	W. T. Simmons, Kingston, Ont.
Carrie L. Hirtle	126,119	Lunenburg, N. S., 1909	"	101.2	25.3	10.4	99	Lunenburg, N. S.	C. A. Anderson, M.O., Lunenburg, N. S.
Edith Marguerite	126,391	La Have, N. S., 1909	"	95.3	26.0	10.5	95	"	F. Himmelman, M. O., Riverport, N. S.
Guido	126,223	Manitowoc, Wis., 1856	"	114.9	24.9	7.3	95	Sarnia, Ont	W. G. Atkinson, Whitby, Ont.
*J. Tolmie	126,126	Chicago. Ill., 1874	"	130.2	27.0	9.2	227	Kingston, Ont.	G. Horne, Kingston, Ont.
Percy C	126,037	Liverpool, N. S., 1909	"	91.0	23.7	9.9	99	Liverpool, N. S	W. F. West, Liverpool, N. S.
Warren G. Winter	126,120	Lunenburg, N. S., 1909	"	98.2	25.6	10.5	95	Lunenburg, N. S.	F. Anderson, M. O., Lunenburg, N. S.

*Foreign Name, Clara.

TANKS AND STEEL SUBSTRUCTURES

STEEL AND WO D TANKS, HOSE TOWERS, FLAGSTAFFS, STEEL TOWERS, AND SIGNAL TOWERS, ETC.

Ontario Wind Engine & Pump Co.
LIMITED
TORONTO, ONTARIO



JOHN DATE
MANUFACTURER OF
DIVING APPARATUS
FOR SALE OR HIRE
Brass Founder & Coppersmith
152 Craig St. West, Montreal

The **"DILLON"**

is a Hinge-Stay fence made of extra quality wire, either all No. 9, or lighter if required.

"MONARCH"

fence is made of No. 9 Hard wire throughout, and is of the regular straight-stay style

ENQUIRY SOLICITED

The Owen Sound Wire Fence Co.
LIMITED
OWEN SOUND, ONTARIO

NEW AND RELAYING
RAILS

FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.

LOCOMOTIVES, CARS AND OTHER EQUIPMENT.

John J. Gartshore
83 Front Street West - TORONTO

CRUCIBLE SAW AND SHEET STEEL

MADE BY
JESSOP STEEL CO.
Washington, Pa., U.S.A.

TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools.

Jessop's "Ark" High Speed Air Hardening Steel

is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings.

WILLIAM JESSOP & SONS, Limited, SHEFFIELD, ENG.
CHAS. L. BAILEY, Agent, 80 BAY STREET, TORONTO, ONTARIO

Ticket Agents — Please Note

ILLINOIS CENTRAL — CENTRAL MISSISSIPPI VALLEY ROUTE — RAILROAD

Where ILLINOIS CENTRAL RAILROAD COMPANY has through car service both Coach and Sleeper and Free Chair Cars.
Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California.
NEW ORLEANS ROUTE TO THE PACIFIC COAST.
Special low rates to Canadian Northwest and Yukon-Alaska Exhibition at Seattle, all summer, via St. Paul or Omaha.
Look the Illinois Central map over and consult
G. B. WYLLIE, Canadian Pass'g'r Agent.
305 Ellicott Square, Buffalo, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA

A PURELY CANADIAN COMPANY

JOHN EMO, General Manager — H. W. PEARSON, Secretary-Treasurer — D. MURPHY, President

AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

complaint was only in regard to the Lachine Rapids," there appears to have been some misunderstanding, as we are informed that "the Minister's statement that it had been only with regard to boats running the rapids that complaint was made is, of course, absolutely contrary to facts."

Aids to Navigation Required.

The Dominion Marine Association has made the following recommendations to the Lighthouse Board:—

LAKE SUPERIOR. Michipicoten Island.—A light, and if possible a fog horn, on the north east end of the island, at such point as would render the light of most service to vessels bound up as well as to vessels bound down. It is submitted that the recommendation of the Association of Masters and Mates for a light on the west end of the island has not been considered by that Association with due regard to all the requirements of the case, and would probably be amended to conform to the recommendation of this Association if the following points were noted, viz., that a light on the west end of the island would only serve as a beacon in approaching down the lake, could not assist in passing the eastern end of the island, and would be of no service to vessels up-bound in the north channel.

Pancake Shoal.—A gas buoy on the outer Pancake shoal to aid vessels taking the north shore.

LAKE HURON AND GEORGIAN BAY. Centre Island bank.—A range on Kokanongwi Island to clear Centre Island bank passing south of Badgely Island.

Bad Neighbor shoal.—The request is renewed for a whistling gas buoy well outside of Bad Neighbor shoal. A location has been suggested in the 13 fathom path two or three miles west of Cove Island, on a line between Gat Point and East Sister shoal. A location further out would be desirable if suitable anchorage is available. It has been suggested that the light and fog horn on Cove Island should suffice, but they are too far in to protect ships entering from the lake and the channel is important enough to demand this additional safeguard.

Lonely Island.—A fog horn on Lonely Island. This request is renewed, as vessels require this assistance on account of the proximity of the Shingle shoals. Without the horn to locate the island a vessel cannot proceed on her course east of the island without great danger.

Kennedy Bank.—A gas buoy on Kennedy bank.

Port Colborne ranges.—The rear range light at Port Colborne, now occulting red, and objected to on acocunt of its dimness, should be continued as a red light to distinguish it from others on the shore and if found too dim should be replaced by one of that color of the greatest brilliancy possible.

LAKE ONTARIO. Niagara shoal.—The request is renewed for a gas and bell buoy at Niagara shoal.

Toronto Harbour.—The inshore light in the range at the eastern entrance should be raised to keep the light in range.

Salt Point, Brighton entrance.—The light should be replaced to enable vessels entering to keep the dredged channel, the ranges being quite ineffective in certain weather until approached more closely. This request is urgently renewed.

Kingston Harbour.—A range on the north shore entering Kingston harbour to take the place of the very long distant range of Pigeon Island and Nine Mile Point lights, and to lead past the Middle Ground and Seven Acre shoals. Another range to intersect this and lead into the harbour along the shore as far as Barriefield range. If this latter is not given then at least a gas buoy on Penitentiary shoal. A bell or other suitable fog signal at Snake Island light or Four Mile Point (Simcoe Island) to lead through the channel between this light and Simcoe Island. The Richelieu & Ontario passenger boats sometimes require to anchor in fog after passing Nine Mile Point and if helped past Snake Island light could make their dock at Kingston and maintain their schedule. This channel is also freely used by all boats when going out light and the improvement will be of general benefit.

The request is again renewed that distinctive tops be given black and red buoys so that they may be distinguished even when the colors are not distinguishable. Even the simple device of pointing one spar and sawing another square across would be of great service. But other effective distinguishing shapes may readily be devised and used and the system is urgently recommended. That request has already been granted for the Montreal-Kingston division.

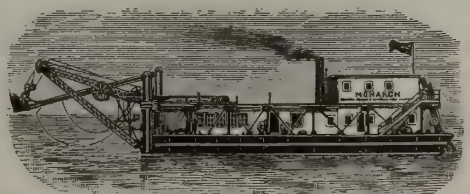
Montreal–Georgian Bay Canal.

A deputation representing the Board of Trade Federation and a number of municipalities waited on members of the Dominion Government at Ottawa, April 28, to urge the construction of the Montreal-Georgian Bay canal, either as a Government work, or by a private company, by means of a Government guarantee of bonds. The Premier said he had frequently expressed his personal views in favor of the canal as the natural means of channel communication between the east and the west. The only difficulty in the way of construction was that there was not enough money. The Dominion revenue was substantial, but the demands were far in excess of what could be spent, and it could not be expected that the Government would now undertake more. Regarding the proposal to guarantee bonds, it was also more than the Government could now do. As soon as the project could be taken up, the Government would do so.

Sir Robert W. Perks, head of the London, Eng., syndicate which has a charter to construct the canal, recently stated in an interview that he hoped shortly to obtain the sanction of the Government for the starting of construction upon the canal next spring.

DOMINION BUREAU
ROBERT W. HUNT & CO.
ENGINEERS
BUREAU OF INSPCTION
TSTS AND CONSULTATION
Chemical and Cement Laboratories, Montreal
NORFOLK HOUSE, CANNON ST., LONDON
CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

RAILWAY AND
STEAMSHIP PRINTING
SOUTHAM · PRESS · TORONTO
SUCCESSORS TO
THE MAIL JOB PRINTING CO.

M. BEATTY & SONS, LIMITED WELLAND ONTARIO

DREDGES, DITCHERS,
DERRICKS
STEAM SHOVELS
STEEL DUMP AND DECK
SCOWS
SUBMARINE ROCK DRILLING
MACHINERY
HOISTING ENGINES, CENTRIFUGAL PUMPS FOR WATER AND SAND, STONE DERRICKS, CLAM-SHELL BUCKETS, STEEL SKIPS, COAL AND CONCRETE TUBS AND OTHER CONTRACTORS' MACHINERY.

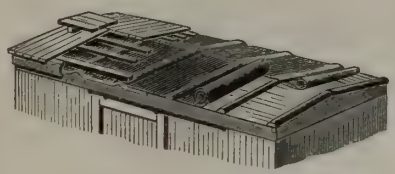
LOCOMOTIVES

FOR ALL CLASSES OF SERVICE

VULCAN IRON WORKS

WILKES-BARRE, PA., U.S.A.

Canadian Representative - MUSSENS LIMITED, MONTREAL



ASPHALT CAR ROOFING

WILL LAST THE LIFE OF ANY CAR WITHOUT REPAIRS OR ATTENTION

2 AND 3-PLY PLASTIC CAR ROOFS

CHEAPER AND MORE DURABLE THAN STEEL

THE DRAKE & WIERS CO., = CLEVELAND. O.

PROVINCIAL STEEL CO., LTD.

COBOURG, ONT.

GOLDSCHMIDT THERMIT CO.

TIME IS MONEY
BUT
WE SAVE BOTH

THE THERMIT PROCESS will weld your broken stern-post, rudder post, rudder frame, crank shaft, anchor, or other steel section in from one to three days. Just consider the saving in dockage over the old way requiring from one to three weeks. Simply send us a blue print and we will submit an estimate by return mail. Large sections are welded IN PLACE. Small sections may be sent to our Toronto, Jersey City, or San Francisco works.

FULL INFORMATION GIVEN IN PAMPHLET NO. 20-N.

GOLDSCHMIDT THERMIT CO.

103 RICHMOND ST. W., TORONTO, ONT.

General Offices: 90 West Street, NEW YORK.
Pacific Coast Branch: 432-436 Folson Street, SAN FRANCISCO.

Schools of the Sisters of the Church

(ANGLICAN)

36 Walmer Road, Toronto
330 Kent St., Ottawa

VISITORS: The Lord Bishop of Toronto and the Lord Bishop of Ottawa.

Boarding and Day School for Girls. Kindergarten, Primary, Secondary and Collegiate Departments. Preparation for Matriculation. Next School year will begin Thursday Sept. 9th. Apply to

Sister in Charge.

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited

MONTREAL, CANADA

BARE AND INSULATED ELECTRIC WIRE

Electric Light Line Wire Incandescent and Flexible Cords,

RAILWAY FEEDER AND TROLLEY WIRE

Americanite, Magnet, Office and Annunciator Wires,
Cables for Aerial and Underground Use.

STEEL, PEECH & TOZER

Limited,
SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada

Sole Agents:
James Hutton & Co., Montreal

Sir Robert W. Perks, who is at present visiting Canada in connection with the scheme, in the course of an interview at Montreal, May 10, said that if the proposals were accepted, work would be started on the canal next spring, and completed in 1915. His company, he said, was prepared to find the whole of the money necessary for the work provided the Dominion Government granted 3% interest on the bonds and an additional ½% to provide a sinking fund. The first section to be undertaken would be from Georgian Bay to North Bay, or possibly, that and the section from North Bay to Montreal might be carried out simultaneously. His plan was to have a board of his company, on which the Government would have representatives, and the profits would be divided equally between the Government and the company. The Montreal terminus would in all probability be situated at the Back River, as it is considered cheaper to build the canal to that point, than to the harbor, besides having the additional advantage of providing an alternative route, as it would be possible by erecting another lock at St. Anne's to use the present canal from that point to Montreal. "If the Government agrees to our proposals," he concluded, "Canada will have the canal as soon as it is humanly possible to build it, and what is more, will get it more cheaply than they could get it by any other means. It is even possible that the Government would not have to pay anything at all for it, for I am told that the traffic in prospect is such that the tolls for the use of the canal would pay the cost of the interest from the first. I am somewhat doubtful if this would be the case before the canal is finished, but there certainly would be a large and progressive income as the canal was gradually extended."

Among the Express Companies.

The Canadian Northern Ex. Co. has opened an office at Hamills Point, Ont., for the navigation season.

The Canadian Ex. Co. has opened omces at Tignish, P.E.I.; Sydney Mines, N.S.; and Donald, Ont.; and has closed its office at Caplin, Que.

The Canadian Northern Ex. Co. has opened offices at Tessier, Mansevy and Harris, Sask.; Kenora and Rosedale, Ont.; and Woodington, Ont., for the navigation season.

The Canadian Northern Ex. Co. has established its service over the C.N.R. Goose Lake line, and has opened regular offices at Tessier, Harris, Vanscoy, Delisle and Zealandia, Sask.

A joint express office has been established at the Yukon-Alaska Exposition grounds, Seattle, Wash., to be known as Exposition, Wash. The rate for merchandise to that point is 50c. per 100 lbs. above the Seattle rate.

The Dominion Government has consigned a second lot of live lobsters from the Atlantic to the Pacific coast, to continue the experiments in breeding them there, which it commenced last year. The consignment was handled by the Dominion Ex. Co.

Express companies are instructing their agents to see that cards reading: "This Company's tariffs are open to public inspection and may be seen on application to the agents," are exhibited in a public place in their offices, in accordance with the Board of Railway Commissioners' order.

The Canadian Ex. Co.'s annual meeting was held in Montreal, May 1. The following directors were re-elected for the current year: President, C. M. Hays; Vice-President and Manager, J. Bryce; other directors, E. H. Fitzhugh, W. Wainwright, M. M. Reynolds, E. J. Chamberlin, H. Paton and F. Scott.

The Canadian Ex. Co. has issued a notice that its summer offices on the Muskoka Lakes have been reopened for the season, with the exception of Royal Muskoka, which reopens about the middle of June. Shipments are also being accepted for the Lake of Bays route, and to Byng Inlet and French River points.

Telegraph and Cable Matters.

J. D. Gaines, Superintendent, Commercial Cable Co., at Honolulu, is visiting his home in Nova Scotia.

A U.S. patent has been granted to C. E. Davies, G.N.W. Telegraph Co.'s chief operator, Ottawa, Ont., for an electrical circuit breaking and making device for telegraphic purposes.

The Commercial Cable Co.'s cable repair steamer Mackay-Bennett is harboring on the west coast of Ireland in readiness to repair any breaks that might occur in the neighborhood.

A statement has been published that wireless communication took place between New York and Chicago, May 3. It is claimed that this is a record in the transmission of wireless messages overland.

A. J. Wisewell, a former C.N.R. telegraph operator, was charged recently, at Regina, Sask., that while he was in the C.N.R. employ at Humboldt, he stole from the C.N.R. office, during a byelection, certain political telegrams.

The Marconi Wireless Telegraph Co. has arranged for the completion of two additional stations between Quebec and Montreal, one being situated at Three Rivers, the other in Montreal, probably on the Tarte pier. The installation will, it is anticipated, be completed early in June.

The Association of Railway Telegraph Superintendents will hold its annual convention, June 23, 24 and 25 at Detroit, Mich. W. J. Camp, Superintendent, C.P.R. Telegraphs, Montreal, is President, and P. W. Drew, Superintendent of Telegraphs, Chicago Division, Minneapolis, St. Paul and Sault Ste. Marie Ry., Chicago, Ill., is Secretary.

The C.P.R. has completed the erection of a wire between Toronto and Sudbury, by way of Muskoka, thus giving Toronto an independent connection with Winnipeg. The lines to be erected by the company, as mentioned in our March issue, between Winnipeg and Field, B.C., will be 971 miles long, and the other between Calgary, Alta., and Cranbrook, B.C., 276 miles. Other work now nearing completion comprises the re-erecting of about 600 miles in different parts of the Dominion.

An appeal was heard by the King's Bench, May 11, in the case of Croysdill vs. the Anglo-American Telegraph Co., when the plaintiff appealed against the judgment of the Quebec Superior Court dismissing his action against the company, claiming $400 penalty incurred by the company for not filing the declaration required to be filed by incorporated companies as provided in article 4754 Revised Statutes of Quebec. The appeal was dismissed, one of the five judges dissenting.

B. S. Jenkins, General Superintendent C.P.R. Telegraphs, Western Lines, Winnipeg, on his return there recently after an inspection trip through British Columbia, said that little work was in contemplation for this year, owing to the fact that the C.P.R. had kept well ahead of the times in that province. The company is however considering the laying of another cable between the mainland and Vancouver Island. This is required, owing to the growth of business to the Island, and of the Pacific cable which lands at Bamfield on the west side. Certain extensions of line would also be made on the Island, coincident with the extension of branch railway lines there. He also said that a new copper wire would be erected from Calgary, Alta., along the Crow's Nest line into British Columbia, and eventually it would be extended to Nelson.

The Purchasing Agents' Guide

To the Manufacturers of and Dealers in Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph Telephone and Contractors' Supplies, &c.

Aerated Waters
E. L. Drewry ..... Winnipeg.

Air Brakes and Fittings
Canadian Westinghouse Co. Hamilton, Ont.

Ales
E. L. Drewry.. .....Winnipeg.

Anchors, Ground
Ground Anchor Co. .....Montreal.

Angle Bars
Hamilton Steel & Iron Co...Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.

Anti Rail Creepers
The Holden Co., Ltd.....Montreal.

Automobiles
Polson Iron Works, Ltd.....Toronto

Axes
James Smart Mfg. Co.....Brockville, Ont.

Axles
James Hutton & Co.....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Beacons
International Marine Signal Co....Ottawa.

Bearings, Side
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co...Montreal.
Union Draft Gear Co. .....Chicago, Ill.

Blankets and Bedding
The Hudson Bay Co.....

Boilers
Babcock & Wilcox (Ltd.)... ....Montreal.
Polson Iron Works.. .....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Boilers, Portable
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co, Ltd..Amherst, N.S.

JAMES PLAYFAIR, Pres. & Gen'l Mgr. D. L. WHITE, Vice-President. J. W. BENSON, Sec'y-Treas.

MIDLAND TOWING & WRECKING CO., LIMITED, MIDLAND, ONT., CANADA

FIRST-CLASS TUGS FOR WRECKING, RAFT TOWING, ETC.
STEAM PUMPS, DIVERS, JACKS, HAWSERS AND LIGHTERS

RAILWAY SPRINGS

Locomotive, Tender and Passsenger Car Springs of every description

Equalizing, Draw-bar, Buffer and Spiral Springs of all kinds

Street Railway Springs from the largest to the smallest

Manufactured by

B. J. COGHLIN & CO., 432 St. Paul St., Montreal, Can.

FOR STREET PAVING MATERIAL

SCORIA BLOCKS are the cleanest, most noiseless and, durability considered, the cheapest yet discovered. And the supply is unlimited.

FOR ALL INFORMATION ADDRESS

W. H. KNOWLTON

Aberdeen Building, Toronto,
or Merchants Bank Building, Montreal

NICKEL

THE CANADIAN COPPER COMPANY

NICKEL FOR NICKEL STEEL

THE ORFORD COPPER COMPANY

WRITE US FOR PARTICULARS AND PRICES

General Offices: 43 Exchange Place, NEW YORK

IMPERIAL BANK
OF CANADA

Capital Authorized - - $10,000,000.00
Capital Paid Up - - - 5,000,000.00
Rest - - - - - - - - 5,000,000.00

HEAD OFFICE - .- .- .- TORONTO

AGENTS——London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.

Sterling exchange bought and sold. Letters of credit issued available in any part of the world.

SAVINGS DEPARTMENT——Interest allowed on deposits at current rate from date of deposit.

A general Banking business transacted.

Branches throughout the Dominion of Canada.

HEADLIGHTS-WE MAKE THEM

For OIL, for Pyle ELECTRIC equipment or SPECIAL to Blue Print, and carry a large stock of standard headlight reflectors, burners, burner parts, felt wicks and chimneys.

The HIRAM L. PIPER CO., Limited

17 to 23 Normand Street, Montreal.

Get our No. 30 Catalogue. (Between St. Peter and McGill Sts.)

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS MACHINERY, address

THE ROBERTSON MACHINERY CO.

WELLAND, ONT. Limited

MALLEABLE IRON CASTINGS

of Superior Quality

GALT MALLEABLE IRON CO., LIMITED, - GALT, ONT.

The Parry Sound Lumber Co.
Limited
..13-15 Traders Bank Bldg., Toronto..
Manufacturers of
PINE, HEMLOCK, LUMBER, BRIDGE TIMBER, RAILWAY TIES, TELEGRAPH POLES, LATH, SHINGLES, BOX SHOOKS.

"PERFECTOL" The Perfect CAR CLEANER

Sold By

THE MODOC SOAP CO. OF OHIO

HENRY ROEVER, President and Manager. Philadelphia Office—228 North Fourth Street, Philadelphia, Pa.

FOR TICKET CASES AND COMMERCIAL FURNITURE

of all descriptions to stock or special design, apply to

The Canadian Office & School Furniture Co. Limited

Preston Ontario

THE CANADIAN BRONZE COMPANY, LTD.

Brass Wearing Parts for Locomotives.
Journal Bearings for Freight and Passenger Service.
BABBITTS. Miscellaneous Brass Castings for Railroads.

Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

WOOD PATTERNS

——ALL KINDS——

High Grade Right Prices. Prompt Delivery.

THE HAMILTON PATTERN WORKS

HAMILTON, ONT.

DUNER CAR CLOSET

ENAMELED IRON WET OR DRY CLOSET

DUNER CO. 116 SO. CLINTON ST., CHICAGO

Standard Paint & Varnish Co. Limited

Makers of High Grade Varnishes, Japans, Paints, Colors & Enamels.

Windsor Ont.

Boilers, Stationary and Marine
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd..Amherst, N. S.

Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

Boilers, Steam
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.

Boilers, Water Tube
Babcock & Wilcox (Ltd.).....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.

Bolsters
Dominion Car and Foundry Co..Montreal.

Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.

Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Braces, Cross Arm
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Brake Beams
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co..Montreal.

Brake Shoes
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.
The Holden Co., Ltd.....Montreal.

Brake Shoes, Electric Ry.
Am. Brake Shoe & F'dry Co..Mahwah, N.J.

Brake Shoes, Locomotive Driver
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.

Brass and Copper Cloth
The B. Greening Co.....Hamilton, Ont.

Bridge Numbers
Acton Burrows, Limited .....Toronto.

Bridges
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Buckets, Coal, Ore and Concrete
Brown Hoisting Machinery Co. Cleveland.

Buildings, Steel
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Bumping Posts
The Holden Co., Ltd..... .....Montreal.
McCord & Co. .....Chicago, Ill.

Buoy Lighting
Safety Car Heat. & Light. Co..New York.

Buoys
International Marine Signal Co....Ottawa.

Cables Electric and Feeder
E. F. Phillips Electrical Works....Montreal.
The Wire and Cable Co.....Montreal.

Caps, Uniform
A. A. Allan & Co., Ltd.....Toronto.
W. H. Coddington ....Hamilton, Ont.

Car Cleaner
Modoc Soap Co.....Philadelphia, Pa.

Car Loaders, Box
Mussens, Ltd. .....Montreal.

Car Movers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Cars
American Car & Equipment Co....Chicago.
R. M. Burns & Co.....Chicago, Ill.
Canada Car Co. (Ltd.).....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Dominion Car and Foundry Co....Montreal.
J. T. Gardner.....Chicago, Ill.
Hart-Otis Car Co. (Ltd.).....Montreal.
Hicks Locomotive and Car Works. Chicago.
Ottawa Car Co. Ltd.....Ottawa.
Preston Car and Coach Co., Ltd..Preston.
Rhodes, Curry & Co.....Amherst, N.S.
Silliker Car Co., Ltd.....Halifax, N.S.

Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
Standard Steel Works Co..Philadelphia, Pa.

Castings, Brass
Canadian Bronze Co.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.
Tallman Brass & Metal Co., Ltd.Hamilton.

Castings, Car
American Brake Shoe & Fdry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.

Castings, Iron
Canada Car Co., Ltd.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Castings, Iron and Steel
American Brake Shoe & F'dry Co.Mahwah.

Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.

Castings, Manganese Steel
Montreal Steel Works, Ltd.....Montreal.

Castings, Steel
Canada Iron Corporation, Ltd....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Chains
B. J. Coghlin & Co.....Montreal.

Closets, Car
Duner Co.....Chicago, Ill.

Compressors, Air
Canadian Rand Co.....Montreal.

Concrete Mixers and Rock Crushers
F. H. Hopkins & Co.....Montral.
Mussens Limited.....Montreal
Toronto Pressed Steel Co..... .Toronto

Contractors' Supplies
F. H. Hopkins & Co.....Montreal
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Conveyors, Coal and Ash
Babcock & Wilcox (Ltd.).....Montreal.

Copying Presses
James Smart Mfg. Co.....Brockville, Ont.

Couplers, Car and Locomotive
Dominion Car and Foundry Co..Montreal.
McConway & Torley Co....Pittsburgh, Pa.
National Malleable Castings Co..Cleveland
Taylor & Arnold.....Montreal.

Cranes
Brown Hoisting Machinery Co..Cleveland.

Cranes, Electric
Babcock & Wilcox.....Montreal.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.

Cranes, Locomotive
American Hoist and Derrick Co..St. Paul.

Cranes, Wrecking
Mussens Limited.....Montreal.

Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Curtains and Fixtures, Car
The Holden Co., Ltd.....Montreal.

Cuts
Acton Burrows, Limited.....Toronto.

Derailing Devices
Hayes Track Appliance Co..Geneva, N.Y.

Derricks
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Mussens Limited.....Montreal.

Dies
Butterfield & Co.....Rock Island, Que.

Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.

Doors, Steel Rolling
Mussens Limited.....Montreal.

Door Signs
Acton Burrows Limited.....Toronto.

Draft Gear
Farlow Draft Gear Co.....Baltimore, Md.
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.
Union Draft Gear Co. .....Chicago, Ill.
Waugh Draft Gear Co.....Chicago, Ill.

Dredges
M. Beatty & Sons.....Welland, Ont.

Drills, Air
Canadian Rand Co.....Montreal.

Dry Goods
The Hudson's Bay Co.....

Dump Cars (Contractors')
Canada Road Machine Co., Ltd. Hamilton.
F. H. Hopkins & Co.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Dump Cars, Hand
Meaford Wheelbarrow Co., Ltd..Meaford.

Dust Guards
Harrison Dust Guard Co.....Toledo, O.

Dynamos
Northern Electric & Mfg. Co., Ld.Montreal.

Dynamo and Electric Castings
American Brake Shoe & F'dry Co.Mahwah.

Economizers
Babcock & Wilcox (Ltd.).....Montreal.

Electric Car Route Signs
Acton Burrows Limited.....Toronto.

Electric Apparatus
Northern Electric & Mfg. Co., Ld.Montreal.

Elevators, Grain
John S. Metcalfe Co.....Chicago, Ill.

Enameled Iron Signs
Acton Burrows Limited.....Toronto.

Engines, Automatic
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Corliss
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Gasoline
Ontario Wind Engine & Pump Co.Toronto.

Engines, Hoisting
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Robertson Mfg. Co. .....Welland, Ont.

Engines, Stationary and Marine
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Steam Steering, for Tugs
Sheriffs Mfg. Co.....Milwaukee, Wis.

Explosives
Standard Explosives Limited....Montreal.

Express Office Signs
Acton Burrows Limited.....Toronto.

Fencing
McGregor Banwell Fence Co..Walkerville.
New Brunswick Wire Fence Co..Moncton.
Owen Sound Wire Fence Co..Owen Sound.
Page Wire Fence Co.....Walkerville, Ont.

Fire Brick
Mussens Limited.....Montreal.

Flags
The Hudson's Bay Co.....

Flour
The Hudson's Bay Co.....

Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co..Cleveland.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton.
Standard Steel Works Co.Philadelphia, Pa.

Foundry Appliances
Goldschmidt Thermit Co.....Toronto.

Frogs
Canadian Ramapo Iron Wks.Niagara Falls.

Furnaces, Corrugated
Continental Iron Works....Brooklyn, N.Y.

Fuse Batteries
Standard Explosives Limited....Montreal.

Fuse Detonators
Standard Explosives Limited....Montreal.

Fuses, Electric
Standard Explosives Limited....Montreal.

Gaskets
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Gates
McGregor Banwell Fence Co..Walkerville.
New Brunswick Wire Fence Co..Moncton.
Page Wire Fence Co.....Walkerville, Ont.
Owen Sound Wire Fence Co..Owen Sound.

Gates, Crossing
General Railway Signal Co. Rochester, N.Y.
The N. L. Piper Ry. Supply Co..Toronto.

Gauges, Locomotive
Taylor & Arnold.....Montreal.

Generators, Electric
Northern Electric & Mfg. Co., Ld.Montreal.

Grates, Shaking
Babcock & Wilcox (Ltd.).....Montreal.

Groceries
The Hudson's Bay Company.....

Hammers, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.
James Smart Mfg. Co....Brockville, Ont.

Handcars
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Hardware
The Hudson's Bay Co.....
Rice Lewis & Son.....Toronto.

Hats
W. H. Coddington .....Hamilton, Ont.

Headlights
The N. L. Piper Ry. Supply Co..Toronto.
Pyle National Elec. Headlight Co..Chicago.

Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.

Heaters, Feedwater
Robb Engineering Co., Ltd..Amherst, N.S.

Heating, Car
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car Heating & L'ting Co.New York.

Hoists, Electric
American Hoist & Derrick Co....St. Paul.

Hoists (Pneumatic)
Taylor & Arnold.....Montreal.

Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co.Cuyahoga Falls.

Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.

Hydrants
Kerr Engine Co.....Walkerville, Ont.

Illustrations
Acton Burrows Limited.....Toronto.

Inspections
R. W. Hunt & Co. .....Montreal

Insurance, Accident
Canadian Ry. Accident Ins. Co....Ottawa.
Imperial Guarantee & Ac. Ins. Co.Toronto.

Insurance, Boiler
Canadian Casualty & Boil. Ins. Co.Toronto.

Interlocking Plant and Signals
General Railway Signal Co. Rochester, N.Y.
Montreal Steel Works.....Montreal.
Saxby and Farmer, Ltd.....Montreal.

Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton.

Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton.

Iron Signs
Acton Burrows Limited.....Toronto.

Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

Jacks
H and E Lifting Jack Co..Waterville, Que.
F. H. Hopkins & Co, Ltd.....Montreal.
Montreal Steel Works, Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.

Japans
The Dougal Varnish Co. Ltd....Montreal.

Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.

Journal Boxes
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Lager Beer, &c.
E. L. Drewry.....Winnipeg.

Lagging and Covering, Locomotive
Taylor & Arnold.....Montreal.

Lamps, Arc
Northern Electric & Mfg. Co, Ltd.Montreal.

Lamps, Incandescent
Canadian Westinghouse Co..Hamilton, Ont.

Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.

Lamps, Switch
The N. L. Piper Ry. Supply Co..Toronto.

Launches
Polson Iron Works, Ltd.....Toronto.

Lighting, Car
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car H't'g & L't'g Co..New York.

Lights, Contractors' and Wrecking
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Locomotives (Compressed Air)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co...Kingston, Ont.
Montreal Locomotive W'ks (Ltd.).Montreal.

Locomotives (Electric)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Locomotive W'ks (Ltd.).Montreal.

Locomotives (Logging)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.

Locomotives (Rack)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.
Montreal Locomotive W'ks (Ltd.).Montreal.

Locomotives (Steam)
American Car & Equip. Co....Chicago, Ill.
Burnham, Williams & Co. Philadelphia, Pa.
R. M. Burns & Co.....Chicago, Ill.
Canadian Locomotive Co....Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hicks Locomotive & Car Works..Chicago.
Montreal Locomotive W'ks. Ltd..Montreal.
Vulcan Iron Works.....Wilkesbarre, Pa.

Lorries, Tracklaying
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.

Lubricators
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.

Lumber
Parry Sound Lumber Co.....Toronto.

Machinery, Cement
Jas. W. Pyke & Co.....Montreal.

Machinery and Plant, Contractors'
American Car & Equip. Co....Chicago, Ill.
American Hoist & Derrick Co....St. Paul.
M. Beatty & Sons.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
J. T. Gardner.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Toronto Pressed Steel Co.....Toronto.

Machinery, Hoisting
American Hoist & Derrick Co....St. Paul.
Brown Hoisting Machinery Co..Cleveland.

Machinery, Marine
Sheriffs Mfg. Co.....Milwaukee, Wis.

Machinery, Tracklaying
F. H. Hopkins & Co.....Montreal.

Manhole Frames and Covers
American Brake Shoe & F'dry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.

Marine Repairs
Goldschmidt Thermit Co.....Toronto.

Marine Supplies
Rice Lewis & Son.....Toronto.

Metal, Anti-friction
W. Abbott.....Montreal.

Metal, Babbit
Tallman Brass & Metal Mfg. Co. Hamilton.

Metals
Goldschmidt Thermit Co.....Toronto.

Metal Work, Structural
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Montreal Locomotive W'ks (Ltd.).Montreal.
Jas. W. Pyke & Co.....Montreal.

Milepost Numbers
Acton Burrows Limited.....Toronto.

Motors
McCord & Co.....Chicago, Ill.

Motors, Electric
Northern Electric & Mfg. Co. Ld.Montreal.

Motors, Turntable
Taylor & Arnold.....Montreal.

Nickel
The Orford Copper Co.....New York.

Nickel for Nickel Steel
The Orford Copper Co.....New York.

Numbers
Acton Burrows Limited.....Toronto.

Nut Locks
Positive Lock Washer Co....Newark, N.J.

Nuts, Clevis
Cleveland City Forge & Iron Co..Cleveland.

Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Oakum
The Hudson's Bay Company.....

Office Fittings
Can. Office & Sch'. Furniture Co..Preston

Office Signs
Acton Burrows Limited.....Toronto.

Oils
Galena Signal Oil Co..Franklin & Toronto.

Packing
The N. L. Piper Ry. Supply Co..Toronto.

Paints
Standard Paint & Varnish Co., Ltd. .... Windsor, Ont.

Patterns
Hamilton Pattern Works....Hamilton, Ont.

Pile Drivers, Railway
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Pinch Bars
The N. L. Piper Ry. Supply Co..Toronto.

Pipe, Culvert (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Gas (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Sewer (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Water (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe Stocks
Butterfield & Co.....Rock Island, Que.

Platforms, Steel
Standard Coupler Co.....New York City.

Ploughs, Contractors'
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Ploughs, Grading
Meaford Wheelbarrow Co., Ltd..Meaford.

Porter
E. L. Drewry.....Winnipeg.

Powder, Blasting
Standard Explosives Limited.....Montreal.

Printing
Southam Press.....Toronto.

Propeller Wheels
Sheriffs Mfg. Co.....Milwaukee, Wis.

Pumps
S. F. Bowser & Co., Limited.....Toronto.
Ontario Wind Engine & Pump Co..Toronto.
James Smart Mfg. Co.....Brockville, Ont.

Pumps (Centrifugal)
M. Beatty & Sons .....Welland, Ont.

Rail Benders, Roller
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

BABCOCK & WILCOX
LIMITED

Patent Water-Tube Boilers
(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes = MONTREAL
BRANCH—TRADERS BANK BUILDING, TORONTO

The Purchasing Agents' Guide—Continued.

Rails (new)
Dominion Iron & Steel Co....Sydney, N.S.
Drummond, McCall & Co. .....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co.....Montreal.

Rails (for relaying)
F. H. Hopkins & Co.....Montreal.
J. J. Gartshore.....Toronto.
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.

Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada....Montreal.
Williams Boltless Rail J'nt Mg. Co.Chicago.

Railway Supplies
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Rice Lewis & Son.....Toronto.

Ranges
Stearnes Steel Range Co.....Chicago, Ill.

Reamers
Butterfield & Co.....Rock Island, Que.

Replacers, Car and Locomotive
Alexander Car Replacer Mfg. Co..Scranton.
The Holden Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.

Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Roofing, Car
Drake & Wiers Co.....Cleveland, O.

Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Company.....

Ropes, Coal Haulage
The B. Greening Co. .....Hamilton, Ont.

Ropes, Derrick
Dominion Wire Rope Co.....Montreal.
The B. Greening Co.....Hamilton, Ont.

Ropes, Switch
The B. Greening Co.....Hamilton, Ont.
F. H. Hopkins & Co.....Montreal.

Scoria Blocks
W. H. Knowlton.....Toronto.

Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Screw Plates
Butterfield & Co.....Rock Island, Que.

Screws, Coach and Lag
Montreal Rolling Mills Co.....Montreal
Toronto Bolt and Forging Co.....Toronto.

Seats, Station
James Smart Mfg. Co....Brockville, Ont.

Semaphore Arms
Acton Burrows Limited.....Toronto.

Semaphores
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer Ltd.....Montreal.

Shafting, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Ships
Polson Iron Works.....Toronto.

Shops
The Hudson's Bay Co.....

Signal House Numbers
Acton Burrows Limited.....Toronto.

Signals
General Railway Signal Co. Rochester, N.Y.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer, Limited.....Montreal.

Signals, Fog
International Marine Signal Co....Ottawa.

Signs
Acton Burrows Limited.....Toronto.

Skylights
A. Edgcumbe Rendle.....Montreal.

Slack Adjusters
Chicago Railway Equipment Co..Chicago.

Sledges
James Smart Mfg. Co.....Brockville, Ont.

Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.
Rhodes, Curry & Co.....Amherst, N.S.

Solder
Tallman Brass & Metal Mfg. Co. Hamilton.

Spikes, Railway, Ship or Pressed
Hamilton Steel & Iron Co., Ltd.Hamilton.
F. H. Hopkins & Co.....Montreal.
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Spreader Cars
F. H. Hopkins & Co.....Montreal.

Spring Dampeners
McCord & Co.....Chicago, Ill.

Springs
B. J. Coghlin.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Station Name Signs
Acton Burrows Limited.....Toronto.

Staybolt Bars, Charcoal Iron
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolt Iron
Taylor & Arnold.....Montreal.

Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolts, Flexible
Flannery Bolt Co.....Pittsburg, Pa.

Staybolts, Locomotive
Falls Hollow Staybolt Co..Cuyahoga Falls.
Flannery Bolt Co.....Pittsburg, Pa.

Staybolt Taps
Butterfield & Co.....Rock Island, Que.

Steam Couplers
Safety Car H't'g & L't'g Co....New York.

Steam Shovels
M. Beatty & Son.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Steamships
Polson Iron Works.....Toronto.

Steamship Signs
Acton Burrows Limited.....Toronto.

Steel
W. Abbott.....Montreal.
Hermann Boker & Sons.....Sheffield, Eng.
Wm. Jessop & Sons.....Sheffield, Eng.

Steel, Fire Box
Taylor & Arnold.....Montreal.

Steel for Axes
Montreal Steel Works.....Montreal.

Steel for Saws
Montreal Steel Works.....Montreal.

Steel for Springs
James Hutton & Co.....Montreal.

Steel, Speedicut High Speed
Montreal Steel Works.....Montreal.

Steel, Nickel, for Nickel
The Orford Copper Co.....New York.

Steel Plates
Jas. W. Pyke & Co.....Montreal.

Steel, Tool
W. Jessop & Sons.....Sheffield, Eng.
Montreal Steel Works.....Montreal.

Stokers, Mechanical
Babcock & Wilcox (Ltd.).....Montreal.

Stoves
James Smart Mfg. Co.....Brockville, Ont.

Superheaters
Babcock & Wilcox (Ltd.).....Montreal.

Switches
Canadian Ramapo Iron W's Ld.Niagara Fs.
Hayes Track Appliance Co....Geneva, N.Y.
Montreal Steel Works.....Montreal.

Switch Boxes
General Railway Signal Co. Rochester, N.Y.

Switch Stands
Canadian Ramapo Iron W's, Ld.Niagara Fs
Hayes Track Appliance Co....Geneva, N.Y.

Switch Targets
Acton Burrows Limited.....Toronto.

Tanks and Tank Fixtures
Ontario Wind Engine & Pump Co..Toronto.

Tanks, Oil
S. F. Bowser & Co., Limited.....Toronto.

Tapes, Measuring
Lufkin Rule Co.....Saginaw, Mich.

Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Telegraph and Telephone Apparatus
Northern Elec. & Mfg. Co., Ltd.Montreal.

Telegraph and Telephone Office Signs
Acton Burrows Limited.....Toronto.

Thermit
Goldschmidt Thermit Co.....Toronto

Ticket Cases
Can. Office & School Furniture Co.Preston.

Tie Plates
B. J. Coghlin & Co.....Montreal.
Montreal Rolling Mills Co.....Montreal.

Ties
Parry Sound Lumber Co.....Toronto.

Tires, Steel
James Hutton & Co.....Montreal
Jas. W. Pyke & Co.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Tools and Supplies
James Smart Mfg. Co.....Brockville, Ont.
A. B. Jardine & Co.....Hespeler, Ont.

Tools, Track
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Mussens Limited.....Montreal.

Tools, Pneumatic
The Holden Co., Ltd.....Montreal.

Tools, Cast Steel Track
American Brake Shoe & F'dry Co.Mahwah.

Track Equipment
Canadian Ramapo Iron W's Ld.Niagara Fs.

Tramway Equipment
J. J. Gartshore.....Toronto.

Trolley Wheels
Tallman Brass & Metal Co., Ltd.Hamilton.

Trucks
James Smart Mfg. Co.....Brockville, Ont.

Trucks (Electric Car)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Steel Works.....Montreal.

Trucks (Railroad and Warehouse)
Toronto Pressed Steel Co.....Toronto.

Trusses, Roof
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Tubes, Boiler
Jas. W. Pyke & Co.....Montreal.

Turnbuckles
Cleveland City Forge & Iron Co.Cleveland.
Montreal Steel Works.....Montreal.

Turntables
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Valves, Brass Gate
Kerr Engine Co.....Walkerville, Ont.

Valves, Brass Globe
Kerr Engine Co.....Walkerville, Ont.

Valves, Iron Gate
Kerr Engine Co.....Walkerville, Ont.

Valves, Locomotive Pop
Taylor & Arnold.....Montreal.

Varnishes
The Dougal Varnish Co., Ltd....Montreal.
Standard Paint & Varnish Co., Ltd. ....
..... Windsor, Ont.

Vessels
Polson Iron Works.....Toronto.

Washers
Montreal Rolling Mills Co.....Montreal.

Waste
B. J. Coghlin & Co.....Montreal.
N.L. Piper Railway Supply Co....Toronto.

Water Softeners
Babcock & Wilcox (Ltd.).....Montreal.

Welding
Goldschmidt Thermit Co.....Toronto.

Wheelbarrows
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Toronto Pressed Steel Co.....Toronto.

Wheels, Car
Canada Car Co., Limited.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.
Standard Steel Works Co..Philadelphia, Pa.

Wheels, Locomotive
Canada Iron Corporation, Ltd....Montreal.

Wheels, rolled, solid forged
Standard Steel Works Co..Philadelphia, Pa.

Wheels, steel tired
Standard Steel Works Co..Philadelphia, Pa.

Windmills
Ontario Wind Engine & Pump Co..Toronto.

Windows, Fireproof
A. Edgcumbe Rendle.....Montreal.

Wire and Wire Rope
Dominion Wire Rope Co.....Montreal.
The B. Greening Co.....Hamilton, Ont.
Mussens Limited.....Montreal.
The Wire and Cable Co.....Montreal.

Wire Cloth
The B. Greening Co.....Hamilton, Ont.

Wire, Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Electric
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Insulated Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire Rope Clips
American Hoist & Derrick Co.....St. Paul.

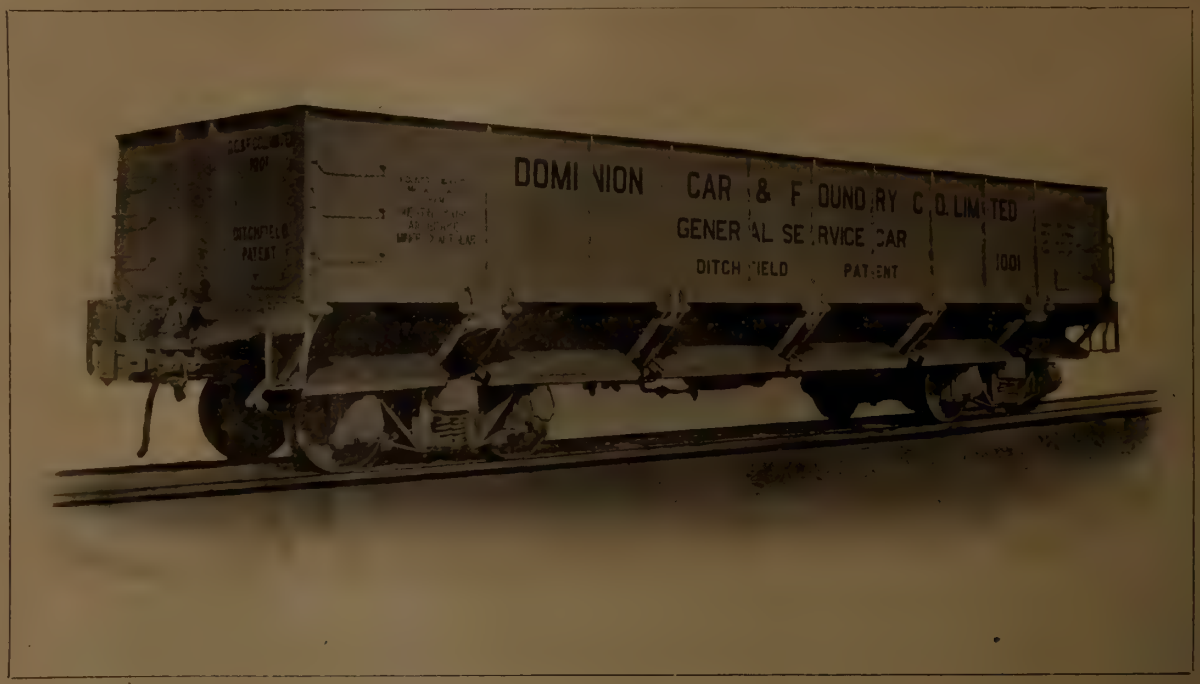
Wire, Telegraph and Telephone
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Transmission and Trolley
The Wire and Cable Co.....Montreal.

Wrenches, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.

Yachts
Polson Iron Works.....Toronto.

DOMINION CAR & FOUNDRY CO.
LIMITED



FREIGHT CARS

(ALL-STEEL AND COMPOSITE)

CAR TRUCKS **STEEL UNDERFRAMES**

FORGINGS OF ALL KINDS

SIMPLEX

Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works---MONTREAL WEST

P. O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.

The Railway and Marine WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 219
New Series, No. 137.

TORONTO, CANADA, JULY, 1909.

For Subscription Rates, See Page 509.

WIRES AND CABLES

FOR TELEPHONE, TELEGRAPH, ELECTRIC RAILWAY AND POWER PURPOSES

THE WIRE AND CABLE CO., MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL.

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

LUFKIN MEASURING TAPES
MADE IN CANADA AND THE BEST IN THE WORLD
SEND FOR CATALOG.
THE LUFKIN RULE CO. OF CANADA, LTD. WINDSOR, ONT.

Additional safety and economy in
TRACK MAINTENANCE
has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen years' service, having a record of over 50,000 miles in use—the extent of which is evidence of their excellence.
THE RAIL JOINT CO. OF CANADA
See Page 490.

RENDLE'S GLAZING IMPROVED SKYLIGHT CONSTRUCTION
"Paradigm," "Duxbac" Brands. "Diablo" Asbestos Windows.
A. Edgcumbe Rendle, 260 St. James Street, Montreal. Works: LONDON, ONTARIO

MUSSENS LIMITED
Railway, Mining and Contractors' Supplies
See Advt. Page 478.

WILLIAM ABBOTT
Novo High Speed Steel
"Intra" for Punches, Taps, etc.
334 St. James St., - Montreal

THE HOLLENDEN
CLEVELAND
EUROPEAN PLAN
600 Rooms $1.50 to $5.00

The Canadian Casualty and Boiler Insurance Company
Head Office - TORONTO
ACCIDENT, SICKNESS AND BOILER CONTRACTS
Full particulars on application

THE WAUGH DRAFT GEAR
FRICTION SPRING CUSHION
200,000 lbs.—600,000 lbs. Capacity
MADE IN CANADA
Send for Catalog and Particulars
Waugh Draft Gear Co., Chicago, Ill.

STEARNES STEEL RANGE COMPANY
Our specialties are Dining, Private and Cafe Car Ranges and General Cooking Apparatus.
Fifth Ave. and Lake St., Chicago, Ill.

JOHN A. HART CO.
Draughtsmen's Supplies
WINNIPEG

Enamelled Iron Signs
For Steam and Electric Railways, Express, Telegraph, Telephone and other Purposes.
ACTON BURROWS LIMITED
157 Bay Street, Toronto

TALLMAN
Brass and Metal Co.
Hamilton
Canada

THE OTTAWA CAR CO.
BUILDERS OF Limited
Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.
Office and Works: Slater St., OTTAWA

The Dougall Varnish Co., Ltd.
Successors to McCASKILL, DOUGALL & COMPANY
Railway Varnishes, Japans and Enamels
MANUFACTURERS
MONTREAL
Eight Medals Awarded.

WESTINGHOUSE

"AMM" Automatic Air Brakes

When buying new cars insist

upon their being equipped with Westinghouse "AMM" Automatic Brakes. A good car with an inferior brake is a poor investment. Safe, efficient operation demands a brake of absolute reliability. Such indispensable features as quick re-charge, graduated release, quick service and high pressure in emergency are found only in Westinghouse "AMM" Automatic Air Brakes.

Described fully in Instruction Pamphlet T-5031

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO
439 Pender Street
VANCOUVER

For particulars address nearest office
HAMILTON
922-923 Union Bank Bldg.
WINNIPEG

232 St. James Street
MONTREAL
158 Granville Street
HALIFAX

The Hamilton Steel & Iron Co.

HAMILTON, CANADA LIMITED

PIG IRON

RR. AXLES **ANGLE BARS**

TRACK SPIKES **TIE PLATES**

Marine and Railroad

FORGINGS

In Rough, Rough Turned or Smooth Finished

BAR IRON **BAR STEEL**

Plain, Cold Twisted or Deformed

STEEL BARS

For

CONCRETE REINFORCEMENT

See Purchasing Agents' Guide on page 545 :: :: :: ::

See Alphabetical Index to Advertisements on page 509

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 219. New Series, No. 137. TORONTO, CANADA, JULY, 1909. For Subscription Rates, See page 509.

Overhauling Electric Ry. Rolling Stock.

W. R. McRae, Master Mechanic, Toronto Ry.

In presenting these remarks concerning the periodical overhauling of rolling stock, it is my intention to endeavor to convince those interested in the maintenance of electric railway rolling stock that periodical overhauling is absolutely necessary to obtain the maximum of efficiency and also that when this work is completed, the term, general overhaul will be amply justified.

Prior to three years ago very few of the cars on the Toronto system were overhauled with any degree of regularity. This neglect was responsible for some of the following results: Average daily cripple cars amounted to about 17% of all motor-operated rolling stock, failures in service were very common, line blockades interrupted schedules, cars out of service when required to fill schedules, inconvenience to passengers, lost mileage and revenue. This condition of affairs necessitated the introduction of a method of repairs whereby the average daily number of cripples would be reduced to a minimum. Instructions were issued by the management that all cars were to be put in first-class condition at once. This was done, but not without a very large expenditure of money; the results obtained, however, were such as to prove without the shadow of a doubt the wisdom of permitting the above-mentioned expenditure. To-day in Toronto there are comparatively speaking no motor breakdowns in service, and as a comparison I may say, that instead of 17% of the cars being crippled as before stated every 24 hours, the daily average is now 3.7%; and it must be borne in mind that every car that is repaired, whether large or small repairs, is classed in the totals from which this percentage is struck. Those not included are those cars repaired by the night and day inspectors and repair men, after the cars are housed and have completed their day's run; or, in other words, cars which have not caused any interruption to service or schedules. This is a considerable reduction you will admit, but we are endeavoring to lower this record, and those in charge of the rolling stock are of opinion that this can be done. The vastly superior service which we are now enabled to give has secured to the company a very valuable asset in the citizens' good-will.

It is very necessary that the good work of overhauling rolling stock should be done in a most thorough and systematic way. The work should be laid out so that there will be no confusion of material, men or ideas. All the work should be done in a pre-determined manner. Gauges, measurements and tools should be supplied for the proper carrying out of the same. When a system of overhaul is finally decided upon as being the best suited to local conditions, it should become a law in the shop, and any employe departing from the standard of practice should be dealt with accordingly. The introduction of new methods or stunts or experiments should not be permitted until they are carefully considered by the proper officials. I strongly recommend that employes be encouraged to promote new ideas, and if on the presentation of them to the proper officials, they are found to possess even some small merit, every encouragement should be given the originator to perfect the same, and on the adoption of his proposal in practice he should, so far as the shop is concerned, receive all the credit due him.

F. P. BRADY
Member Canadian Government Railways Managing Board.

In preparing the repair material in the Toronto Ry. shops, carefully kept gigs, patterns and gauges are always used in production. By this means absolute accuracy is assured, and the parts are interchangeable. The fact that the pit men or fitters have no work other than to bolt together and put to place, is a strong argument in favor of the repair material being properly produced in the company's shops or by outside manufacturers.

I will endeavor to explain some of the methods in use in the Toronto Ry. Co.'s central shops. This system no doubt would be more readily understood by a visit to our works, which we will at all times welcome. The cars are overhauled on a mileage basis; 50,000 to 55,000 miles being the limit of distance a car travels before being brought to the shops and thoroughly overhauled. Owing to the fact that our roadbed is now in a very much better condition than it formerly was, and the cars standing up so much better, the matter of permitting cars to run 70,000 to 75,000 miles before over-hauling is now under serious consideration.

I will now trace the course of overhauling a car. Owing to the fact that overhauling was first started by rotation of car numbers, it is quite easy for us in the shops to know just about the car or cars due to come in, and as accurate mileage is kept on all cars, a glance at the mileage statements is sufficient to procure the proper car for overhauling. This done, the central car dispatcher is instructed to have that car delivered to the shops ready for the following morning. The car is then placed in a section set aside for the purpose, brake and cable connections unfastened, car body raised and placed on trestles, trucks are then pulled out from under the body and shunted to truck overhaul section; here the motors are removed and sent to motor overhauling section.

The truck is completely stripped down, except side and end frame, wheel centres marked, and trammil points used to test for truck frame being true. Journal boxes are stripped of brassed wedges and waste, and thoroughly cleansed. Wheels and journals are now replaced if necessary. The stripped material has been placed on one side of the truck, the floor on the other side is swept clean, the truck inspector inspects the old material and o.k's. that which is to be used again. This o.k. material is now moved to the clean space on the other side of the truck, the balance is taken to the shop storekeeper, who gives in return a new or repair part for every one sent in; this is then delivered to the truck fitters, and is placed with the balance of the o.k. material. The trucks are now built up, the journals being packed with clean, oil-soaked waste; the trucks having been thoroughly scraped and blown off with compressed air, are now given a coat of mineral quick drying black paint, and ready for the motors.

The motors are first stripped of armatures and field coils; these with the brushholders are sent to the armature and machine departments respectively. The motor frame is next scraped inside and out, grease boxes cleaned out, bottom oiled, wells cleaned and washed with kerosene. The inside of motor frames are next painted with black insulating compound, oiled canvas liners are placed around permanent pole pieces, frames are

Galena-Signal Oil Company

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY

Galena Railway Safety Oil

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

Please write to home office for further particulars.

CHARLES MILLER,

PRESIDENT

now ready for assembling. Field coils are next put to place and magnet plates bolted home, finished steel bolts and hexagon nuts with spring lockwashers being used exclusively for motor and truck work. The motor frames are now bolted together and a gauge inserted between the pole pieces to prove proper distances. The proper distance between magnets having been secured, the armature is next put to place and armature boxes bolted on. Equal clearance between armatures and magnets is next secured by use of a special gauge. New spring felt feeder wicks are placed in bottom oil pocket of both armature and motor axle bearings, and oil receptacles filled with clean oil. Next a piece of felt is inserted in the grease hole at bottom of grease box touching the shaft, a square oil-soaked pad, half-inch in thickness, is then neatly fitted to the bottom of the box, the balance of space is then filled with hand-picked pure wool waste, the waste having previously soaked in oil 24 hours and dripped for 12 hours. Brush-holder yokes, and brushholders completely assembled, are now bolted to place. These parts do not require any alteration for the reason that they have been built up in a special jig, their correct position and alignment on the commutator being both electrically and mechanically correct. The overhauled motor is now subjected to a running test on the floor for three hours with 40 amperes of current for the purpose of proving the condition of the bearings. While the motor is under test it is painted with a quick drying mineral black paint. The gears, pinions and gear case having been thoroughly cleaned of grease, the motor is now swung to place on the trucks and gears and pinions given an application of special compound, the two or four motors all having come through at the same time the overhaul truck and motor equipment is now ready for service.

Just as soon as car body is placed on trestles, the controller, rheostats, trolley stand and brake cylinder are removed and sent to their respective repair departments; they are at once replaced with new or overhauled material. Cable ducts on car body are opened, cleaned and repainted, renewals being made where necessary. Car body, wood and iron work repaired and painted. Overhauled trucks and motors are now run under, and body put to place, brake and cable connections made, brakes adjusted and car given a severe tryout under service conditions before being passed as o.k. by the inspector.

Armatures are first inspected for bearings and renewals made where necessary, cast steel sleeves lined with babbit being used for bearings. Next, the entire armature is carefully cleaned, commutator turned and polished, string band carefully inspected or renewed, and sent to the testing department. Here the millovolt drop test from bar to bar is used and finally the armature is subjected to a six hundred volt ground test, armature body then shellaced and placed in the o.k. rack. Field coils are then placed in section of motor frame without magnet, and a millovolt reading taken, next a magnet attached to an air cylinder is lowered on field coil and another reading taken while the coil is under pressure. If the coil reads up to the standard and shows no variation under pressure the outside tape is repaired and the coil dipped in air drying compound.

This description practically covers the entire performance of overhauling a car. The following remarks, however, may not be out of place. A great reduction in motor lead trouble has been secured by boring the motor frames on the axle side and bringing the leads out as near the king bolt as possible; this, of course, refers to outside hung motors.

Railway Freight Statistics.

During the year ended June 30, 1908, the railways of Canada carried 63,071,167 tons of freight, distributed among the various classes of traffic as follows:—Products of mines, 22,636,227 tons; products of forests, 12,912,226 tons; products of agriculture, 9,396,967 tons; manufactures, 6,655,719 tons; products of animals, 2,472,359 tons; merchandise, 2,008,267 tons; miscellaneous consignments, 6,938,135 tons. Of the total tonnage relating to commodities 38,821,418 tons were reported as originating on the line, and 24,198,482 tons as having been received from connecting lines. The railway statistics give full details of the various classes of freight under both headings, and the following table shows the grand totals of the various classes of freight carried, whether originating on the various lines, or received from connecting lines:—

Name of Railway.	Tonnage Originating on Road.	Tonnage received from connecting Roads & other Carriers	Total Freight Tonnage
Alberta Railway and Irrigation Co.	77,697	18,486	96,183
Algoma Central and Hudson Bay	366,810	259	367,069
Atlantic and Lake Superior	32,241	.....	32,241
Bay of Quinte	268,549	.....	268,549
Bedlington and Nelson	1,251	804	2,055
Beersville Coal and Ry. Co. (now North Shore)	11,082	.....	11,082
Bessemer and Barry's Bay	.....	.....	.....
Brandon, Saskatchewan and Hudson Bay	29,160	12,223	41,393
British Yukon	3,178	28,974	32,152
Brockville, Westport and Northwestern	11,086	13,309	24,395
Buctouche and Moncton	.....	26,621	26,621
Canada Coals and Railway Company	83,698	3,055	86,753
Canada Southern	534,638	5,397,709	5,932,347
Can. Gov. Railways			
Intercolonial	3,629,682	378,859	4,008,541
Prince Edward Island	90,599	7,991	98,590
Canadian Northern	2,615,580	.....	2,615,580
Can. Northern Ontario	92,098	.....	92,098
Can. Northern Quebec	229,063	228,047	457,110
Canadian Pacific	10,736,619	3,495,687	14,232,306
Cape Breton	1,695	1,230	2,925
Caraquet	6,102	7,276	13,378
Carillon and Grenville	78	.....	78
Central Ontario	153,866	80,225	234,091
Crow's Nest Southern	177,321	51,205	228,526
Cumberland Railway & Coal Co	314,954	19,455	334,409
Dominion Atlantic	292,998	62,972	355,970
Elgin and Havelock	12,600	3,305	15,905
Grand Trunk	7,857,014	4,616,209	12,473,223
Grand Trunk (Canada Atlantic)	664,844	1,413,891	2,078,735
Halifax and Southwest'n	149,849	32,212	182,061
Hampton & St. Martins	10,158	1,269	11,427
Hereford	180,563	6,130	186,693
Inverness Railway and Coal Co	313,904	8,571	322,475
Irondale, Bancroft and Ottawa	21,803	3,865	25,668
Kalso and Slocan	8,444	839	9,283
Kent Northern	.....	.....	.....
Kettle River Valley	27,411	139	27,550
Kingston and Pembroke	90,284	31,882	122,166
Klondyke Mines	6,502	.....	6,502
Liverpool and Milton	.....	.....	.....
Lotbiniere & Megantic	48,953	1,963	50,916
London & Port Stanley	85,419	379,997	465,416
Manitoulin and North Shore	249,963	578	250,541
Massawippi Valley	81,200	432,998	514,198
Midland Railway Co. of Manitoba	18,461	31,709	50,170
Montreal and Atlantic	133,352	789,542	922,894
Montreal and Province Line	14,823	63,845	78,668
Montreal and Vermont Junction	6,532	740,586	747,118
Morrissey, Fernie and Michel	560,225	28,228	588,453
Maganetawan River	.....	12,429	12,429
Napierville Junction Ry.	2,255	53,774	56,029
Nelson and Fort Sheppard	30,678	7,846	38,524
New Brunswick Coal and Railway Co	52,419	2,441	54,860
New Brunswick & Prince Edward Island	32,206	7,656	39,862
New Brunswick South'n	26,944	445	27,389
New Westminster Southern	25,615	61,058	86,673
Nosbonsing & Nipissing	.....	.....	.....
Nova Scotia Steel and Coal Co	4,990	1,218	6,208
Orford Mountain	21,281	6,089	27,370
Ottawa and New York	24,007	71,407	95,414
Phillipsburg Railway & Quarry Co	3,604	2,240	5,844
Princeton Branch of Washington Co. Ry	.....	135,925	135,925
Pere Marquette Rd	269,585	1,579,691	1,849,276
Quebec Central	749,675	.....	749,675
Quebec & Lake St. John	260,862	84,596	345,458
Quebec Ry., Light and Power Co., Montmorency Division	104,678	6,210	110,888
Quebec, Montreal and Southern	35,440	438,701	474,141
Red Mountain	86,605	28,776	115,381
Rutland and Noyan	.....	336,180	336,180
Salisbury and Harvey	34,797	4,453	39,250
Scnomberg and Aurora	3,120	.....	3,120
Stanstead, Shefford and Chambly	12,721	751,803	764,524
St. Clair Tunnel	.....	.....	.....
St Lawrence and Adirondack	7,838	653,410	661,248
Sydney and Louisburg Dominion Coal Co.	3,447,413	111,979	3,559,392
Temiscouata	132,584	15,885	148,469
Temiskaming & Northern Ontario	273,796	161,134	434,930
Thousand Islands	30,171	.....	30,171
Toronto, Hamilton and Buffalo	126,023	1,055,700	1,181,723
Vancouver, Victoria and Eastern	720,200	151,922	872,122
Vancouver, Westminster and Yukon	.....	.....	.....
Victoria & Sidney, B. C.	.....	29,724	29,724
Victoria Terminal Railway and Ferry Co	29,724	.....	29,724
Wabash Railroad Company in Canada	1,200,915	.....	1,200,915
Wellington Colliery Co.	277,350	3,160	280,510
Wellington Colliery Co., (Ladysmith Extension)	483,347	.....	483,347
York and Carleton	8,149	2,179	10,328
Total	38,821,418	24,198,482	63,019,900

Quebec Transportation Club.—The annual meeting was held at Kent House, June 1, at the conclusion of which, the members were the guests, at dinner, of the Quebec Ry. Light and Power Co., and subsequently conveyed to the city by special cars. The club has accepted the R. and O. Nav. Co.'s invitation for a trip to Murray Bay, July 3, and on July 19 and 27, it will entertain Boston and Chicago railroad men respectively. The officers for the current year are: Hon. President, E. A. Evans, General Manager Q. Ry. L. and P. Co.; Hon. Vice Presidents, W. M. Macpherson, Dominion Line Steamships; E. O. Grundy, Quebec Central Ry.; President, F. S. Stocking, Quebec Central Ry.; Vice Presidents, J. A. Everall, Superintendent Montmorency Division, Q. Ry., L. and P. Co.; F. M. Spaidal, General Superintendent, C.N.Q.R. and Q. and L. St. J. Ry.; Hon. Secretary-Treasurer, A. H. Davis, C.P.R.

A. M. Nanton, Managing Director, Alberta Ry. and Irrigation Co., on the occasion of a recent visit of inspection, stated at Lethbridge, that the company was endeavoring to settle up the winter wheat land it owned. The company's policy, as it had been for years past, was to fill up its land with settlers.

The Canadian Society of Civil Engineers held its last meeting of the season at Montreal recently, when an address on "Some phases of the construction and design of the Manhattan Suspension Bridge" was delivered by J. C. Ostrup, Professor of Structural Engineering, Stevens Institute of Technology, Hoboken, N.J.

WISCONSIN STEEL CO., South Chicago, Ill. Three fast plants.

THE BROWN HOISTING MACHINERY CO.

Engineers, designers and builders of hoisting machinery of all descriptions. Write us stating your requirements and ask for catalogues.

Main Office and Works:

CLEVELAND, OHIO

Branch Offices:

PITTSBURG AND NEW YORK

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments.

Abitibi and Hudson's Bay Ry.—Under this title a company was incorporated by the Dominion Parliament in 1907, with power to construct a line of 200 miles from the National Transcontinental Ry. between Frederick House River and Abitibi Lake to James Bay between the Albany and Main Rivers, Ont. Nothing in the way of construction has been undertaken to date. (May, pg. 355.)

Alberta and British Columbia Ry.—The Dominion Parliament in 1908 incorporated a company with this title to construct a line from the International boundary at Kootenay River to Elko, thence to Cowley and Calgary, Alta., about 200 miles. Construction work has not yet been taken in hand. (Sept., 1908, pg. 613.)

Alberta and Brazeau River Ry.—The Dominion Parliament incorporated a company with this title in 1908 for the purpose of constructing a line from the Calgary and Edmonton branch of the C.P.R., between Olds and Innisfail, to Rocky Mountain House, thence westerly to Kootenay Plains, on the Rocky Mountains; and from between Big Horn and Sheep Rivers, north of the Saskatchewan River, to Brazeau River, thence along McLeod River to the G.T.P.R. The mileage authorized is 250 miles, but as yet there has been nothing done in the way of construction. (April, 1908, pg. 253.)

Alberta Central Ry.—This company was incorporated by the Dominion Parliament in 1901 to construct a railway from tp. 38, r. 23, 4th mer., Alta., to Red Deer, thence westerly to tp. 39, r. 7, w. 5th mer., 100 miles. The company was granted extensions of time for construction in 1903, 1905 and 1907. (May, pg. 355.)

The Alberta Ry. and Irrigation Co. was incorporated in 1904 by the Dominion Parliament to take over the Alberta Ry. and Coal Co. and the St. Mary's Valley Ry., together with the allied land and irrigation interests. The A. Ry. and Coal Co. was incorporated in 1889 to construct a line from Lethbridge to the International boundary to connect with the Montana railway system, and in 1892 it obtained power to extend through the Crow's Nest Pass to Hope, B.C. The total mileage authorized was about 700 miles, and of this there has been constructed, from Lethbridge to Coutts, Alta., 66.72 miles, and from Dunmore to Lethbridge, 107 miles. This latter line was in 1893 sold to the C.P.R.

The St. Mary's River Ry. was incorporated in 1900 to construct lines aggregating 65 miles from between Stirling and Lethbridge, Alta., to the International boundary, between r. 24 and 30, w. 4th mer., with branch lines not exceeding 15 miles each. The company constructed a line from Stirling to Cardston, 47 miles, and was subsequently amalgamated with the Alberta Ry. and Irrigation Co. In the return respecting railway charters granted 1888 to 1908, recently presented to the Dominion Parliament, the charter is classed as lapsed, and it is stated that 65 miles of line has been constructed. This is undoubtedly an error, as the A. R. and I. Co. only operates 111.82 miles of line, of which 66.72 miles were constructed by the Alberta Ry. and Coal Co., and about 47 by the St. M. R. Ry. (Aug., 1908, pg. 547.)

The question of the extension of the company's Kimball branch railway was discussed at Cardston, Alta., June 3, by officers of the company and the Town Council. At a meeting in the neighborhood recently it was stated that the branch would be standard gauge, but that the track would not be extended beyond the field of J. W. Woolf this season.

Algoma Central and Hudson's Bay Ry.—The incorporation of this company by the Dominion Parliament took place in 1899, and it obtained additional powers in 1901. In 1905 and 1907 the time within which its authorized lines might be constructed was extended. The lines authorized extend from Sault St. Marie to Dalton station on the C.P.R., to Michipicoten Harbor and to James Bay, not further north than Equam River, 600 miles. There has been constructed 91.57 miles as follows:—From Sault Ste. Marie towards C.P.R., 64.25 miles; from Michipicoten to Helen Mines, 12 miles; from Josephine Jct. to Josephine mines, 10.50 miles; from Trout Lake to Arveres, 2.00 miles; from mileage 20 to Maple camp, 1.00 mile, and from Lake Wilde to Breiting mine, 2.00 miles. (June, pg. 413.)

Algoma Copper Range Ry.—The Dominion Parliament in 1905 incorporated a company with this title to construct a railway from Batchewana Bay on Lake Superior to the Superior Copper Mines, thence easterly about 120 miles to the C.P.R. transcontinental line between Cartier and Biscotasing, Ont., 150 miles. No construction work has been undertaken by the company to date. (April, 1905, pg. 143.)

Alsek and Yukon Ry.—In 1907 the Dominion Parliament incorporated a company with this title with power to construct a railway of about 300 miles from the International boundary at the crossing of the Klihini River, northwesterly along the valleys of the Klihini, Patsenshini, Shakwak and Alsek rivers, thence along Kluane Lake, Darjek and White rivers to the International boundary between the 62nd and the 64th parallels of latitude. Nothing in the way of construction has as yet been undertaken. (May, pg. 355.) See also White Horse and Alsek Ry.

Anthracite Coal Ry. Co.—The Dominion Parliament in 1905 incorporated a company with this title with power to construct a railway from the coal deposits in tps. 18 and 19, r. 7 and 8, w. 5th mer., to Lethbridge, Alta., 120 miles. No construction has been undertaken by the company to date. (June, 1905, pg. 241.)

Ashcroft, Barkerville and Fort George Ry.—The Dominion Parliament in 1906 incorporated a company with this title to construct a line from Ashcroft or Kamloops, B.C., to Fort George, with a branch from Quesnel to Barkerville. The length of the line authorized is 300 miles. An extension of time for construction was granted in 1908, but up to date there has not been any construction. (Mar., 1908, pg. 179.)

Athabaska Northern Ry.—The Dominion Parliament in 1905 incorporated a company with this title for the purpose of constructing a line of 100 miles from Edmonton to Athabasca Landing, Alta., and in 1907 an extension of time for construction was granted. No construction has been undertaken to date. (Jan., pg. 17.)

Athabaska Ry.—The Dominion Parliament in 1905 incorporated a company with this title to construct a railway of about 300 miles, from Edmonton along the north side of the North Saskatchewan River to tp. 59, r. 19, w. 4th mer., thence by the Northwest end of Smoky Lake to the west end of Lake Labiche, thence to the Athabaska River at the junction with the Clearwater River. An extension of time for construction was granted in 1907, but up to date nothing in the way of construction has been done. (May, pg. 355.)

Atlantic and Lake Superior Ry.—This company was incorporated by the Dominion Parliament in 1893 to construct a railway from Gaspe Bay, Que., to St. Marys River, Ont. about 1,200 miles. It took over the Baie des Chaleurs Ry. and proposed to take over some other short lines, but its project was never carried out. The receiver for the bondholders continued the operation of the B. des C. Ry. and completed it for 100 miles. The affairs of the company have been before the courts at various times ever since, and are only just about straightened out. The Atlantic, Quebec and Western Ry. was subsequently incorporated, with power to take over the line, and it is now completing the construction into Gaspe. (See Atlantic, Quebec and Western Ry., June, pg. 413.)

Battleford and Lake Lenore Ry.—A company with this title was incorporated by the Dominion Parliament in 1902, to construct a line from Hobbema station on the Calgary and Edmonton branch of the C.P.R., easterly to Lake Lenore, thence to the Canadian Northern Ry. near Crooked River, with a branch from tp. 40, or 41, r. 24, w. 2nd mer., to Yorkton, Sask. The length of the lines authorized is 600 miles, but no construction has been done. An extension of time for construction was granted in 1905. (Feb., 1905, pg. 45.)

Bessemer and Barry's Bay Ry.—The Dominion Parliament in 1904 incorporated a company with this title with power to construct a railway from L'Amable station on the Central Ontario Ry. to Barry's Bay, Ont., 40 miles. The company has constructed a line of about 5 miles from L'Amable station to its iron mine. (Mar., 1908, pg. 179.)

Boundary, Kamloops and Cariboo Central Ry.—In 1904 the Dominion Parliament incorporated a company with this title for the purpose of constructing a line from Midway, B.C., to Kamloops, thence via North Thompson River to the Nechaco River, thence to Hazleton, to Teslin Lake, and on to the confluence of the Hootalinqua River with the Yukon River, about 1,600 miles. Extensions of time for construction were granted in 1906 and 1908, but no work has yet been undertaken. (Mar., 1908, pg. 179.)

Brantford and Woodstock Ry.—In 1905 the Dominion Parliament incorporated a company with this title to construct a railway of 30 miles connecting Brantford and Woodstock, Ont. No construction has been undertaken to date. (Mar., 1905, pg. 89.)

British Yukon Ry.—This title was given by an act passed in 1900 to the British Yukon Mining, Trading and Transportation Co., incorporated by the Dominion

LOCOMOTIVES FOR ALL CLASSES OF SERVICE

Consolidation Type Freight Locomotive, Built for Eastern British Columbia Railway.

Total weight of engine in working order, 186,310 pounds. Weight on driving wheels, 166,100 pounds. Diameter of driving wheels, 51 inches. Boiler pressure, 210 pounds. Cylinders, 20 x 28 inches. Maximum tractive power, 39.200 pounds.

ATLANTIC STEAM SHOVEL

Direct wire rope hoist with but one sheave, instead of chain hoist with from five to seven sheaves, reduces delays and loss of time due to breakdowns, increases the efficiency of the engines, and reduces repair bills as well as fuel consumption.

Finished, interchangeable spare parts always on hand at works.

MONTREAL LOCOMOTIVE WORKS, LIMITED

BANK OF OTTAWA BUILDING, MONTREAL, CANADA

Parliament in 1897. This act authorized the construction of a railway from the head of Lynn Canal through the White Pass to Selkirk, 300 miles. Of this there has been constructed 90.32 miles, viz.: White Pass to White Horse spur, and a branch to White Horse, Yukon Territory, In Alaska the line extends from White Pass to Skagway, and from White Horse a line of steamers is operated during the season of navigation to Dawson, a stage route being operated during the winter. The whole is operated as the White Pass and Yukon Ry. (See White Pass and Yukon Ry., May, 1908, pg. 335.)

Brockville, Westport and North Western Ry.—A company with this title was incorporated by the Dominion Parliament in 1903, with the object of acquiring the 45 miles of railway constructed by the Brockville, Westport and Sault Ste. Marie Ry., and to extend the same from Westport to Sault Ste. Marie, and to North Bay, with a branch to Barry's Bay or other point on the Canada Atlantic Ry. The 45 miles constructed extends from Brockville to Westport, Ont., and the company has not undertaken any construction upon the other 500 miles of its projected line, but it obtained extensions of time for its construction in 1905, 1907 and at the recent session of the Dominion Parliament. (Mar., pg. 171.)

Bruce Mines and Algoma Ry.—A press despatch from Boston, Mass., June 15, stated that plans had been completed under which a syndicate of Boston and New York capitalists would take over this line, and extend it from its present terminus at the Rock Lake Copper Mines, Ont., to the timber limits to the north. The company has a charter to construct a line to the C.P.R. and northerly towards Hudson Bay. The portion already built has not been operated for some years. (Sept., 1908, pg. 613.)

Burks Falls and French River Ry.—The Dominion Parliament in 1906 incorporated a company with this title to construct a railway from Burks Falls to French River, where that river is crossed by the C.P.R. Toronto-Sudbury line. Up to date nothing has been done. (See Burks Falls Ry., May, pg. 355.)

Burrard, Westminster and Boundary Ry. and Navigation Co.—This company was incorporated by the Dominion Parliament in 1907 to construct a belt line of about 100 miles from Vancouver, through New Westminster, Port Moody, etc., to the starting point; and from a proposed bridge at the Second Narrows to the north boundary of North Vancouver, thence to the North Arm and Howe Sound, with branches. Nothing in the way of construction has been undertaken to date. (Mar., pg. 355.)

Calgary, Red Deer and Battleford Ry.—The Dominion Parliament in 1905 incorporated a company with this title, having power to construct a railway of 300 miles from Calgary, Alta., to Battleford, Sask. The company has not done any construction to date. (Mar., 1905, pg. 89.)

Calgary and Fernie Ry.—The Dominion Parliament incorporated a company with this title to construct a railway of 150 miles from Calgary, Alta., through Kananaskis Pass to Elk River and Fernie, B.C. An extension of time for construction was granted in 1908, but nothing has been done. (Mar., 1908, pg. 179.)

Calgary and Battleford Ry.—The Dominion Parliament in 1905 authorized the construction of a line from Calgary, Alta., to Battleford and Prince Albert, Sask., about 450 miles. The company has not proceeded with any construction to date. (Mar., 1905, pg. 89.)

Canada Central Ry.—The Dominion Parliament in 1902 incorporated a company with this title, with power to construct a railway of about 2,500 miles as follows: From the mouth of French River on Georgian Bay, Ont., to Lake Wanapitei, thence to the headquarters of Montreal River, and northwesterly to Albany River, thence to points not less than 50 miles north of Prince Albert and Edmonton, and to Tete Jaune Cache; with a branch to Port Arthur and Fort William, Ont. The company obtained extensions of time for construction in 1903, 1905, 1906 and 1907, but no work has been done. (May, pg. 355.)

Canso and Louisburg Ry.—An act was passed in 1892 by the Dominion Parliament authorizing the construction of a railway from the Strait of Canso via St. Peters to Louisburg and Sydney, N.S., 120 miles. No construction has been done by this company, but under the title of the Cape Breton Ry., a company chartered by the Nova Scotia Legislature, 31 miles of line have been constructed to St. Peters. (See Cape Breton Ry., Sept., 1908, pg. 615.)

Central Ry. of Canada.—The Dominion Parliament incorporated a company with the title of the Ottawa River Ry., power being given to construct a railway from Grenville on the Ottawa River to Montreal, with various branch lines, including one to Hawkesbury, Ont. An extension of time for construction was granted in 1904, and again in 1905, when the name of the company was changed to the Central Ry. of Canada. Under acts passed by the Ontario Legislature the company has secured power to construct a large number of lines throughout the old portion of the province. No construction has been done under either of the charters. (Sept., 1908, pg. 615.)

Chicago and North-Western Ry.—U.S. press reports state that this company is making active preparations for the construction of a line to reach the Pacific Coast at Seattle, Wash., and Vancouver, B.C.

The Chicago, Milwaukee and St. Paul Ry., it is reported, has decided to start at once the construction of a system of branch lines west of the Missouri River, in North and South Dakota, in connection with its main line now under construction to the Pacific Coast. The lines to the south, which have been located, will be started first, and surveys for the northern lines are said to be in progress. (June, pg. 413.)

Cobalt Range Ry.—The Dominion Parliament in 1906 incorporated a company with this title to construct a railway from Haileybury, Ont., to Lorraine tp., opposite Fort Temiskaming on the Ottawa River, and from Fort Temiskaming to Ville Marie and Kippewa, Que., on the Temiscamingue Colonization Ry. (C.P.R. Mattawa-Kippewa branch), about 70 miles, with power to operate a car ferry across the river at Fort Temiskaming, Que. The company has not yet arrived at the construction stage. (Feb., pg. 101.)

Collingwood Southern Ry.—The Dominion Parliament in 1907 incorporated a company with this title to construct a line from Collingwood southerly to Baxter on the C.P.R. Toronto-Sudbury line, and from Collingwood to Orillia, Ont. The lines to be constructed are about 75 miles, but nothing in the way of construction has yet been arranged. (May, pg. 355.)

Detroit River Tunnel.—We are advised that construction work on the double tunnel under the Detroit River, to connect Windsor, Ont., and Detroit, Mich., is progressing satisfactorily. The tunnel approach sections on both sides of the river are expected to be completed towards the end of July. The open cut work, both in Windsor and Detroit, has been almost completed. At the beginning of June two sections of the sub-aqueous construction had to be got in place, and this work, in addition to building in the interior lining, was expected to take from four to six months. It is anticipated that if the work proceeds as satisfactorily as at present, and there are no accidents, the tunnel will be completed and ready for operation early in 1910. (May, pg. 413.)

Dominion Central Ry.—An act was passed by the Dominion Parliament incorporating a company with the title of the Kingston and Dominion Central Ry., with power to construct a railway of about 240 miles from Kingston, via Newboro and Westport, to Georgian Bay between Parry Sound and Midland, Ont. The name of the company was changed to Dominion Central Ry. in 1905, when, and in 1907, extensions of time were granted for construction. Up to date no construction has been taken in hand. (Dec., 1906, pg. 611.)

Eastern Townships Ry.—This company was incorporated by the Dominion Parliament in 1907, with power to construct a railway from the Intercolonial Ry. in St. Leonard parish to the junction of the Quebec Central Ry. and the Maine Central Rd., in Wolfe county, Que., about 75 miles. Nothing in the way of construction has yet been done. (Sept., 1908, pg. 615.)

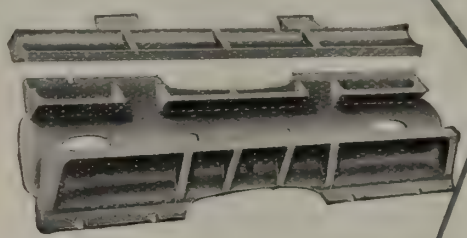
Edmonton, Dunvegan and British Columbia Ry.—The Dominion Parliament in 1907 incorporated a company with this title to construct a railway from Edmonton, Alta., to Dunvegan, thence along Peace River to its confluence with Parsnip River, to Fort George, B.C. The line authorized is 650 miles. An extension of time for construction was granted in 1908, but so far nothing in the way of construction has been done. (Mar., 1908, pg. 181.)

Elgin and Havelock Ry.—A company with this title was incorporated by the Dominion Parliament in 1894 to acquire the Elgin, Petitcodiac and Havelock Ry. (constructed under an act of the New Brunswick Legislature), and to extend it from Havelock to Chipman, and to construct a line from a point on the said line to Salisbury or Moncton, and from Elgin to Alma. The mileage authorized was 100 miles, and of this 28 miles have been constructed from Elgin, crossing the I.C.R. at Petitcodiac Jct., to Havelock, and from Havelock to Keith's Mills.

Erie, London and Tillsonburg Ry.—A company with this title was incorporated by the Dominion Parliament in 1906, with power to construct a railway from Port Burwell to London, with a branch from between Port Burwell and Aylmer to Tillsonburg, Ont. The mileage authorized is 50 miles; an extension of time

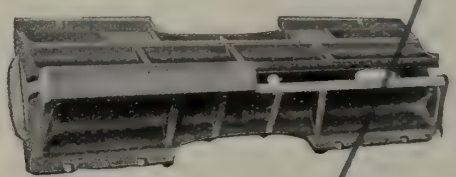
Have You Seen Williams Boltless Rail Joint?

The joint was first put in trial service on the Pecos River line of the Santa Fe at Roswell, N. Mex., where it remained for 11 months, and when removed at the end of that time it showed neither corrosion nor bright spots indicating wear. These joints have been in service for 10 months on the Fort Wayne division of the Pennsylvania Lines West, for 9 months in the yards of the St. Paul Union Depot Co., and for 8 months on the Wisconsin division of the Chicago & North Western Ry. in Chicago, where they are carrying the heavy North Shore suburban traffic of the road, as well as the through traffic for



the Wisconsin & Milwaukee division, which amounts to 316 trains every 24 hours.

The joints are made of malleable iron and have on the bottom a series of transverse ribs for strength, the outer ones of which come against the tie and prevent longitudinal movement. To prevent rail creeping, there is a round hole through the joint midway of the outer side, in which a 1-in. round bolt is inserted, the rail flanges being cut away at the adjacent cor-



ners the slight amount necessary to permit the insertion of the bolt. The joints weigh the same as a yard of the rail to which applied; the joint for an 80-lb. rail, for example, weighing 80 lbs.

"I want to ride on a railroad equipped with the W.B.R.J. and the 20th Century Steel Ties."

We also Solicit Earnest investigation of

THE 20th CENTURY STEEL TIE

WILLIAMS BOLTLESS RAIL JOINT MANUFACTURING CO., INC.

503 Manhattan Bldg., CHICAGO, ILL.

for construction was granted in 1908, but up to date nothing has been done. (Mar., 1908, pg. 181.)

Essex Terminal Ry.—The Dominion Parliament, 1902, incorporated a company with this title, authorizing the construction of a railway of 18 miles from Walkerville to Windsor, Sandwich and Amherstburg, Ont. In 1904 and 1906 the company was given extensions of time for construction. The company laid 2 miles of track in 1906. (Dec., 1908, pg. 865.)

Fording Valley Ry.—The Dominion Parliament in 1906 incorporated a company with this title to construct a line, including branches, of 175 miles, as follows: from the British Columbia Southern Ry. (C.P.R.) between Elk River and Michel Creek to the Fording River Valley, along Henrietta Creek to the Alberta boundary, and to Okotoks, and branch line up Five Mile Creek, and other points, not exceeding 15 miles each. The company has to date undertaken any construction. (Oct., 1906, pg. 583.)

Fort William Terminal and Bridge Co.—The Dominion Parliament in 1906 incorporated a company with this title with power to construct certain bridges and a railway around islands 1 and 2 at the mouth of the Kaministikwia River, Fort William, Ont. The line to be constructed is 5 miles. An extension of time for construction was granted in 1908, but up to the present time the company has not done any work. (May, 1908, pg. 329.)

Great West Ry.—In 1903 the Dominion Parliament incorporated a company with the title of the North West Coal and Coke Co., with power, among other things, to construct a railway from Bull Park on North Fork River to Cowley or Livingstone, Alta., on the C.P.R. Crow's Nest branch. In 1905 an act extending the time for construction and changing the name of the company to the Great West Ry. was passed. The company has not yet started any railway construction. (Mar., 1908, pg. 181.)

Guelph and Georgian Bay Ry.—This company was incorporated in 1903 by the Dominion Parliament, with authority to construct a line of about 150 miles from Guelph to Elora, connecting Elora, Fergus, Arthur and Mount Forest, Ont. An extension of time was obtained in 1905, but no construction has been undertaken to date. (May, 1905, pg. 93.)

Hillcrest Ry., Coal and Coke Co.—In 1906 the Dominion Parliament incorporated a company with this title to construct a line from Morrisey, B.C., to Hillcrest Jct., on the C.P.R. Crow's Nest branch, thence to Cardston, Alta., with branches from Mill Creek to Pincher Creek, and to the coal deposits in tp. 5, r. 1, w. 5th mer. The length of the lines authorized is 150 miles, and of this there has been constructed 1.5 miles, from Hillcrest Jct. to its mine, in Alta. (July, 1908, pg. 471.)

Hudson's Bay and Northwest Ry.—This title was given by an act passed in 1899 to a company originally incorporated by the Dominion Parliament in 1897 as the Hudson's Bay and Yukon Ry. and Navigation Co. The company has power to construct a railway about 1,000 miles long from Chesterfield Inlet on Hudson's Bay to Great Slave Lake, and from the Mackenzie River to the Porcupine or Yukon River. It obtained extensions of time for construction in 1899, 1902 and 1904, but so far no work has been done.

Hudson's Bay and Pacific Ry.—In 1896 the Dominion Parliament incorporated a company with this title to construct a line from Fort Churchill on Hudson's Bay to Fond du Lac on Lake Athabasca, from Fort Churchill to the north-west end of Lake Winnipeg, thence to Prince Albert, and Calgary, and from Manitou Lake to Edmonton, Alta., 1,800 miles. The time within which these lines might be constructed was extended in 1898, 1901, 1903, 1905 and 1909, but up to the present no definite construction work has been undertaken. (May, pg. 355.)

Indian River Ry.—The Dominion Parliament in 1902 incorporated a company with this title, authorizing the construction of a line of 20 miles from the north end of Lake Megantic to the international boundary at Riviere Morte, Que. An extension of time for construction was granted in 1907, but so far nothing has been done. (June, 1908, pg. 403.)

Intercolonial Ry.—Tenders are under consideration for the construction of a three stall engine house, turntable, ringwall with centre foundation, freight shed, loading platform, and for various alterations and additions to, and for the moving of the station at Loggieville, N.B. Loggieville is the terminal point of the extension of the old Canada Eastern Ry. from Chatham, where it crosses the I.C.R.

The newly appointed Government Railways Managing Board held its first meeting in Montreal, May 27, and subsequently made a visit of inspection over the I.C.R. and the P.E.I. Ry. The members were accompanied during their inspection by the chief officers of the lines and by the officials of the different divisions. The Minister of Railways recently announced that the headquarters of the Board would be in Montreal, where the regular meetings will be held. (June, pg. 413.)

Interprovincial and James Bay Ry.—The Dominion Parliament in 1901 incorporated a company with this title to construct a railway from Lumsden's Mill on the C.P.R. Kippewa branch to Des Quinze River. Extensions of time for construction were granted in 1903 and 1905, but no construction work has been undertaken to the present time. (June, 1908, pg. 399.)

Joliette and Lake Manuan Colonization Ry.—The line which this company was authorized to construct by its act of incorporation passed by the Dominion Parliament in 1903 was to be 140 miles long, to extend from Joliette to Ste. Emelie de l'Energie, to St. Michel des Saints and Lake Manuan, Que. No construction has been undertaken, and although it was reported to the House of Commons in the list of charters granted 1888-1908 as having lapsed, Parliament at the last session passed an act giving the company an extension of time for construction. (Feb., pg. 103, and June, 1908, pg. 403.)

Kamloops and Yellow Head Pass Ry.—This company was incorporated by the Dominion Parliament in 1906 to construct a railway from Kamloops, B.C., to Tete Jaune Cache, via the North Thompson River, Canoe River valleys and McLellan's Creek. The line authorized is 230 miles long, but up to date no construction has been undertaken. (Mar., 1908, pg. 181.)

Kettle Valley Lines.—The Dominion Parliament in 1901 incorporated a company with the title of the Kettle River Valley Ry., with power to construct a line from the International boundary near Cascade City westerly to Carson City, with a branch from Grand Forks 50 miles up the North Fork of the Kettle River; also from Grand Forks via Greenwood to the International boundary at Midway; in 1904 it was granted an extension of time for construction, and in 1906, in addition to being granted a further extension of time, it was given authority to extend its line from Midway to Hedley, from Hedley northerly for 20 miles, and from the Midway-Hedley line to Penticton. The total length of lines authorized is 200 miles, and of this distance there has been constructed about 16 miles, viz.: from the International boundary to Grand Forks, B.C., 3.86 miles, and the remaining mileage from Grand Forks up the North Fork of the Kettle River. Of this the 3.86 miles only has been operated in connection with the company's line to Republic, Wash. (April, pg. 247.)

Klondike Mines Ry.—The Dominion Parliament in 1899 incorporated a company with this title to construct a railway from Klondike City to Bonanza Creek, to the Divide, Dominion Creek, Indian Creek and Dawson City, with branches on Klondike River, Hunker Creek, Bean Creek, Quartz, Sulphur, Eldorado and other creeks, 120 miles. Extensions of time and variation of powers were obtained in 1901, 1902, 1903 and 1907. The company has completed the construction of 32 miles from Klondike City towards Stewart River. (Sept., 1907, pg. 663.)

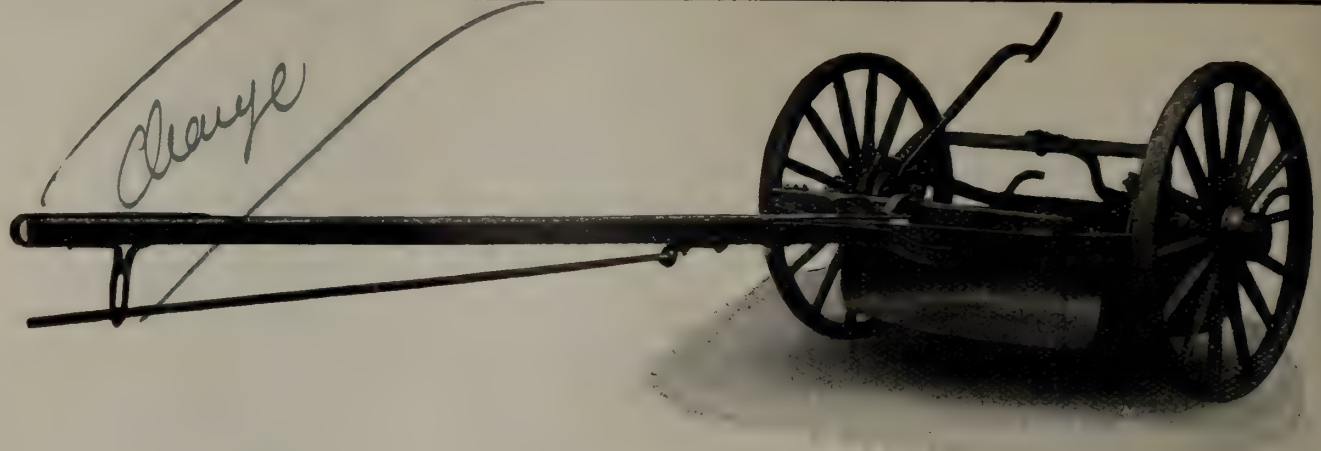
Kootenay, Cariboo and Pacific Ry.—This company was incorporated by the Dominion Parliament in 1903, and was given an extension of time for construction in 1905. The line authorized to be constructed is to start at Golden, B.C., and to extend to Tete Jaune Cache, Barkerville and Fort George, altogether 400 miles. No construction work has been undertaken to date. (Feb., 1905, pg. 49.)

Lebonk and Thunder Bay Ry.—The Dominion Parliament in 1905 incorporated a company with this title to construct a railway from Thunder Bay, following the Blende River, to Lebonk mine, on lot 1, Merrick's survey, in McTavish tp., and westerly to Loon Lake, Ont. Nothing in the way of construction has been done. (April, 1905, pg. 145.)

London and Port Stanley Ry.—A proposition has been made to the London, Ont., City Council, for the electrification of the L. and P.S.R. The Mayor said he had been informed that there was a possibility that the transmission lines between London and St. Thomas would run along the L. and P.S.R. right of way, but nothing official had come to his knowledge. The electrification of the line was a big problem, and it would be some years yet before the city could handle it.

London and St. Clair Ry.—The Dominion Parliament in 1905 incorporated a company with this title to construct a railway of 70 miles from the Ontario and Quebec Ry. (C.P.R.) between London and Komoka to the St. Clair River between Sarnia and Lake St. Clair. An extension of time for construction was granted in 1907, but up to date nothing has been done. (Nov., 1906, pg. 641.)

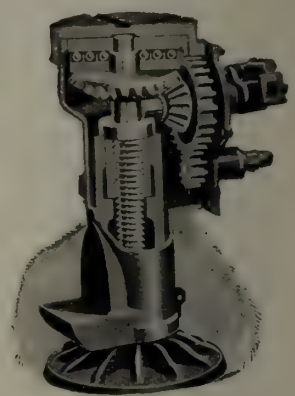
Macleod, Cardston and Montana Ry.—A company with this title was incorpor-



Wheel Scrapers Pressed or Square Bowl, with Sandproof Wood or Iron Hubs, also Drag Scrapers of all sizes and weights.

Diving Apparatus. Complete Outfits and Accessories in stock.

Sterling Roller Bearing Barrows and Concrete Carts.



Norton Ball Bearing Jacks. Also Cone Bearing and Ratchet.

Railroad Ploughs for Heavy Service

Write for Catalogue and Prices

MUSSENS LIMITED

Head Office,

MONTREAL

Branches { ***Toronto, 73 Victoria St.***
Cobalt, Hunter Block
Winnipeg, 259-261 Stanley St.
Vancouver, 614 Hastings St., W.

ated by the Dominion Parliament in 1903, to construct a line of 100 miles from Macleod via Cardston to the International boundary west of range 21, with a branch from between Macleod and Cardston to tp. 1, r. 30, w. 5th mer. Extensions of time were granted in 1905 and 1908, but up to the present time no contruction work has been undertaken. (Sept., 1908, pg. 617.)

Malone and Hopkins Point Ry.—The Dominion Parliament in 1907 incorporated a company with this title to construct a line from Dundee to Hopkins Point, Huntingdon Co., Que. Construction of the line has not been taken in hand to date. (Mar., 1907, pg. 161.)

Manitoba and Keewatin Ry.—By its act of incorporation, passed by the Dominion Parliament in 1902, this company was authorized to construct 1,200 miles of line located as follows: from Winnipeg or Selkirk to the west coast of Hudson's Bay or James Bay at the mouth of the Severn River, and a branch from the main line west of Cat Lake to the C.P.R. transcontinental line at Ignace or Black River, Ont. Extensions of time for construction were granted in 1904 and 1906, but so far no construction has been undertaken. (Feb., 1906, pg. 63, and Feb., 1905, pg. 49.)

Manitoulin and North Shore Ry.—This railway company was incorporated by the Dominion Parliament in 1900, to construct a line from Little Current on Manitoulin Island northerly and easterly 100 miles, crossing the C.P.R. Sault Ste. Marie branch at Onaping or Cartier, with a branch from the line in Drury of Hyman tp. to Sudbury; also a line from Little Current to the southern shore of Manitoulin Island, and from Tobermorey in Bruce County through Wiarton and Owen Sound to Meaford, Ont., with power to operate car ferries between Tobermorey and Manitoulin Island. The length of the line authorized was 250 miles, and there has been constructed about 16 miles in three sections connecting Sudbury with the Gertrude mines, 13.50 miles; Spanish River with the C.P.R. at Stanley Jct., 1.50 miles; and the Elsie mines with the main line, 1.00 mile. The line is owned by the Lake Superior Corporation, along with the Algoma Central and Hudson Bay Ry., and the section to Spanish River is operated by the C.P.R. Extensions of time for construction were granted in 1901, 1903, 1905, 1906, 1907 and 1908, together with powers respecting agreements with other companies. The more important legislation with regard to construction, however, has been passed by the Ontario Legislature particularly at its last session. (June, pg. 413.)

Medicine Hat and Northern Alberta Ry.—This company was incorporated by the Dominion Parliament in 1902, and was given extensions of time for construction in 1903 and 1905. It has power to construct a line from Medicine Hat to the North Saskatchewan River at Victoria, Northern Alberta. The length of the line authorized is 350 miles, but no construction work has been done to date. (Feb., 1905, pg. 49.)

Montreal Bridge and Terminal Co.—A company was incorporated by the Dominion Parliament in 1890 to construct a bridge and approaches over the St. Lawrence River and lines to connect with other lines in Montreal, a total length of 5 miles. The time for construction was extended in 1897 and 1905, and the title of the company has been changed from the Montreal Bridge Co. to the present one. (June, pg. 415.)

Montreal, Quebec and Southern Ry.—A company with this title was incorporated by the Dominion Parliament in 1905, with power to construct a railway of 25 miles from St. Guillaume station on the Montreal and Atlantic Ry. (C.P.R.) to Sorel, Que. Nothing in the way of construction has been undertaken to date. (Feb., 1905, pg. 49.)

Moose Jaw and Edmonton Ry.—The Dominion Parliament in 1905 incorporated a company with this title to construct a line from Moose Jaw to the elbow of the South Saskatchewan River, and thence to Edmonton, Alta., about 450 miles. Up to date the company has not proceeded with any construction. (Mar., 1905, pg. 93.)

New York Central Lines in Canada.—The N.Y.C. and Hudson River Ry. directly controls the Ottawa and New York Ry., extending from the St. Lawrence River near Cornwall to Ottawa, 56.90 miles; and owns jointly with the C.P.R. the Toronto, Hamilton and Buffalo Ry., 83.67 miles. Through its control of the Michigan Central Rd., it owns the Canada Southern Ry., 382.19 miles, and through its control of the Rutland Rd. it owns, leases or controls the Rutland and Noyan Ry., 3.39 miles; the St. Lawrence and Adirondack Ry., and its leased line the South Western Ry., 46.12 miles, a total of 572.27 miles.

A company with the title of the Rutland and Noyan Ry. was incorporated by the Dominion Parliament in 1899, with power to construct a line from the junction of the Canada Atlantic Ry. and the East Richelieu Valley Ry near Noyan, Que., to the International boundary. A line 5 miles long was authorized , and the line as constructed is 3.39 miles.

A company with the title of the St. Lawrence and Adirondack Ry. was incorporated by the Dominion Parliament in 1888, with power to construct a line from Salaberry de Valleyfield, Beauharnois Co., to Huntingdon, to reach the frontier of New York State, and to lease other lines. The mileage authorized was 78 miles, and of this there has been constructed 32.82 miles, viz., from the junction with the Canada Atlantic Ry. near Valleyfield to the International boundary, 19.22 miles; and from Beauharnois to a junction with the C.P.R. at Adirondack Jct., 12.90 miles. See South Western Ry. for additional information.

The Southwestern Ry. company was incorporated by the Dominion Parliament in 1888 to construct a railway from Caughnawaga to the Atlantic and Northwest bridge over the St. Lawrence, and to the International boundary near Dundee, Que. The company passed by lease under the control of the St. Lawrence and Adirondack Ry. in 1896.

Northern Empire Ry.—The Dominion Parliament in 1908 incorporated a company with this title, having for its object the construction of a railway, including branches, of 2,000 miles, located as follows: from the International boundary east of Cardston, Alta., in tp. 1, r. 20, 21, 22 or 23, w. 4th mer., through Lethbridge to Fort McMurray, thence northwesterly via Fort Vermillion, through Yukon Territory via Dawson City, to the boundary between Yukon and Alaska, with a branch from near Victoria, Alta., to Edmonton, Alta. Nothing in the way of construction has yet been undertaken. (April, 1908, pg. 245.)

Orford Mountain Ry.—The company has not reached any decision as to what, if any, construction will be done on its line during the summer. It has partially completed its extension from Mansonville, Que., to the International boundary, near North Troy, Vt., and has also in contemplation an extension from Windsor Mills to Bromptonville, Que., about 8 miles. The work is being done under the charge of R. K. Harris, Chief Engineer of the company, Eastman, Que. (Sept., 1908, pg. 619.)

Owen Sound and Meaford Ry.—A local company was incorporated in 1905 by the Dominion Parliament to construct a line of 20 miles to connect Owen Sound and Meaford, Ont. In 1908 an extension of time for the construction was granted, but up to the present time nothing has been done. The company was given definite power to undertake the work, in event of the failure of the Manitoulin and North Shore Ry. to construct this portion of its line by a certain date. Negotiations were also carried on with the G.T.R. to construct the line, but nothing has been done, and the latest development of the plans to ensure direct communication between these towns on the shore of the Georgian Bay is the proposal of an Owen Sound livery proprietor to run a motor bus at stated intervals daily. (April, pg. 249.)

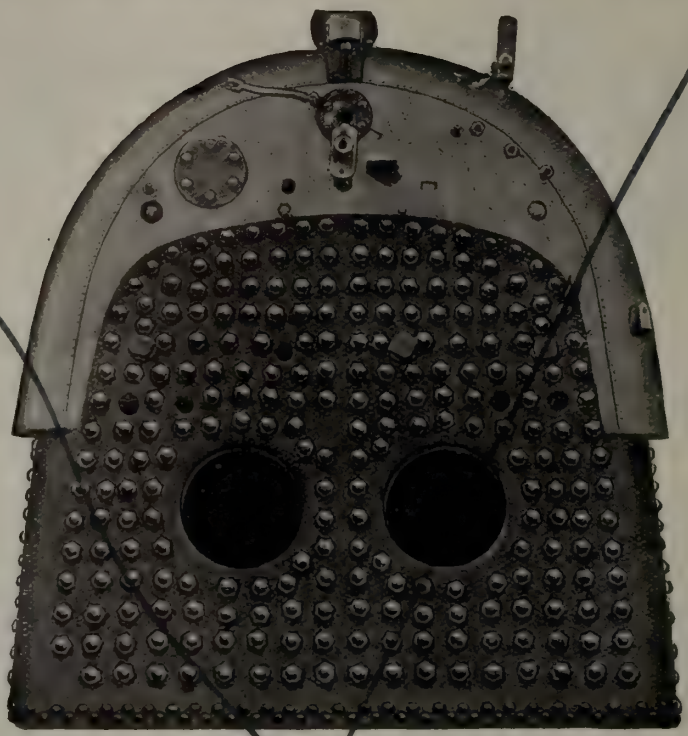
Pontiac and Renfrew Ry.—This company was incorporated by a Dominion charter in 1888, with power to construct a railway from between Braeside and Arnprior, Ont., to the Pontiac Pacific Jct. Ry., between Quyon and Smith's stations, and thence to Desert, Que., about 80 miles. It has constructed a line from Wyman's station on the Pontiac Pacific Jct. Ry. to the Bristol iron mines in Pontiac county, Que., 4.25 miles. The line has not been operated for some years. It was originally constructed by the Drummond interests of Montreal, and has recently passed into the hands of the Canada Iron Corporation, Ld.

Prince Albert and North Saskatchewan Ry.—This company was incorporated by the Dominion Parliament in 1906, with power to construct a railway of 230 miles from Prince Albert to Pas Mission, Sask. Nothing has been done to date in the way of construction. (Oct., 1906, pg. 585.)

Prince Edward Island Tunnel.—The question of the winter communication between P.E.I. and the mainland is brought forward in one form or another at every session of the Dominion Parliament. The advocates of a direct railway service believe that the construction of a tunnel is the only real solution of the questions, and the argument which they present is that the Government should have a thorough survey made so as to settle once and for all the feasibility of such a tunnel. A partial survey was made in 1895, and upon this the present Government made an estimate showing that a tunnel could be constructed for about $10,000,000, and it was thought if the tunnel would not cost more the province was entitled to it. A. L. Fraser, M.P., speaking in the House of Commons recently, said that 75% of the people on the island wished this matter to be settled one way or the other, and the only way to satisfy them would be to have a proper survey made and a report presented as to the cost of the tunnel.

TATE FLEXIBLE STAYBOLT

Recognized as the Standard of all Flexible Stays.



Over 2,000,000 Bolts in Service in the United States.

COMPLETE INSTALLATION

Rigidity of Firebox construction is unquestionably the main source of injury to the material make-up of the locomotive boiler. The heat absorbing surfaces must expand freely to enable each portion to accommodate the difference of expansion between the outer shell and firebox plates without producing strains detrimental to other portions of the structure.

The Tate Flexible Staybolt has been applied to several fireboxes covering the entire staybolt area, and over a service period of two years no expenditures have been made for maintenance and the complete assemblage was pronounced as good as when first installed.

The Tate Bolts were longitudinally adjusted in certain rigid localities to compensate for the difference of expansion between the outer shell and firebox.

The general use of the Tate Flexible Staybolt will eliminate staybolt breakage, and largely, if not entirely, fire sheet cracking, flue and seam leakage.

FLANNERY BOLT COMPANY

Suite 328 Frick Building **PITTSBURG, PA.** B. E. D. STAFFORD, Gen. Manager

——MADE AND SOLD IN CANADA BY——

CANADA FOUNDRY COMPANY, LIMITED

HEAD OFFICE AND WORKS, TORONTO, ONT.

DISTRICT OFFICES: Montreal, Halifax, Ottawa, Winnipeg, Vancouver, Rossland

If the cost would be out of proportion to what was expected the tunnel would not be asked for because the expenditure would not be justified. If these surveys were made and the estimates prepared the people would be satisfied, but until this was done they would be continually asking for a tunnel. They did not want anything unreasonable, but they wanted the terms of confederation carried out, and until this question of the feasibility of a tunnel is got out of the way they will feel that they could not have continuous communication with the mainland. No action was taken by Parliament, but the Ministers promised to keep the matter before them. (April, pg. 249.)

Quebec and Lake Huron Ry.—In 1900 the Dominion Parliament incorporated a company with this title to construct a railway of 500 miles from Quebec to the mouth of French River on Georgian Bay. The project was part of an ambitious plan with which W. Seward Webb, then President of the Rutland Rd., was interested, in connection with which local companies were chartered in Quebec, New Brunswick and Nova Scotia. The plans fell through, the only construction undertaken being the Cape Breton Ry. in Nova Scotia. The Q. and L. H. charter was renewed by the Dominion Parliament in 1904 and 1906, but beyond some preliminary surveys nothing has been done. (Feb., 1907, pg. 89.)

Quebec and New Brunswick Ry.—A company with this title was incorporated by the Dominion Parliament in 1900 to construct a railway from Connor station, Madawaska county, to St. Charles Jct. on the I.C.R., or St. Anselme on the Quebec Central Ry., or Chaudiere Jct., Que., and extensions of time were granted in 1903 and 1908. The length of the line authorized was 130 miles, but beyond some grading in 1902 near Connor nothing has been done. At the recent session of the Dominion Parliament an act was passed further extending the time for construction and varying the route, so that connection might be made with lines in the U.S. (Mar., pg. 175.)

Quebec Midland Ry.—A company with this title was incorporated in 1906 by the Dominion Parliament, for the purpose of construsting a railway of 140 miles from the boundary between Ontario and Quebec at Lake Abitibi to the west shore of Lake Mattagami, Que. The company has not yet reached the construction stage. (April, 1906, pg. 455.)

Quebec, Montreal and Southern Ry.—We are advised that beyond the completion of the extension from Pierreville to Fortierville, Que., which was opened for traffic in June, the company has not any further construction in hand. The Delaware and Hudson Co., which owns the Q., M. and S. Ry., has not yet authorized the carrying on of any further extension of the line, at present terminating at Fortierville, to the Quebec Bridge. (June, pg. 415.)

Quebec, Saguenay and St. Lawrence Ry.—A company was incorporated by the Dominion Parliament in 1903 with this title, having power to construct a line from the Bay of Seven Islands to the Saguenay River between Lake St. John and Tadousac, thence to Quebec, with branches to St. Alphonse, Murray Bay and St. Paul's Bay, about 450 miles. This charter is owned by the interests developing the pulp and power plant on the St. Anne's River, and the wharf, etc., at Clarke City, Seven Islands Bay, under the title of the North Shore Ry. Power and Navigation Co. This company has constructed a railway of about 9 miles from Clarke City to the falls of the St. Anne River. (April, 1906, pg. 195.)

Quinze and Blanche River Ry.—This company was incorporated by the Dominion Parliament in 1907, power being given to construct a railway from Dymont, Ont., on the T. and N. O. Ry. to Des Quinze Lake, Que., about 30 miles. and construction has been started near Quinze Rapids. (Mar., pg. 175, and Sept., 1908, pg. 619.)

Red Deer Valley Ry.—In 1899 the Dominion Parliament incorporated a company with this title to construct about 120 miles of railway, and extensions of time for its construction were granted in 1891, 1894, 1897, 1899, 1900, 1903 and 1905. The lines authorized were from Calgary northeasterly to the Red Deer River in tp. 32, r. 21, 4th mer., thence to tps. 30 to 32, r. 22; also from Cheadle station to a junction with the Calgary line in tp. 26, r. 25; with branches from the main line in tp. 24, r. 29, to between Sheppard and Calgary, and from the main line in tp. 29, r. 23, easterly to Red Deer River. No portion of these lines has yet been constructed.

Regina and Hudson's Bay Ry.—The Dominion Parliament in 1903 incorporated a company with this title, power being given to construct a line from the International boundary between the 2nd and 3rd principal meridian to Regina, thence northerly to Craven, Longlaketon, Strassburg, Carrot River and The Pas, with a branch from Craven to Big Quill Lake, a total of about 600 miles. The time for construction was extended in 1905, but up to the present nothing has been done. (Feb., 1905, pg. 51.)

Rocky Mountain Ry. and Coal Co.—The Dominion Parliament in 1891 incorporated a company with this title for the purpose of constructing a railway from Anthracite on the C.P.R. northerly to Cascade River, to the south forks of Red Deer River, and to Red Deer Forks coal mine, about 50 miles. Extensions of time for construction were granted in 1894 and 1903, but no construction has been undertaken.

Saskatchewan Valley and Hudson's Bay Ry.—In 1907 the Dominion Parliament incorporated a company with this title to construct the following lines of railway: from Edmonton, Alta., to Smoky Lake; from Prince Albert, Sask., to Pelican Lake and Fort Churchill; and from Smoky Lake to Ile a la Crosse Lake and Pelican Lake. These projected lines have a length of about 1,500 miles, but up to date nothing in the way of construction has been done. (Mar., pg. 175.)

Southern Central Pacific Ry.—A company with this title was incorporated by the Dominion Parliament in 1903, and was given power to construct a railway from Vancouver via Kootenay Pass to Old Man River, Alta., thence to Hudson's Bay not less than 100 miles north of Fort Churchill. In 1906 it was given an extension of time for construction, and was also authorized to construct a branch from its main line near Skaist River, B.C., via Kamloops and Yellow Head Pass through Alberta to Cold Lake on the main line. The length of lines authorized is estimated at 2,000 miles, but so far no construction has been undertaken. (May, pg. 357.)

St. Maurice Valley Ry.—In 1904 the Dominion Parliament incorporated a company with this title to construct a railway from Three Rivers to Shawinigan Falls and Grand Mere, Que., and thence to a junction with the National Transcontinental Ry., 250 miles. In 1905 an act was passed authorizing the company to enter into agreements with other companies. The company has constructed a line from Three Rivers to Grand Mere, 22 miles of which is operated by the C.P.R. (June, pg. 415.)

Temagami, Cobalt and Temiskaming Ry.—Under this title the Dominion Parliament in 1906 incorporated a company, with power to construct a railway of about 100 miles from Lake Temagami to the Quinze rapids of the Ottawa River, Ont. Nothing in the way of construction has been done. (May, 1906, pg. 255.)

Temiskaming and Northern Ontario Ry.—The Commissioners returned to Toronto, June 11, after a trip of inspection over the line. The chairman stated that a spur line will be constructed from Haileybury to the wharf, and another, the construction of which will be taken in hand at once, from New Liskeard station to the centre of the town. This latter spur will be extended to the government wharf as soon as the latter is built. The report upon the traffic prospects of the Elk Lake and Gowganda districts has been prepared by Engineer Cole, and the Chairman said the Commissioners are most favorable to the extension if the conditions warrant, and this will be demonstrated within the next three or four months.

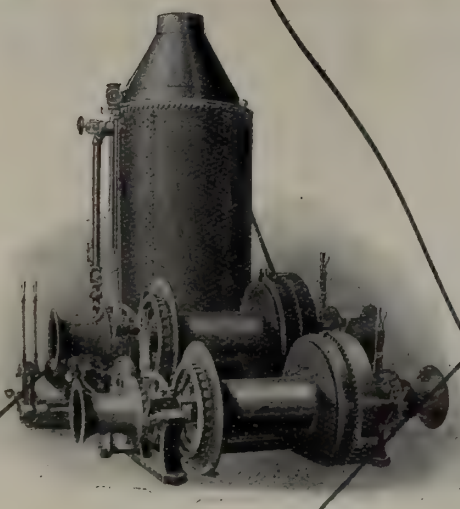
Reports from North Bay, June 15, state that the instrumental survey for the line from Charlton to Gowganda has been completed to about six miles from Gowganda, and that by the end of August, the location plans will have been completed. The total length of the line will be about 50 miles and the estimated cost is about $2,000,000.

It is proposed to set up a creosoting plant for the treatment of all bridge timber and ties. (June, pg. 415.)

Trans-Canadian Ry.—This company was incorporated by the Dominion Parliament in 1895 to construct a railway about 3,000 miles long from Quebec, passing north of Lake Winnipeg, through the Yellow Head Pass, to Port Essington, or Port Simpson, B.C. In 1902, 1904 and 1908 extensions of time for the construction of the line were granted. No definite construction has yet been undertaken. (Sept., 1908, pg. 621.)

Vancouver, Fraser Valley and Southern Ry.—The Dominion Parliament in 1906 incorporated a company with this title to construct a railway of about 100 miles from Vancouver to New Westminster, thence to the International boundary, and from New Westminster bridge to Chilliwack and Ladner's Landing, B.C. The company has not yet undertaken any construction. (May, pg. 359.)

Vancouver Island and Eastern Ry.—During the session of the Dominion Parliament of 1908 a company was incorporated with this title to construct a railway of about 900 miles from Victoria to Seymour Narrows and from Bute Inlet, B.C., to Edmonton, Alta., with power to operate a car ferry across the Narrows. The company has not yet arranged to



Hoisting Engines

WE CAN FURNISH HOISTS DESIGNED TO SUIT EVERY PURPOSE. OUR HOISTS GIVE THE MAXIMUM RESULTS AT A MINIMUM COST.

STEAM-BELT DRIVEN AND ELECTRIC HOISTS OF ALL CAPACITIES

"INDUSTRIAL" COALING AND LOCOMOTIVE CRANES

In Capacities from Five to One Hundred Tons

FOR USE ABOUT

Manufacturing Plants, Railroad Yards, Coaling Stations, Quarries, Etc.

F·H·Hopkins & Co Successors late James Cooper Montreal

THE ABOVE CUT ILLUSTRATES ONE OF OUR

50 TON "OTIS" ALL STEEL CARS

SPECIALLY BUILT FOR

COAL, COKE AND ORE

Our 1909 Design is an improvement on the above and an order for 500 cars has been placed by the Canadian Pacific Railway Company. Sample car can be inspected at Montreal.

THE HART-OTIS CAR CO., LIMITED

SUCCESSORS TO DOMINION DUMP CAR CO., LIMITED

MONTREAL

undertake any construction. (Sept., pg. 621.)

Vancouver, Westminster and Yukon Ry.—A company with this title was incorporated by the Dominion Parliament in 1901, with power to construct the following lines: from Vancouver to New Westminster; from Vancouver to Squamish Valley, to Lillooet, Quesnel and Hazleton or other point on the Skeena River, thence to Dawson and to the western boundary of the Yukon Territory, with branches easterly to Tete Jaune Cache and Edmonton, Alta. It was granted extensions of time for construction in 1905 and 1906. The lines authorized total about 2,000 miles, and there has been constructed the line from Vancouver to New Westminster, 14.81 miles, which has been sold to the Vancouver, Victoria and Eastern Ry. and Navigation Co., a line owned by the Great Northern Ry., U.S. So far as the remaining mileage authorized is concerned the charter is still operative. (June, pg. 417.)

Western Alberta Ry.—The Dominion Parliament in 1898 incorporated a company with this title to construct a railway about 350 miles long from the International boundary west of r. 20, 4th mer., to the Sarcee Indian reserve, through Canmore and Anthracite to the easterly base of the Rocky Mountains. In 1900, 1903, 1905 and 1908 the company obtained extensions of time for construction. Up to the present, however, nothing in the way of construction has been done. (June, 1908, pg. 407.)

White Horse and Alsek Ry.—The Dominion Parliament in 1904 incorporated a company with this title, with power to construct a railway from White Horse, Yukon Territory, to the International boundary on the west, 150 miles. An extension of time for construction was obtained in 1906, but up to date no contruction has been taken in hand. (See Alsek and Yukon Ry., Oct., 1908, pg. 711.)

Winnipeg and North Western Ry.—This is the title of a company incorporated by the Dominion Parliament in 1907, with power to construct about 1,800 miles of railway located as follows: from Winnipeg via Stonewall and Mossy Portage to Carrot River valley, thence westerly via Fort la Corne to the Lobstick River, with branches from Prince Albert to Battleford, Sask.; from Saddle Lake to Lake La Biche, Sask.; and from Fort Victoria to Athabaska Landing and to Edmonton, Alta. Nothing in the way of construction has yet been done. (May, pg. 359.)

The Toronto Board of Control has practically decided to recommend to the City Council, that a steel bridge be constructed over the G.T.R. and the C.P.R. on Dundas St. (Brockton bridges) to carry the street railway tracks. The present bridges, while not unsafe, require strengthening.

The Toronto, Hamilton and Buffalo Ry., recently advised the Hamilton, Ont., Council, that on June 15, it would comply with the Railway Commissioners' order to sound locomotive whistles when approaching crossings, unless a by-law was passed by the Council to relieve it of this obligation. It was decided not to pass such a by-law, but the company is to be asked to abate the alleged nuisance of ringing automatic bells on shunting locomotives when they are not in motion.

Telephones in Railway Stations.

D'Arcy Scott, Assistant Chief Railway Commissioner, has given judgment respecting the installation of telephones in railway stations, which, after modification, was concurred in by Chief Commissioner Mabee and Commissioner McLean, as follows:

The Board has heard applications from the Peoples' Telephone Co. and the Caledon Telephone Co. for an order to compel certain railway companies to permit telephone companies to install their instruments in a number of railway stations. Under sec. 245 of the Railway Act, the Board may grant such an order, and may impose such terms as it deems just and expedient, but in determining them, shall not take into consideration any contract giving exclusive or other privileges to any other telephone company by the railway company, with regard to the installation or maintenance in its stations of the instruments of such telephone company. The only points to be considered then are, whether such telephonic connection will be of public benefit, and if so, what terms should be imposed on the telephone company seeking the privilege. It will be a saving of time if the Board lays down certain general principles upon which it will act when such applications come before it. If the telephone company's instruments are in general use in the district surrounding the station in question, and it appears that the installation of a telephone in the station would be of substantial convenience to the public having business with the railway company, and would not be unduly oppressive or inconvenient to the railway company, then I think the Board should grant the application. As nearly all telephone companies in Canada are incorporated by provincial laws, and are consequently not under the Board's jurisdiction difficulty might be experienced in compelling such a company to comply with terms and conditions the Board might desire to impose, unless the company was bound to do so by contract. I, therefore, suggest that, where the Board is of the opinion that the application of a telephone company for an order to compel a railway company to permit the installation of a telephone in the station should be granted, that before any order is issued, the telephone company be asked to execute an agreement in the following, or like form, in which I have set out fair and reasonable conditions upon which such order should be granted:

This agreement made the —— day of —— in the year of Our Lord 19—, by and between hereinafter called the "Railway Company" of the first part, and hereinafter called the "Telephone Company" of the second part. Whereas, the telephone company is desirous of placing a telephone instrument in the station of the railway company at in the Province of . And whereas, the railway company is willing to permit the said telephone instrument to be placed in its said station upon the terms and conditions hereinafter stated. Witnesseth, that in consideration of the premises, it is hereby agreed by and between the parties hereto, as follows: 1. Upon the terms and conditions hereinafter stated, the railway company will permit the telephone company to install a telephone instrument in its said station, the telephone company to pay the railway company a rental of $1 per annum for the privilege, to be paid on the 1st day of Jan. in each year, during the continuance of this agreement.

2. The telephone instruments shall be placed and maintained at the said station without damage to the railway company's property, and entirely at the risk and expense of the telephone company, free from any rental or other charge to the railway company, and the telephone company will not seek to hold the railway company responsible for any damage to said instrument, no matter how such damage may occur.

3. The telephone company may erect and maintain such poles and wires on and across the lands of the railway company as may be necessary for the installation and operation of the said telephone instrument, provided that such poles shall be placed, and such wires strung, to the satisfaction, and under the supervision of a duly authorized official of the railway company, and at such places only as he shall designate.

4. The said telephone instrument shall be of the most modern and efficient type in use by the telephone company; it shall be a desk or wall instrument, whichever the railway company may desire; it shall be placed in such position in the said station as the railway company may indicate, and shall be connected by private wire with the central of the telephone company.

5. The railway company, its officials, agents, and employes, shall have service from, to, and through the said telephone instrument with local and rural subscribers, over the telephone lines of the telephone company, without charge therefor.

6. The telephone company may, with the approval of the Board of Railway Commissioners, remove its telephone instrument from the said station, and its poles and wires from the property of the railway company at any time upon giving the railway company 30 days' notice in writing of its intention so to do. All damage done to the property of the railway company in removing the said telephone instrument, poles, and wires, shall be repaired by, and at the expense of the telephone company.

7. This agreement shall terminate at any time upon the order of the Board of Railway Commissioners granted on the application of the railway company, or otherwise, and the telephone company will, at all times, carry out and obey any order of the said Board, with regard to the installation, maintenance, operation or removal, of the said telephone instrument, poles, or wires, and hereby submits itself, in so far as this contract is concerned, to the jurisdiction of the said Board.

In witness whereof the parties hereto have executed these presents.

Upon such an agreement being signed for each of the stations in which the telephone companies before us desire to install instruments, I think the order asked for should be issued. My suggestions in this matter, apply only to cases where one or two telephone companies desire to put their instruments in a railway station; if a third or more companies desire the privilege, a special application should be made to the Board, otherwise a railway company might be put to much inconvenience.

Location of Switch Stands.—The Board of Railway Commissioners' Secretary has issued the following circular:—"In view of the numerous accidents which have occurred, owing to the location of switch stands being too close to the track, the Board considers it advisable that railway companies subject to its jurisdiction, be required to remove all switch stands and other obstructions, to a distance 6 ft. clear of the main line; and in cases where high switch stands cannot be removed to this distance, they be replaced by a dwarf switch. The Board, therefore, proposes to issue a general order, requiring within a reasonable time, the removal of all such switch stands as above set out, or the replacing, by dwarf switches, as well as the removal of all other obstructions."

The G.T.R. put in force June 1, a reduced tariff of tolls for vehicles and other traffic over the Victoria Jubilee Bridge, Montreal.

The work of colonization in British Columbia is receiving much attention from the two railway companies principally interested. The C.P.R. is looking forward to the development of the Lillooet Valley as a tourist and health resort, and is planning an hotel there. The G.T. Pacific Ry. is arranging a campaign to attract settlers to the valleys in the interior of the northern portion of the Province.

"AMERICAN"
Locomotive Cranes

With or without Magnet for Storekeeper's yard.

Built for discriminating buyers.

Photographs of machines in operation furnished on application.

We also manufacure the "AMERICAN" Railroad Ditcher.

AMERICAN HOIST & DERRICK CO.

ST. PAUL, U.S.A.

CHICAGO NEW YORK PITTSBURG NEW ORLEANS

N CURRY, President
N. A. RHODES, Vice-President

CAPITAL $1,000,000

J. M. CURRY, Sec.-Treas

RHODES, CURRY & CO.

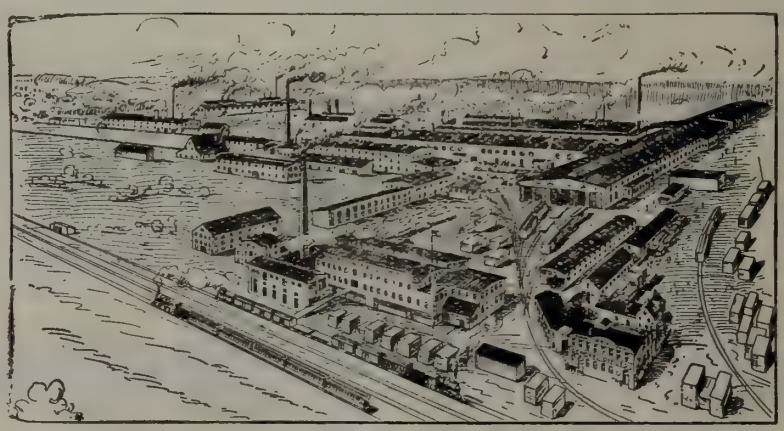
AMHERST, NOVA SCOTIA LIMITED

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels



Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this.

The dates given of orders, immediately following the numbers, are those on which the hearings took place and not those on which the orders were issued. In many cases orders are not issued for a considerable time after the date assigned to them.

7048. May 21.—Authorizing N. St.C. & T. Ry. to construct standard trestle.

7049 to 7053. May 21.—Authorizing G.T.P.R. to construct railway, at grade, across various highways in North Alberta.

7054. May 22.—Authorizing G.T.P.R. to take possession of a portion of the C.N.R. right of way, St. Boniface, Man.

7055. May 20.—Ordering that the Elgin & Havelock Ry. be restrained from collecting tolls, or fares, or from collecting money for service of any kind performed until a by-law authorizing the preparation and issue of tariffs of tolls has been approved by the Board.

7056. May 20.—Ordering that the Salisbury & Harvey Ry. be restrained from collecting any tolls, or fares, or from collecting money for service of any kind performed until a by-law authorizing the preparation and issue of tariffs of tolls has been approved by the Board.

7057. May 20.—Authorizing H. P. Leonard, Roblin, Man., to institute proceedings against the C.N.R. for failure to run its passenger trains on Feb. 1 between Dauphin, Man., and Humboldt, Sask.

7058. May 22.—Extending for one month from date of order time during which the C.N.R. may cross G.T.R. spur to Edward's mills, Rockland, Ont., for construction purposes.

7059. May 22.—Temporarily approving Bell Telephone Co.'s form of agreement with Belmont Telephone Co-operative Association, Colchester Northern Municipal Rural Telephone System, Lobo Telephone Co., and Zorra Telephone Association.

7060. May 25.—Authorizing Superior & Western Ontario Ry. to join G.T.P.R. tracks at Velora Jct., Ont.

7061 to 7065. May 21.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at 5 points in Hamilton and Peterboro, Ont., and St. Martins Jct., Que.

7066. May 22.—Authorizing C.P.R. to construct a branch line for W. A. McGowan, Durham, Ont.

7067. May 22.—Authorizing N. St. C. & T. Ry. to construct bridge over the Government raceway at St. Catharines, Ont.

7068. May 25.—Authorizing B.C. Telephone Co. to erect wires across E. & N. Ry. at Nanaimo, B.C.

7069 to 7072. May 19.—Dismissing Kettle River Valley Ry. applications for orders sanctioning the construction of a crossing under the V. V. & E. Ry. & Nav. Co's Granby spur on Columbia & Western Ry. right of way; a crossing under the C. & W. Ry.'s Granby spur, a connection with the C. & W. R., and a crossing of the C. & W. R.

7073. May 25.—Extending to Oct. 1, 1909, time within which interlocking plant between G.T.R. and C.P.R. and Ontario & Quebec Ry. east of Weston rd., West Toronto, Ont., is to be installed.

7074. May 26.—Approving Spokane & B.C. Ry. Standard Freight Tariff C.R.C. No. 6.

7075 to 7081. May 25.—Authorizing G.T.P.R. to construct railway across various highways in Saskatchewan and Alberta.

7082. May 25.—Authorizing the town of Barrie, Ont., to lay pipe under G.T.R. at Bayfield.

7083. May 19.—Dismissing complaint of Stark Brothers Co., Ltd., Toronto, Ont., complaining that Central Ontario Ry. rate of 7c. per 100 lbs. on a car of corn from Buxton to Bannockburn, Ont., is excessive.

7084. May 19.—Dismissing complaint of Downing's American Despatch, General Merchandise Forwarders, Montreal, against C.P.R. overcharge of the local rate from Fort William, Ont., to Winnipeg, Man., on a carload of liquor shipped from England. The judgment is given on another page.

7085. May 25.—Dismissing application of the Times Publishing Co. for order directing the C.P.Ry., the G.N.W. Telegraph Co. and the Western Union Telegraph Co. to transmit press messages to the Marconi Wireless Telegraph station, Glace Bay, N.S., at the same rate as charged to other points along the Atlantic Coast of Canada. The judgment is given on another page.

7086. May 19.—Dismissing complaint of C. E. Plain & Co., Ottawa, alleging excessive rates charged by C.P.R. on shipment of apples from Picton to Smith's Falls, Ont., as compared with the rate charged from Picton to Ottawa.

7087. May 18.—Rescinding orders 6167 and 6366, Feb. 4 and 22, respectively, directing express companies operating in Canada and subject to the Board's jurisdiction to classify for the transportation of acetylene gas when shipped under the so-called "safety storage system," as it appeared to the Board that it has no jurisdiction to make the said orders. The judgment is given in full on another page.

7088, May 25.—Amending order 6033, Jan. 13, calling for light to be placed at the M.C. Rd. crossing Erie Ave., Leamington, Ont., by providing that same be kept burning all night.

7089. May 27.—Rescinding order 5223, Aug. 26, 1908, authorizing G.T.R. by-law 28 by approving the same.

7090. May 26.—Authorizing Man. Government Telephones to erect wires across C.P.R. at Ash ave., Winnipeg Beach.

7091, 7092. May 27.—Authorizing B.C. Electric Ry. to erect electric light and power wires across C.P.R., Bute St., Vancouver, B.C.

7093. May 19.—Authorizing G.T.R. to make a refund to the British-American Oil Co., Toronto. This order is given in full on another page.

7094, 7095. May 27.—Authorizing Alberta Government to erect wires across C.P.R. at Hardisty Station and Bawlf, Alta.

7096. May 27.—Authorizing People's Telephone Co. to erect wires across G.T.R. at John St., Forest, Ont.

7097, 7098. May 27.—Authorizing Alberta Government to erect wires across C.P.R. at Chin and Claresholm, Alta.

7099. May 27.—Authorizing People's Telephone Co. to erect wires across G.T.R., 4th con. east of Forest, Ont.

7100. May 27.—Authorizing Western Counties Electric Co. to erect wires across G.T.R. at Elgin St. subway, Brantford, Ont.

7101. May 27.—Authorizing Bell Telephone Co. to erect wires across G.T.R. near Unionville station, Ont.

7102, 7103. May 28.—Approving location of the C.N.Q.R. freight shed at St. Tite, and freight shed and waiting room at Heronville, Que.

7104. May 28.—Rescinding order 7055, May 20, prohibiting Elgin & Havelock Ry. from collecting tolls until filing of by-law, by approving said by-law.

7105. May 28.—Approving location of the C.N.Q.R. proposed station and freight shed at Garneau Jct., Que.

7106. May 28.—Approving location of the Q.M. & S. Ry. station, Nicolet, Que.

7107. May 26.—Authorizing Brantford Gas Co. to lay pipe under the B. & H. Electric Ry., Alfred St., Brantford, Ont.

7108. May 27.—Authorizing Consumers' Gas Co., Toronto, to lay gas main under C.P.R., Osler St., Toronto.

7109. May 26.—Authorizing North Carievale Rural Telephone Co. to erect wires across C.P.R. at sec. 5, tp. 3, r. 31, and sec. 31, tp. 2, r. 31, west 1st meridian, Sask.

7110. May 26.—Authorizing Thunder Creek Rural Telephone Co. to erect wires across C.P.R. between secs. 35 and 36, tp. 2, r. 32, west 1st mer., Sask.

7111. May 28.—Authorizing C.P.R. to construct highway bridge at Le Jeune St., Three Rivers, Que.

7112. May 18.—Authorizing M.C. Rd. to cross with two additional tracks, Sandwich St., Windsor, Ont., and temporarily approving structure pending completion of permanent structure.

7113. May 29.—Authorizing Markdale village, Ont., to lay water main under C.P.R. on Main St.

7114. May 29.—Extending until Dec. 1, 1909, time within which to receive approval of proposed tariffs of tolls of Bell Telephone Co.

7115, 7116. May 29.—Temporarily approving until Dec. 1, 1909, the Canadian, Dominion, National and American Ex. Cos.' forms of contracts.

7117. May 29.—Extending until Dec. 1, 1909, time within which North American Telephone Co. may charge such tolls as it was authorized to charge immediately previous to July 13, 1906.

7118. May 29.—Extending until Dec. 1, 1909, time within which the United States and the Great Northern Ex. Cos. may continue to use contracts, by-laws, regulations, declarations, and notices, as provided in sec. 353 of the Railway Act.

7119. May 29.—Extending until Dec. 1, 1909, time within which the Maritime Ex. Co. is permitted to use its present forms of freight and money receipts.

7120. May 29.—Extending until July 4, 1909, time within which the Chatham, Wallaceburg & Lake Erie Ry. is to equip all its cars with air brakes.

7121 to 7123. June 2.—Authorizing St. Marys, Kirkton & Exeter Telephone Co. to carry wires across G.T.R. at Main St., Granton, and public crossing at Rannock, Ont.

7124. June 2.—Authorizing R. Curtis, Okanagan Landing, B.C., to lay water main under C.P.R. at Okanagan Landing, B.C.

7125. June 2.—Authorizing city of Brantford to lay sewer pipe under G.T.R. west of Market St. bridge, Brantford, Ont.

7126. May 29.—Authorizing C.P.R. to construct branch line across public road allowance near Rathwell, Man.

7127. May 29.—Authorizing G.T.R. to reconstruct overhead bridges in iron, one between Dumfries and Grand River, and one between Harrisburg and St. George, Ont.

7128. June 2.—Authorizing J. G. Dunn, St. Etienne, Que., to erect electric light wires across G.T.R. at Tullochgorum Rd., Que.

7129. May 31.—Authorizing C.P.R. to construct bridge 2.5 over Lowry's Creek, Guelph branch, Ont.

POLSON IRON WORKS

LIMITED

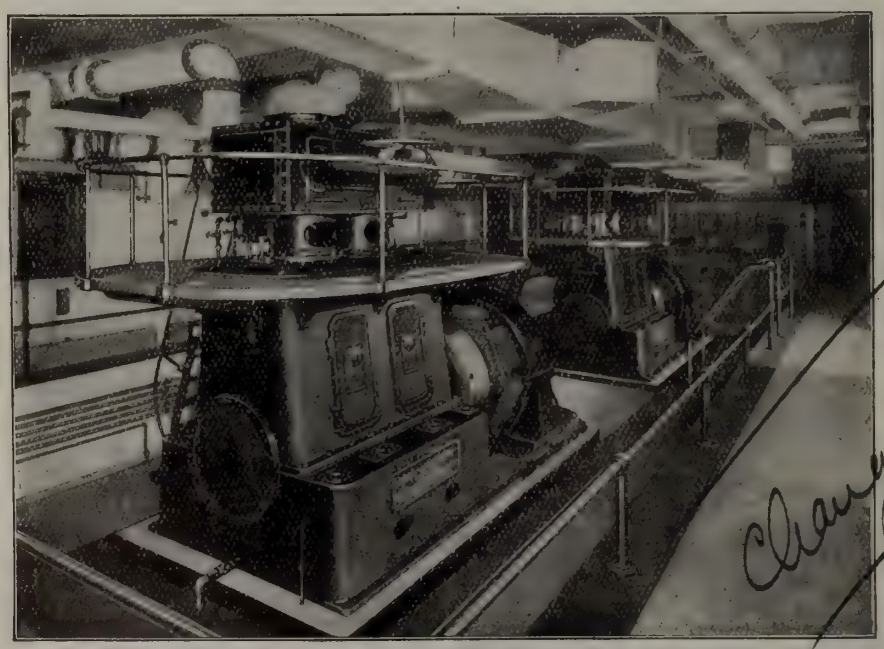
TORONTO, CANADA

Steel Shipbuilders, Engineers and Boilermakers

Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers. . . . .

OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO



HIGH-SPEED

VERTICAL ENGINES

of the English enclosed type with pressure oiling system, installed by us at the

TRADERS BANK
TORONTO

ROBB ENGINEERING CO., LIMITED, AMHERST, N.S.

DISTRICT OFFICES:
709 Power Building, MONTREAL, Watson Jack, Manager.
Traders Bank Building, TORONTO, Wm. McKay, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.
Calgary Block, Calgary, J. F. Porter, Manager.

7130. June 2.—Approving G.T.P.R. by-law authorizing J. W. Loud, Freight Traffic Manager, and J. E. Dalrymple, Assistant Freight Traffic Manager, to prepare and issue tariffs of tolls to be charged for the carriage of freight traffic.

7131. May 29.—Authorizing C.P.R. to rearrange present track and to construct extra track across George St., Smiths Falls, Ont.

7132. June 2.—Authorizing G.T.P.R. to open for traffic portion of its line from mileage 3.0 to mileage 54.3.

7133. May 29.—Approving location of C.P.R. station, Weyburn, Sask.

7134. May 29.—Authorizing C.P.R. to construct railway across Third Ave., Weyburn, Sask.

7135. June 2.—Approving location of G.T.P.R. from Tete Jaune Cache, mileage 178.81 to mileage 229, Cariboo District, B.C.

7136. June 1.—Authorizing G.T.R. to connect with Essex Terminal Ry., 121 miles east of Walkerville, Ont.

7137. May 29.—Authorizing G.T.P.R. to construct its railway across highway between secs. 20 and 21, tp. 36, r. 9, w. 3rd m., East Saskatchewan.

7138. June 2.—Authorizing Niagara, St. Catharines & Toronto Ry. to operate upon tracks connecting its tracks with T.H. & B.R. in lot 27, con. 6, Crowland tp., Ont.

7139. June 3.—Authorizing New Brunswick Southern Ry. to construct bridges as follows: Clarence Stream, East Waweig, Berry Brook, West Waweig, Digdeguash Flood Opening, Menzor Stream, Campbell Brook, Porter Hill Stream and Musquash Pile Trestle.

7140. June 3.—Authorizing G.T.P.R. to use temporarily and until further order interlocking appliances at C.P.R. Oak Point Jct., near Winnipeg.

7141. June 2.—Approving Niagara, St. Catharines & Toronto Ry.'s by-law authorizing J. Paul, General Freight and Passenger Agent, to prepare and issue tariffs of tolls to be charged for all traffic carried.

7142 to 7146. June 2.—Authorizing Quebec, Montreal & Southern Ry to construct railway across highways at stations 2867-52, 2692-35, 2791-10, 2681-85, 2836-05, Gentilly parish, Nicolet county, Que.

7147 to 7149. June 4.—Authorizing Revelstoke, Trout Lake and Big Bend Telephone Co. to carry wires across C.P.R. at three points in Revelstoke, B.C.

7150. June 4.—Authorizing Zorra Telephone Association to carry wires across track of St. Mary's & Western Ontario Ry., West Zorra tp., Ont.

7151. June 4.—Authorizing city of Toronto to lay waterpipe under C.P.R. at Shaw St., Toronto.

7152 to 7155. June 3.—Authorizing Bonaventure & Gaspe Telephone Co. to carry wires over Atlantic & Lake Superior Ry. at 4 points near Caplin, Que.

7156. June 2.—Approving location and type proposed C.P.R. station at Stittsville, Ont.

7157. June 2.—Amending order 7107 authorizing Brantford Gas Co. to lay pipe under Brantford & Hamilton Electric Ry. on Alfred St., Brantford, by changing the figures "1500" pounds to the square inch to "150" pounds to the square inch.

7158. June 2.—Authorizing Chatham Gas Co. to lay pipe under C.P.R. on Colborne and Princess sts., Chatham, Ont.

7159. June 4.—Authorizing C.P.R. to construct bridge 1.4 over Little River, Montreal and Ottawa section.

7160. June 4.—Authorizing C.P.R. to construct bridge over public road between cons. 11 and 12, East Missouri tp., Oxford Co., Ont.

7161. June 4.—Authorizing Montreal & Atlantic Ry. to construct spur for J. E. Leonard, mileage 3818, Drummondville branch, Que.

7162. June 2.—Authorizing Quebec, Montreal & Southern Ry. to construct line across highway at rail level at station 2982-49, Gentilly parish, Nicolet Co., Que.

7163. May 29.—Authorizing C.P.R. to construct bridges, one on Edmonton branch, Alta.; one Laggan section, B.C.; one Edmundston branch, N.B.; one Farnham section, Que.; two Sherbrooke section, Que.; one Sirdar section, Sask.; two Milltown branch, N..B.; one east of Selkirk, Man.; two near Lac du Bonnet branch, Man.; one Red Deer section, Alta.

7164. June 3.—Making general and applicable to railway companies, subject to the Board's jurisdiction, the form of release, or special contract, respecting carriage of silver or other valuable ores, approved by order 6972, May 6, made upon the application of the G.T.R.

7165 to 7169. June 5.—Authorizing C.N.O.R. to construct its railway across concession road between con. 1 and 2, Alfred tp., Prescott co., mileage, 16.18; at public road between lots 28 and 29, mileage, 15.52; between lots 20 and 21, con. 1, of North Plantagenet tp., at mileage 23.3; between east and west halves of lot 8, con. 1, north Plantagenet tp., mileage, 20.07; and across forced road on lot 22, North Plantagenet tp., mileage 23.75, west from Hawkesbury, Ont.

7170. June 4.—Approving C. N. Telegraph Co.'s by-law, authorizing Scott Griffin to prepare and issue tariffs of the tolls to be charged for business done by company.

7171 to 7173. June 4.—Authorizing Bethesda & Stouffville Telephone Co., to carry telephone wires across G.T.R. at 3 points in Markham, Ont.

7174. June 7.—Authorizing city of Toronto to extend Wilton Ave. easterly from River St. across Don River by a bridge across G.T.R., C.P.R. and C.N.O.R.

7175. June 4.—Amending order 7108, May 27, authorizing Consumers' Gas Co., Toronto, to lay pipe under C.P.R. on Osler St., by striking out the figures "1500" in 7th line of par. 1, and substituting therefor the figures "150."

7176. June 5.—Authorizing New Brunswick Southern Ry. to re-construct bridges, 53.3 at Little New River, and 7.2 at Canal Brook, N.B.

7177. June 1.—Dismissing application of the municipal council of Ekfrid, Middlesex Co., Ont., for order to vary order 6914, authorizing construction and maintenance of a drain across G.T.R., east of Glencoe, Ont., and granting leave to make fresh application.

7178. June 4.—Approving plan of overhead bridge crossing Haystead rd., at mileage 119.67, lots 14 and 15, con. 4, Foley tp., Parry Sound district, Ont., and rescinding order 6832, Apr. 14.

7179. June 7.—Releasing from plan 6267R, filed in the Lands Titles office for the North Alberta Lands Registration district by the G.T.P.R., property of J. Tough, in southeast quarter sec. and fractional southwest quarter of sec. 16, tp. 53, r. 25, w. 4th mer., excepting portion already purchased by G.T.P.R.

7180, 7181. June 7.—Authorizing Hamilton Cataract Power, Light and Traction Co. to erect wires across north division G.T.R.; also electric power transmission wires across G.T.R. main line, Ottawa St., Hamilton.

7182. June 7.—Amending order 7125, June 2, which authorized the city of Brantford to lay sewer pipe under G.T.R. west of Market St., by striking out the words "its own expense," par. 4, line 5, and inserting in lieu thereof the words, "the expense of the applicant."

7183, 7184. June 8.—Authorizing Bell Telephone Co. to erect wires across C.P.R. at Queen St., Lindsay, and the P.M.R., Rodney, Ont.

7185. June 8.—Authorizing Norfolk County Telephone Co. to erect wires across G.T.R. at road allowance between cons. 8 and 9, South Norwich tp., near Otterville Station, Ont.

7186, 7187. June 8.—Authorizing the Bell Telephone Co. to erect wires across G. T. R. at Victoria Ave. and Queen St., Lindsay, Ont.

7188. June 8.—Authorizing C.N.O.R. to erect telegraph wires across G.N.W. Telegraph Co.'s wires, at mileage 51.63, west from Hawkesbury, Ont.

7189. June 8.—Authorizing Alberta Government to erect wires across C.P.R. Wetaskiwin branch, between secs. 32 and 33, tp. 43, r. 11, west 4th mer., Alta.

7190. June .—Authorizing B.C. Telephone Co. to erect its wires across the Ladysmith Lumber Co.'s railway, 2 miles north of Nanaimo, B.C.

7191. June 8.—Authorizing C.N.O.R. to erect wires across G.N.W. Telegraph Co.'s wires at station 1254-40, on the Montreal & Ottawa Ry. at mileage 23.76, west from Hawkesbury, Ont.

7192. June 8.—Authorizing C.N.O.R. to open for traffic the portion of its line from Hawkesbury to South Nation River, Ont.

7193. June 8.—Authorizing C.N.O.R. to construct railway across public road between lots 35 and 36, con. 1, Alfred tp., Prescott Co., Ont., at mileage 17.36 west from Hawkesbury.

7194. June 8.—Authorizing G.T.R. to reconstruct 5 bridges in its district 18, Southern division.

7195. June 8.—Approving abutments and plans for the bridge on G.T.R. right of way west of Trent River, Ont., to carry railway over the Trent Valley Canal.

7196. June 8.—Authorizing T. H. & B. Ry. to erect wires under the T.H. & B. Ry., 1st con. east of Vinemount, Ont.

7197. June 8.—Approving New Miller Frost-Proof Fire Extinguisher no. 8, for use in G.T.R. passenger coaches.

7198. June 3.—Dismissing application of city of Toronto, for order directing G.T.R. to protect the crossing at Eastern Ave., Toronto, by the Toronto Belt Line Ry. by gates and watchman.

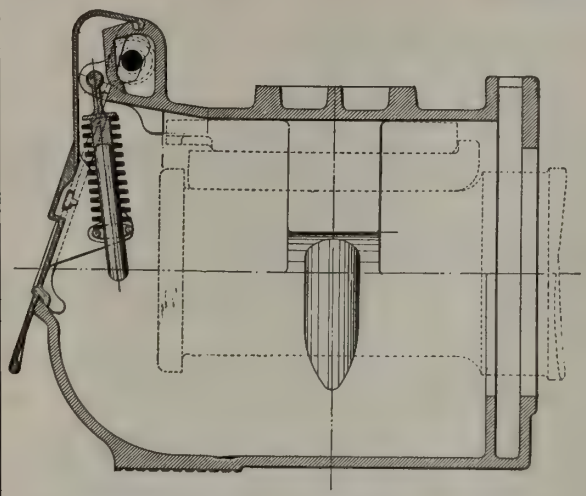
7199. June 3.—Ordering that pending changed conditions by the construction and completion of the proposed new Union Station, Toronto, the C.N.O.R. shall continue to pay to the G.T.R. the amount agreed upon between the said companies under agreement of Nov. 7, 1906, confirmed by order 6129, Jan. 12, 1909.

7200. June 9.—Ordering that the various railways entering Toronto shall, within two years from date of order, construct a four-track viaduct from a point west of John St. to a point at or near Berkeley St., Toronto.

7201. June 10.—Ordering that notice of proposed application to the board for approval of an amalgamation agreement between the C.N.R. and the Ed-

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



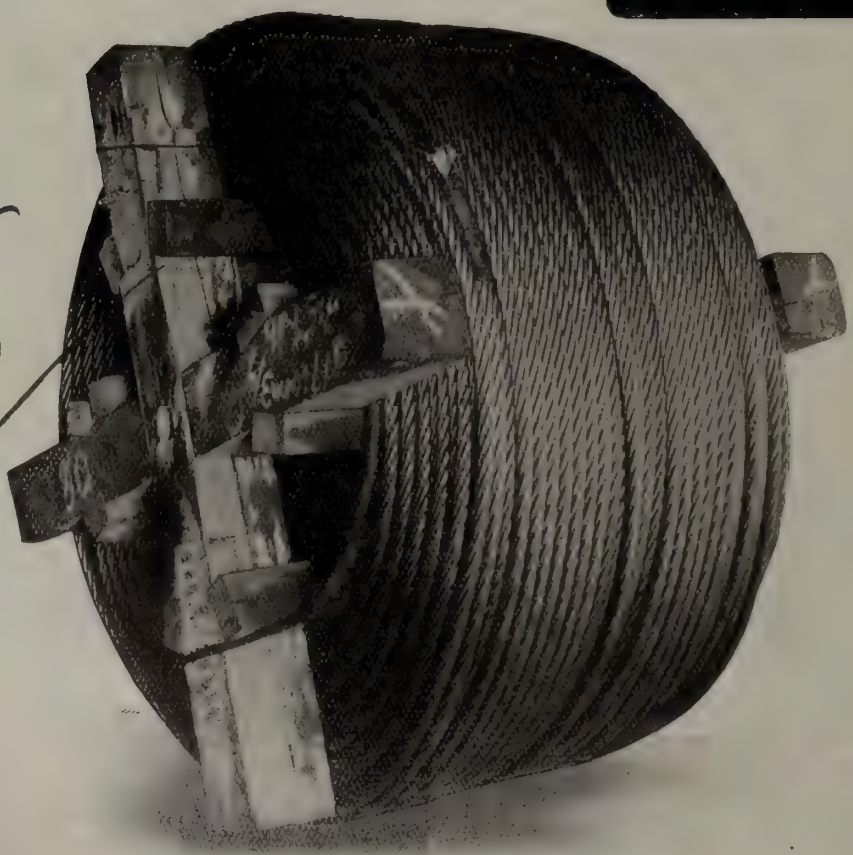
The Strongest, Lightest, Tightest Box Made

The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCORD Force Feed Lubricator

McCORD & COMPANY
Old Colony Building, Chicago

THE HOLDEN CO., Limited
302 St. James Street, Montreal



Wire Rope

We manufacture and carry a complete stock of wire rope suitable for all requirements.

Ballast Cables, Wrecking Ropes
Switch Ropes

WIRE ROPE FITTINGS OF ALL DESCRIPTIONS

The Dominion **WIRE ROPE** Co., Limited
MONTREAL

monton & Slave Lake Ry., be published in the Canada Gazette and in one newspaper in Edmonton, Alta., and Toronto.

7202,7203. June 10.—Recommending to the Governor-in-Council for sanction, agreements entered into June 8 and 9 respectively, between the C.N.R. and the Saskatchewan North Western Ry. and the C.N.R., and Alberta Midland Ry., for amalgamation.

7204. June 9.—Approving G.N.W. Telegraph Co.'s by-law no. XI., authorizing I. McMichael, General Manager, and G. D. Perry, Secretary-Treasurer, to prepare and issue tariffs of tolls to be charged, and to specify the person to whom, the place where, and the manner in which such tolls shall be paid.

7205. May 31.—Ordering M.C. Rd. at its own expense, to provide and maintain gates at the crossing of the W.E. & L.S.R. Ry., between townships of Sandwich West and Sandwich East, Essex Co., Ont., within 90 days from date of this order.

7206. June 10.—Authorizing C.P.R. to construct and operate branch line for the Roche Percee Coal Mining Co., Roche Percee, Sask.

7207. June 9.—Amending order 5280, Sept. 15, 1908, which authorized the G.T.P.R. to open that portion of its line from mileage 3.0 to mileage 54.3, and limiting the speed to not exceeding 16 miles an hour, by extending the speed limit to 30 miles an hour, and rescinding order 7132, June 2.

7208. June 9.—Authorizing C.P.R. to reconstruct 8 bridges in its Pacific, Ontario, Lake Superior and Atlantic Divisions.

7209. June 9.—Authorizing C.P.R. to construct branch lines for E. Hodder, Tees & Percee, and T. H. Blow, Calgary, Alta.

7210. June 9.—Authorizing C.P.R. to construct bridges 23.6, 10.9, and 19.6, on its Sirdar section, B.C.

7211. June 9.—Authorizing C.P.R. to construct bridge 4.2 over Chicot Creek on its Eustache branch, Que.

7212. June 10.—Authorizing C.P.R. to reconstruct bridge 0.77 on its Eastern Division, and 139.98 on its Central Division.

7213, 7214. June 9.—Authorizing Bell Telephone Co. to cross G.T.R. north of Otterville Station, Ont.; and the M.C. Rd. west of North Buxton, Ont.

7215. June 9.—Authorizing C.N.Q.R. to erect telegraph wires across the Quebec, Jacques Cartier Electric Co.'s power wires at Ancienne, Lorette Road, mileage 3.25 from Hedleyville Jct., Que.

7216. June 8.—Authorizing Canadian Machine Telephone Co. to erect wires across T.H. & B.R., Brantford.

7217. June 9.—Authorizing Bell Telephone Co. to erect wires across T. H. & B. Ry. west of Silverdale Station, Ont.

7218. June 11.—Authorizing Q.M. & S. Ry. to open for traffic that portion of its line from the east side of the river at Pierreville to the present terminus at Fortierville, Que., about 49 miles.

7219. June 9.—Authorizing Port Hope Telephone Co. to erect wires across G.T.R. at two points in Hope tp., Durham Co., Ont.

7220 to 7226. June 11.—Authorizing Q.M. & S. Ry. to construct its railway, at rail level, across highways at 7 points in St. Gregoire and St. Philomene parishes, Que.

7227. June 10.—Authorizing C.P.R. to construct spur for the International Harvesters Co., Saskatoon, Sask.

7228. June 11.—Authorizing Vancouver & Lulu Island Ry. to construct its Westminster & Eburne branch across Kerr Rd., at station 221, and Cemetery Rd., at station 101, South Vancouver, B.C.

7229. June 11.—Authorizing C.P.R. to construct spur line for D. Stamper, Knechtel Furniture Co. and City of Moosejaw, near Moosejaw, Sask.

7230 to 7232. June 14.—Approving location of C.P.R. station at Blairton, Chapleau, and Erindale, Ont.

7233. June 11.—Approving location and details G.T.R. station at Powassan, Ont.

7234. Jun. 14.—Authorizing town of Park Hill, Ont., to lay pipe underneath G.T.R.

7235. June 14.—Authorizing G.T.R. to reconstruct three overhead bridges between Darlington and Dunbar, on its Eastern division.

7236. June 14.—Authorizing C.P.R. to operate seven bridges on its Laggan section, B.C.

7237. June 14.—Authorizing town of St. Pierre, Que., to lay sewers under G.T.R. and Montreal Park and Island Ry.

7238. June 14.—Authorizing Lobo Telephone Co. to erect wires across C.P.R., near Melrose station, Ont.

7239. June 14.—Authorizing Bell Telephone Co. to place wires under M.C.R. at Metcalfe, St., St. Thomas, Ont.

7240. June 14.—Authorizing Walkerton & Lucknow Ry. to cross the Hanover Portland Cement Co.'s narrow gauge railway in Brant township, Bruce county, Ont.

7241, 7242. June 15.—Authorizing the C.P.R. to reconstruct bridge 66.5 on its Woodstock section, bridges 27.34 and 27.71 on its Lake Superior division, and bridge 53.1, on its Smiths Falls section, Eastern division.

7243. June 15.—Authorizing C.P.R. to construct spur for Knechtel Furniture Co., Hanover, Ont.

7244. June 15.—Authorizing G.T.R. to construct spur line near Greenwood Ave., Toronto.

7245. June 15.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at Walkerville, Ont.

7246. June 16.—Ordering British Yukon Ry. Co., British Columbia Yukon Ry. Co., Pacific & Arctic Ry. & Nav. Co., and White Pass & Yukon Ry. to file within 30 days tariffs of companies' tolls covering all through traffic received at Skagway and destined to White Horse or any intermediate point.

7247. June 15.—Approving by-law of Ottawa and New York Ry. Co., authorizing H. K. Gays, G.P.A., Ottawa; F. J. Balch, G.F.A., Ottawa; and F. E. Herriman, Coal Traffic Manager, New York City, to prepare and issue tariffs of tolls.

7248. June 15.—Authorizing J. G. Dunn, of St. Etienne, Que., to place electric light wires across G.T.R. at Howick station, Que.

7249. June 15.—Authorizing J. P. Ernst, of New Hamburg, to place wires across G.T.R., near Baden station, Ont.

7250. June 15.—Authorizing Canadian Machine Telephone Co. to place wires across G.T.R. in Brantford township, Ont.

7251. June 16.—Authorizing C.P.R. to construct spur line to the Constructing & Paving Co.'s premises, North Toronto, Ont.

7252. June 14.—Rescinding order 6881, amending order 6424, ordering M.C.R. to protect highways in village of Dutton, Ont., by folding fence gates.

7253. June 14.—Rescinding order 6880, amending order 6440, ordering M.C.R. to protect highways in village of Rodney, Ont., by folding fence gates.

7254. June 15.—Directing Canada Southern Ry. to construct highway crossing over its line to connect highway laid out by Canboro township, Ont.

7255. June 14.—Reporting to Governor in Council for sanction by-law of Q.M. & S. Ry., re spitting in cars and on railway premises.

7256. June 14.—Recommending to Governor in Council for sanction, by-law adopted by Napierville Jct. Ry., re spitting in cars and on railway premises.

7257. June 14.—Rescinding order 6882, amending order 6423, ordering M.C.R. to protect with folding gates highways in village of West Lorne, Ont.

7258. June 16.—Approving location of C.P.R. station at Kleinburg, Ont.

7259. June 17.—Authorizing C.P.R. to construct its railway across road allowance and to divert road in Medonte tp., Ont.

7260. June 17.—Authorizing C.P.R. to construct spur line near Toronto St., Regina, Sask.

7261. May 31.—Ordering that all railway companies in Ontario weigh all coal carried by them received from foreign countries, at the port of entry, and also on demand of consignees at destination. This order is given fully on another page.

7262. June 16.—Approving location and plans of C.P.R. station, at Espanola, Ont.

7263. June 11.—Authorizing C.P.R. to construct spur lines in Moose Jaw, Sask.

7264. June 16.—Authorizing Bell Telephone Co. to erect wires across C.P.R., near Dumfries, Ont.

7265. June 16.—Authorizing Bell Telephone Co. to erect wires across G.T.R., at King St., Berlin, Ont.

7266, 7267. June 16.—Authorizing Farmers' Telephone Co. to erect wires across C.P.R. in Brighton parish, N.B.

7268. June 16.—Authorizing Laird tp., Ont., to erect wires across C.P.R., Algoma branch, between Laird and McDonald tps., Ont.

7269, 7270. June 16.—Authorizing Farmers' Telephone Co. to erect wires across C.P.R. in Northampton parish and in Woodstock, N.B.

7271, 7272. June 16.—Authorizing Laird tp., Ont., to erect wires across C.P.R. in McDonald tp., Ont.

7273. June 16.—Authorizing Norfolk Co. Telephone Co., to erect wires across M.C.R., near Waterford, Ont.

7274, 7275. June 16.—Authorizing Farmers' Telephone Co. to erect wires across C.P.R. near Newburg Jct. and near Hartland station, N.B.

7276. June 16.—Authorizing Welland County Lime Works, to lay gas pipe under G.T.R., in Wainfleet tp., Ont.

7277. June 16.—Ordering Great Northern Ry. operating Vancouver Westminster & Yukon Ry. to forthwith file and publish rates on lumber, shingles, and articles taking the same rates in the special tariffs of the C.P.R. via New Westminster or Vancouver, B.C.

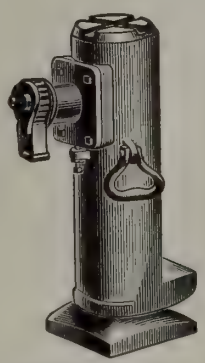
7278. June 8.—Dismissing application of village of Coteau, Que., for order directing G.T.R. to open Omaha St. and Rue de l'Eglise.

The Board of Railway Commissioners will after the next sitting, which opens July 6, adjourn until Sept. 7.

NORTON JACKS

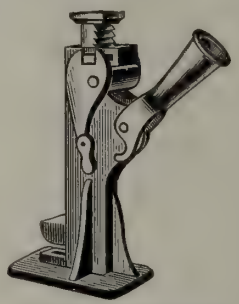
Are Made in Canada and Save You Delay and Duty on American Made Jacks.

Sectional View



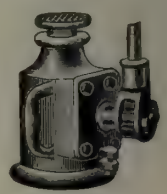
Foot Lift Jack

50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY



15 Ton Track Jack

Traversing Jack



Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

ADDITIONAL SAFETY AND ECONOMY IN

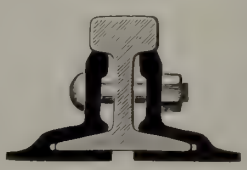
TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence.

HIGHEST AWARDS

Paris, 1900;

Buffalo, 1901; St. Louis, 1904



Continuous Joint

Over 50,000 miles in use

Weber Joint

Rolled from Best Quality Steel

Wolhaupter Joint

Catalogues at Agencies

Baltimore, Md. Boston, Mass. Chicago, Ill. Denver, Colo. Pittsburg, Pa.
San Francisco, Cal. Seattle, Wash. St. Paul, Minn. St. Louis, Mo. Troy, N.Y.
London, E. C., Eng. New York City.

THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES: BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, Frog and Switch, and Insulating Rail Joints, protected by Patents.

C. P. R. Betterments, Construction, Etc.

Tobique Gypsum and Colonization Ry.—This company, incorporated by the Dominion Parliament in 1888 to construct 80 miles of railway from the New Brunswick Ry. at Perth Centre to Plaster Rock, thence to the proposed Restigouche and Victoria Colonization Ry. at Nictaux, N.B., constructed 28 miles from Perth Centre to Plaster Rock, N.B. It is more generally known as the Tobique Valley Ry., and was leased in 1892 to the C.P.R.

Windsor St. Station, Montreal.—The work of clearing away the buildings on the land between Donegana and Bisson Streets, is in progress. The buildings facing on Windsor St., down to St. Antoine St., are to be sold and removed as soon as possible. The plans for the enlargement of the station show three large entrances, one at the corner of Osborne St., the present one being closed; one where Donegana St. is at present located, and the third at the corner of St. Antoine St. From St. Antoine St. to Osborne St., the roof will be on the same level, and with the grade for the distance down Windsor St., the building will be 9 stories high, at St. Antoine St., surmounted by a tower. Near this corner an elevator will be provided to take passengers to the tracks, which will be on a level with Osborne St. The train shed will extend from Donegana St. to St. Antoine St., the entire length of the building, thus providing space for about 25 tracks. It is anticipated that the increased office accomodation provided will mean the centralization of all the Co.'s offices in the new building, with the exception of the city ticket office and telegraph office. The extension will be built in the same style as the present structure. The plans have been completed and as soon as these have been passed by the city the work will be pushed through. The cost is estimated at $1,500,000.

Montreal Subway.—The Railway Commissioners have ordered the C.P.R. to replace the crossing at Iberville St., by a subway, the plans to be filed at once; the work to be started within 30 days, and completed within six months after the approval of the same. The only question left open is the width of the subway, and this is to be decided by the Board's Chief Engineer.

Campbellford, Lake Ontario and Western Ry.—The Dominion Parliament in 1904 incorporated a company with this title for the purpose of constructing a railway from the C.P.R. between Blairton and Ivanhoe to Cobourg, Port Hope, Newcastle, Bowmanville, Oshawa and Whitby to the C.P.R. near Toronto. The length of the authorized line is 120 miles; extensions of time for construction were obtained in 1906 and 1908, but up to date nothing has been done.

West Toronto Yards.—The company's plans for the extension of its yards at West Toronto, Ont., have been laid before the York Township council. The company has secured all the land between Dundas St. and St. Clair Ave. for the purpose. The area acquired affords room for the laying of 20 additional tracks, for which the company desires the council's permission to close Jane St., and in return the company proposes to construct a subway or a foot bridge. Residents ask for a 40 ft. subway. The question is under consideration, and will be definitely decided at a future meeting. It is understood that the carrying out of the plans may involve the construction of an additional track between West Toronto and Leaside Jct.

Islington Spur Line.—Surveys have been completed for the construction of a spur line from the old Credit Valley line, near Islington, generally southerly to the G.T.R. Toronto-Hamilton line. The object in view in laying out this line is to afford a direct connection into and out of the yards at West Toronto, for freight via Hamilton, thereby saving the present haul into and out of Toronto.

Hamilton and Guelph Jct. Ry.—We are advised that the press reports referred to in our last issue that construction will be started upon this line are somewhat premature. Some preliminary surveys have been made, but nothing further has been done.

Berlin, Waterloo, Wellesley and Lake Huron Ry.—A company with this title was incorporated by the Dominion Parliament in 1903, with power to construct a line from Berlin to Waterloo, Wellesley Village, Glen Allan, Listowel and Goderich; and in 1904, when an extension of time for construction was granted, power was obtained to extend its lines from Wellesley to Stratford, Clinton and Mayfield, Ont. No construction has been done by the company, but it has taken over the Galt, Preston and Hespeler Ry. and the Preston and Berlin Ry., both of which are operated under lease by the C.P.R.

St. Marys and Western Ontario Ry.—This company was incorporated in 1905 by the Dominion Parliament, with authority to construct a line of about 100 miles from the C.P.R. between Woodstock and London to St. Marys, thence to Exeter and Sarnia, Ont. The company has constructed a line from St. Marys to Embro, Ont., effecting a junction there with an extension of the Tillsonburg, Lake Erie and Pacific Ry. from Ingersoll, Ont. Both the lines are operated by the C.P.R.

The official figures of the voting on the by-law in Blanshard tp., granting the company a bonus for the extension of its line from St. Marys to Exeter, May 21, shows that instead of being defeated, as was at first reported, it was carried by a majority of 76 votes.

Walkerton and Lucknow Ry.—A company with this title was incorporated by the Dominion Parliament in 1904, with power to construct a line from Walkerton to Lucknow, via Teeswater, and from Walkerton to Hanover, Ont. The company has constructed the line from Saugeen on the C.P.R. Owen Sound line to Walkerton, 37.7 miles.

Georgian Bay and Seaboard Ry.—The Dominion Parliament in 1905 incorporated a company with this title to construct a railway from Georgian Bay between Port Severn and Penetanguishene to the Ontario and Quebec Ry. (C.P.R.) between Cavanville and Maberly, Ont. The C.P.R. has constructed a line from Coldwater Jct. on its Toronto-Sudbury line to Victoria Harbor on Georgian Bay, 11.50 miles. Surveys have been made from Coldwater Jct. to various points on the O. and Q. Ry.

Port Arthur, Ont.—W. Whyte, Second Vice-President, was in Port Arthur, Ont., May 31, in connection with the rearrangement of the company's assessment there.

A writ has been issued by the company seeking damages from the city on account of the giving way of the city dam at Current River, during the summer of 1908, which caused the washing out of about a mile of track.

Winnipeg City.—The agreement between the company and the Winnipeg city council is under discussion between the company's officials and the railway committee of the city council. A number of clauses have been agreed upon, including the construction by the C.P.R. of a footpath at St. James, and the right of the city to construct a bridge at Salter St. when necessary. Other points are in process of adjustment.

Brandon, Man.—Plans are said to be in preparation for the enlargement of Brandon station, at a cost of about $10,000.

Saskatoon to Wetaskiwin.—It is expected that the line between Saskatoon, Sask., and Wetaskiwin, Alta., will be completed this year. At present it extends from Saskatoon to Wilkie, Sask., and easterly from Wetaskiwin to Sedgewick. The intervening section, from Wilkie to Sedgewick, about 130 miles, has been graded and is ready for track laying.

Kininvie Branch.—The location plans for the construction of a branch line to be known as the Kininvie branch have been approved by the Board of Railway Commissioners. The branch will start from near Kininvie station on the transcontinental line, about 45 miles west of Medicine Hat, Alta., and run in a northwesterly direction for 162.5 miles to the Calgary and Edmonton branch near Red Deer or Innisfail. The maximum gradient will be 0.5% westbound and 0.4% eastbound, and the maximum curvature 8 degrees. The work is average prairie, and there are no bridges. A contract for the work has not yet been let.

Langdon to Alix, Alta.—We are officially advised that while the original intention was to start this line from Cheadle, it was found expedient to change the location of the starting point to Langdon, Alta. Langdon is a station on the transcontinental line 21 miles east of Calgary, Alta., and Alix is a point about 40 miles in a northerly direction therefrom.

Lethbridge, Northerly.—The company's application for the approval of plans for a new line from Lethbridge, Alta., northerly, came before the Board of Railway Commissioners, at Ottawa, June 18. The point of junction with the existing line from Macleod to Calgary, has not been decided, but it is said that it will be at High River or Aldersyde. The company owns considerable land at Aldersyde, and if this point is selected it will involve the construction of a steel bridge across High River.

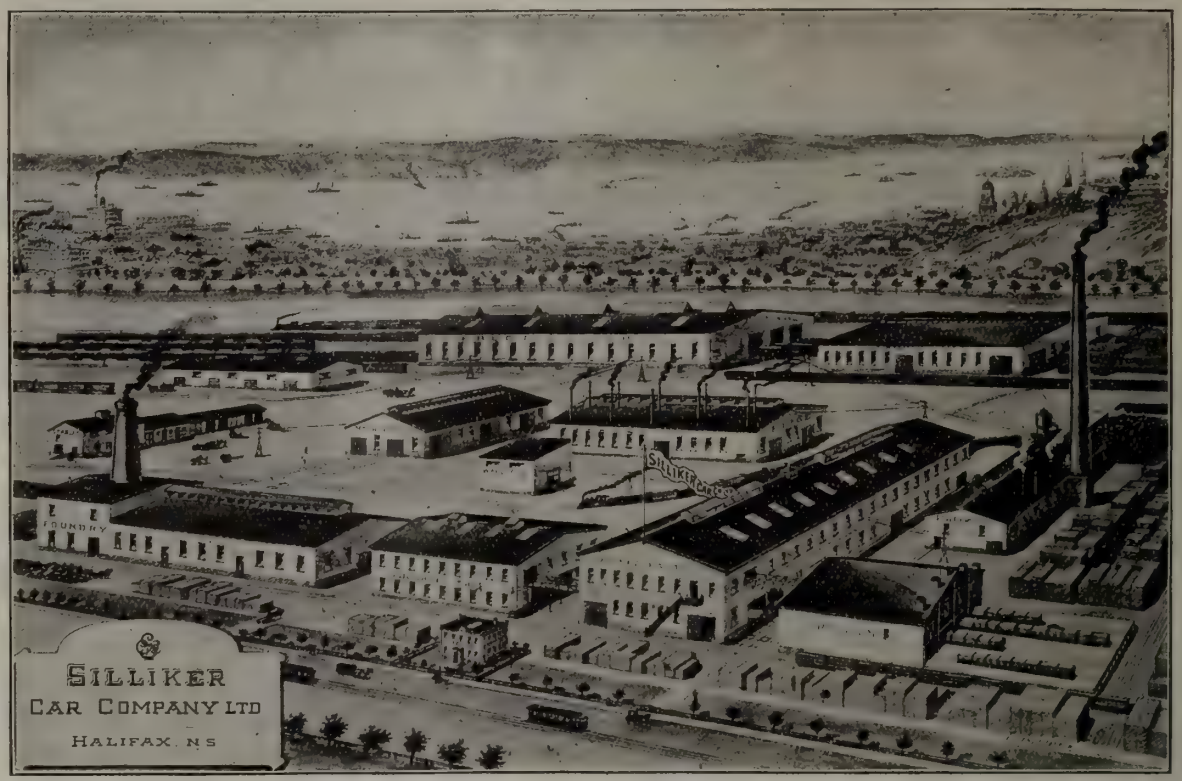
Kootenay Central Ry.—This company was incorporated by the Dominion Parliament in 1901 to construct a line from Fort Steele to Elko, and to the International boundary; also from Fort Steele to Windermere and Golden, B.C., with branches not exceeding 10 miles each. It was granted extensions of time for construction in 1903 and 1904. The length of lines authorized is about 200 miles, but up to the present no construction has been undertaken.

Vancouver, B.C.—In reference to press reports as to the construction of machine shops at Vancouver, we are advised that the company has made no appropriation therefor.

Port Simpson, B.C.—With reference to the reports mentioned in our last issue that the company had under consideration the desirability of constructing a line

SILLIKER CAR COMPANY, LIMITED, HALIFAX, N. S., CANADA

STREET RAILWAY CARS



HEAVY FORGINGS AND CASTINGS

RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

MONTREAL STEEL WORKS, LIMITED

P. O. BOX 2369 - MONTREAL

MANUFACTURERS OF

Steel Castings
(Acid Open Hearth System)

Switches and Track Work
for Steam and Electric Roads

Springs
of all kinds

Manganese Steel Castings
for wearing Parts, insuring Great Hardness and Durability

Interlocking Plants

Trucks for Electric Cars

AGENTS FOR CANADA FOR

THOS. FIRTH & SONS, LIMITED
Sheffield. England

"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc.

A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO.
Barrow-in-Furness, England

Quotations for Tee Rails, Fish Plates, etc., promptly furnished.

Catalogues sent on application.

from Edmonton via Yellow Head Pass to Port Simpson, B.C., Montreal despatches quote C.P.R. officials as stating that the report is absurd, but that if any line is to be constructed by the C.P.R. from Edmonton in the future it will be into the Peace River Valley.

Esquimalt and Nanaimo Ry.—The plans or the extension of the E. & N. Ry. from French Creek to Alberin, Vancouver Island, B.C., have been approved by the Board of Railway Commissioners, and it is understood that bids will be asked for the grading and other construction work at an early date.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—W. Whyte, Second Vice-President C.P.R., was in Montreal, June 5, in connection with the proposal to construct a line from Thief River Falls to Duluth, Minn., to connect with the Duluth South Shore and Atlantic Ry. It was subsequently anounced that the work on the new line will be pushed forward with all speed, and it was expected to have 100 miles completed and in operation this year. (June, pg. 423.)

C. P. R. Mechanical Conference.

A general meeting of the master mechanics of the seven great divisions of the C.P.R. was held at Fort William recently for the purpose of considering the methods used at different points on the system and the possibility of improving the construction of the company's locomotives or general practice. In addition to the master mechanics of the various divisions, the following mechanical officials were in attendance: H. H. Vaughan, Assistant to the Vice-President; Grant Hall, Superintendent of Motive Power, Western Lines; L. R. Johnson, Assistant Superintendent Motive Power, Angus Shops, Montreal; C. Kyle, Supervisor Trains and Engines; S. J. Hungerford, Superintendent, Winnipeg shops; G. I. Evans, Chief Locomotive Draughtsman, Montreal; A. C. Frith, Chief Draughtsman, Mechanical Dept., Winnipeg. G. J. Bury, General Manager Western Lines, was also present and took a keen interest in the proceedings throughout. Seventy-three subjects were discussed, and in the majority of cases a definite conclusion was arrived at. It is the intention to hold these meetings periodically in future so that the entire experience of the company's master mechanics from the Atlantic to the Pacific may be drawn upon to improve the company's locomotive construction and enable the management to adopt the most economical methods of maintaining the motive power.

In connection with the report mentioned in our last issue, that the C.P.R. had decided to establish plants at two or three points on its line for creosoting ties, we are advised that at present the company does not propose making any experiments in the direction indicated.

During Apr., 13 employes were killed and 19 injured in the course of their work on Canadian railways. Of the fatalities, 7 were due to being run over, 2 to explosions of dynamite, and one each to being struck by a passing object, to machinery, to falling material and to electric shock. Of the other accidents, 4 were due to falling material, 3 each to derailments and to falls, 2 each to explosions of dynamite, to being caught between cars, to a boiler explosion, and to being run over, and one to machinery.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-08, from July 1, 1908:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July	$ 728,500	$525,600	$202,900	$159,000—
Aug.	747,400	561,300	186,100	30,400—
Sept.	901,700	650,600	251,100	42,000+
Oct.	1,172,700	752,600	420,100	110,200+
Nov.	1,156,900	744,300	412,600	144,300+
Dec.	927,900	642,800	285,100	42,400+
Jan.	526,200	425,900	100,300	15,400—
Feb.	502,600	409,200	93,400	9,700+
Mar.	738,700	534,200	204,500	32,600+
Apr.	741,200	517,300	223,900	63,200+
May	720,100	537,200	182,900	51,100+
	$8,863,900	$6,301,000	$2,562,900	$290,700+
Inc. or Dec.	$ 525,900	$ 235,200	$ 290,700	.....

Approximate earnings for May, $720,100 and for 3 weeks ended June 21, $544,400; against $654,900 and $455,700 for same periods 1908.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-8, from July 1, 1908:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
July	$6,292,889.82	$4,018,207.57	$2,274,573.24	$232,279.41—
Aug.	6,385,956.69	3,807,057.98	2,578,898.71	8,623.56+
Sept.	6,391,672.48	4,277,064.71	2,114,607.77	36,745.58—
Oct.	7,381,970.41	4,726,703.70	2,655,266.71	25,050.93—
Nov.	7,303,303.20	5,082,223.85	2,221,079.35	223,954.86—
Dec.	6,955,874.11	4,759,122.54	2,196,751.57	119,561.99+
Jan.	4,761,859.93	4,372,110.10	389,749.83	234,241.95—
Feb.	4,966,208.14	4,204,063.36	762,144.78	405,048.17+
Mar.	6,518,763.14	4,715,055.01	1,803,708.13	502,678.64+
Apr.	6,384,038.32	4,240,530.80	2,143,507.52	421,273.08+
	$63,342,527.24	$44,202,239.62	$19,140,287.62	$704,912.71+
Inc. or Dec.	$2,906,758.72	$2,201,846.01	$704,912.71	.....

Approximate earnings for May, $6,333,000, and for 2 weeks ended June 14, $2,902,000; against $5,338,000 and $2,394,000 for same periods 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross revenue for Apr., $218,355.65; net revenue, $77,568.13; against $205,362.86 gross, and $63,642.26 net for Apr., 1908. Aggregate gross revenue for 10 months ended Apr. 30, $2,299,988.68; net revenue, $702,405.92; against $2,611,347.30 gross and $726,669.60 net for same period 1907-08. Approximate earnings for May, $241,674, and for 2 weeks ended June 14, $125,968; against $185,184 and $91,915 for same periods 1908.

MINERAL RANGE RD.—Gross revenue for Apr., $67,544.14; net revenue, $11,857.72; against $66,507.17 gross and $8,185.13 net for Apr., 1908. Aggregate gross revenue for 10 months ended Apr. 30, $691,299.56; net revenue, $116,855.06; against $674,471.87 gross and $104,870.84 net for same period 1907-08. Approximate earnings for May, $68,983, and for 2 weeks ended June 14, $30,718; against $69,119 and $31,481 for same periods 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross revenue for Apr., $949,499.44; net revenue, $377,228.13; against $812,446.33 gross; and $273,315.24 net for Apr., 1908. Aggregate gross revenue for 10 months ended Apr. 30, $10,549,608.97; net revenue, $4,679,648.44; against $9,852,348.52 gross and $3,827,902.65 net for same period 1907-08. Approximate earnings for May, $927,709 and for 2 weeks ended June 14, $444,878; against $761,555 and $384,381 for same periods 1908.

Grand Trunk Ry. Earnings, Expenses, Etc.

The following figures give the earnings of the G.T.R., the C.A.R., the G.T. Western Ry., and the D.G.H. & M. Ry., separately, for Apr., as compared with Apr. 1908:

	1909	1908.
GRAND TRUNK RAILWAY.		
Earnings	$2,377,500	$2,278,673
Expenses	1,619,200	1,623,658
Net Earnings	$758,300	$655,015
CANADA ATLANTIC RAILWAY.		
Earnings	$138,900	$104,705
Expenses	130,300	119,315
Net Earnings	$8,600	*$14,610
GRAND TRUNK WESTERN RAILWAY.		
Earnings	$495,200	$439,761
Expenses	331,700	325,316
Net Earnings	$163,500	$114,445
DETROIT, GRAND HAVEN & MILWAUKEE RAILWAY.		
Earnings	$131,100	$113,958
Expenses	117,900	114.445
Net Earnings	$13,200	*$487

*Deficit.

Approximate earnings for May, $3,239,791 and for 2 weeks ended June 14, $0,000,000 against $3,096,154 and $0,000,000 for same periods 1908.

TRAFFIC RECEIPTS OF THE SYSTEM

Aggregate from Jan. 1 to May 31.

	1909	1908	Inc.	Decr.
Grand Trunk	£2,309,061	£2,238,235	£70,826	.....
Canada Atlantic	132,022	121,104	10,918	.....
G. T. Western	454,909	433,828	21,081	.....
D. G. H. & M.	128,639	119,231	9,408	.....
Total	£3,024,631	£2,912,398	£112.233	

Grand Trunk Veterans Association.

Among those entitled to the Ontario Government's free grant of 160 acres of land in New Ontario for services in repelling the Fenian Raid in 1866, are nearly 100 Grand Trunk Ry. veterans who have an organization, the Grand Trunk Veterans Association, with headquarters in Toronto, Major J. A. Carlaw, being President, H. T. Meredith, Treasurer, and Jno. Earls, Secretary. Several meetings of the veterans have been held during the past few years, and while some of them decided to locate their claims promptly or sell their certificates, the majority decided to await the final location of the G.T. Pacific Ry. west of Lake Abitibi, and to ask the Government to set apart a township so that they could locate together. The Government acceded to the request and set apart Lennox tp., Sudbury district. A meeting was held in Toronto in June to decide upon the best mode of selection, and to draw for and allocate the lots.

The Manual of Statistics.—The thirty-first annual issue of the volume bearing this title and published by the Manual of Statistics Co., 20 Vesey St., New York City, has been issued. The information given within the 1,094 pages of this annual with reference to railroad, industrial and other securities is of such a character as to make it of value to everyone who has any business connection with them, or is interested in the movements of the shares and stocks of the various companies on the exchanges of the continent. The financial reports quoted in the descriptive articles of the different companies are the latest available, and the comparisons with the figures of other years is interesting. The Canadian companies noted in the volume are those in which United States capital is interested, or on the boards of which U.S. capitalists are represented. The price of the volume is $5.

The Chicago Municipal Engineer states that since the elevation of the railway tracks in that city, there have been 1,380 fewer fatal accidents, and 2,510 fewer non-fatal accidents in connection with the railways.

The Department of Agriculture has made arrangements with the Canadian Northern Quebec and the Quebec and Lake St. John Rys. for the provision of special iced refrigerator cars for the transportation of cheese in carloads, between July 5 and Sept. 11, without extra charge.

The action of J. Battle, T. Conlon, of Thorold, Ont., and J. Armstrong of Toronto, contractors, against the C.P.R., claiming the difference between their contract price for the construction of a part of the company's Toronto-Sudbury line, and that paid to another construction firm under a contract for another portion of the same line, was dismissed with costs, at St. Catharines, Ont., June 2.

Pintsch Light Steam Heat

Most brilliant illumination made possible by the Pintsch System using perfected Mantle Lamps and Safety Axle Driven Dynamo Electric System a product of sixteen years experience and now operating successfully on leading roads

The Safety Car Heating and Lighting Co.
2 RECTOR ST., NEW YORK.

Car Heating Systems guaranteed to meet all conditons of service. Controllable Direct Steam, Hot Water or Thermo Jet System where pressure not desired. Steam tight couplers, traps, trainpipe valves and other appliances.

CHICAGO. BOSTON. ST. LOUIS. ATLANTA. PHILADELPHIA. MONTREAL. BERKELEY, CAL.

CANADA CAR COMPANY

MONTREAL, QUE. **LIMITED**

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS CASTINGS FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS:
BOX 2286, MONTREAL

Works: TURCOT

G. T. R. Betterments, Construction Etc.

Lachine, Jacques Cartier and Maisonneuve Ry.—At the recent session of the Quebec Legislature an Act was passed incorporating a company with this title for the purpose of constructing a railway from Lachine to Hochelaga Ward, Montreal, or to Maisonneuve, passing in the rear of Montreal mountain, with power to extend the line from the starting point to Dorval, on one side, and to the northern end of Montreal Island on the other. The company is authorized to enter into agreements with other railway companies, and to construct docks, dockyards, wharves, slips, piers, warehouses, and elevators, and to operate steam and other vessels for the conveyance of cargo and passengers upon any navigable waters which its railways reach or connect with. The company shall not exercise any of its powers within the limits of Montreal harbor, without the consent of the Harbor Commissioners. The provisional directors are:—A. Bergerin, A. Wainwright, E. A. Bernard, Montreal; and Hon. W. Mitchell, Drummondville, Que. This line we are advised has been partially surveyed, but it has not yet been definitely determined when construction will be started.

Bonaventure Station.—A Montreal dispatch says the G.T.R. has plans completed for a station to replace the present one, that it will be built much on the lines of the St. Louis, Mich. Union Station. It is said that the elevation of tracks in the city will be gone on with at the same time and that the total expenditure will be about $2,000,000. We were officially advised June 24, that nothing is known at G.T.R. headquarters of any new plans that have recently been completed for a proposed station. The officials have on a number of occasions, during the past 10 or 12 years, figured on new plans, but nothing has been definitely determined. The report referred to is probably due to the preparation of the Montreal city council to make application to the Board of Railway Commissioners for an order requiring the elevation of the tracks to Bonaventure station, which would doubtless require the reconstruction of the station.

Carlsbad Springs, Moose Creek, Ont.—The line in the vicinity of Carlsbad Springs, Ont., is being raised. A large area of land has been acquired at Moose Creek, 20 miles further on for use as a ballast pit, in connection with the ballasting operations on this line. It is also intended to erect a new station at Moose Creek.

Ottawa Station and Hotel.—The Minister of Public Works reported June 1, that the G.T.R. had paid the Dominion Government the purchase price of the hotel site on Major's Hill Park. On the same day it obtained from the City Council a permit for the erection of the hotel, the estimated cost of which is placed at $864,000. The plans filed with the application for the permit show that granite will be used up to the first floor; the remainder of the building being of Ohio or Indiana sandstone—the roof being copper-covered. The building will front on Rideau St., and there will be entrances on Mackenzie Ave., along which its length will run. The main entrance to the hotel will be reached through a large portiere, entering upon a hall. Opening off a spacious rotunda on the ground floor are lounging rooms, parlor, garden, tea room and reception room, a general dining room and a ladies' dining room. There will be reception rooms, a large foyer, banquet hall and ballroom on the first floor; and a music gallery will be so arranged as to overlook the dining rooms and the lounge. On the first floor there will be 35 bedrooms and some parlors, from which several suites of state apartments can be made up. The remaining floors are to be entirely given up to bedrooms, of which there will be in all 350, of which 210 will be provided with private baths, and 62 with stationary washstands with hot and cold water connections. All corridors on the upper floors will have a uniform width of nine feet, and the main ones will lead directly to fire escapes. A subway will lead from the hotel to the station, the entrance to the latter being slightly below the level of the basement floor. Tenders are being asked for the erection of the building. The company started about 100 men on the preparation of the site May 27.

The erection of the annex to the present Central Station is being proceeded with, and it is expected that it will be well on to completion by November. The new building will be 300 ft. long, 85 ft. wide, and 40 ft. high. The foundations will be of blue lime stone, the main walls of buff brick, and the cornices and face work of Ohio sandstone. Over the approach there will be an iron and glass canopy and overhead a large clock. This annex will provide for the carrying on of the work of the station pending the removal of the existing station, and the erection of the new structure, of which it is to form a part. The work is being done by the G.T.R., under Ottawa Terminals Co.'s charter.

Kingston, Smith's Falls and Ottawa Ry.—At the annual meeting of shareholders at Kingston, Ont., June 1, the G.T.R., was represented by F. Scott, its Treasurer. The retiring directors were re-elected. Local reports state that the line will be under construction within two years.

Cobourg Freight Sheds.—A press report states that the company has appropriated $50,000 for improvements at Cobourg, Ont. These include a new station, freight sheds and additional yard accommodation.

Midland to Cobourg, Ont.—A. S. Going, has been making a survey of the company's lines between Midland and Cobourg, Ont., with a view of securing a route which will avoid the present heavy gradients. The route between Midland and Millbank has been laid out, and Mr. Going is preparing for completing the work. One route proposed between Millbrook and Cobourg is to run over the old Harwood and Rice Lake route, which the G.T.R. owns, but which is not in use, for about four miles north of Cobourg, then proceed across country touching Plainsville and on to Millbrook.

We were advised June 17, that while the company has been making surveys during the last five or six years for the purpose of getting a more convenient connection between the old Midland Ry. (which runs from Brockville to Midland, Ont.), and the main line between Port Hope and Cobourg, nothing final or definite has been determined upon.

Guelph Station.—The question of the erection of a new station at Guelph, Ont., has been under discussion recently between a representative of the G.T.R. law department and the City Council, and the Mayor, said it would be a matter of only a short time before it was finally settled. The only difficulty is the settlement of the question of the closing up or the diversion of Neeve St.

Stratford to Listowel.—Steel rails, 80 lbs. to the yard, are being laid between Stratford and Listowel, Ont.

Stratford to Goderich, Ont.—Relaying between Goderich and Thamesville, with 80 lb. steel rails is practically completed. This work is being carried out because of the increasing freight traffic.

London Track Elevation.—The Mayor stated June 8, if something is not done by the G.T.R. within a resonable time with regard to the question of track elevation, the Board of Railway Commissioners will take up the question and deal with it. The members of the Board are conversant with the situation, and know what is required.

London, Eng., Offices.—The company has opened a suite of offices at 17-19 Cockspur St., London, Eng., for the use of passengers. Canadians visiting London can use this address for their correspondence, write their letters there, and make appointments, etc. (June, pg. 411.)

The Canadian Society of Civil Engineers, held its annual summer excursion June 23, when Windsor, Ont., was visited, and the works of the M.C. Rd.'s Detroit River tunnel inspected.

The Central Railway and Engineering Club's annual excursion took place June 19, when the members travelled from Toronto to Jackson's Point over the Toronto and York Radial Ry.

The township of Lennox, Sudbury District, Ont., has been set apart by the Ontario Government for the G.T.R. veterans of the Fenian Raid, and selection of lots (¼ sections) may now be made by or for those entitled to them.

Judgment was delivered in the Supreme Court, June 11, on the appeal of R. Z. Walker, I.C.R. station agent, Fredericton, N.B., against conviction for a breach of the Scott Act, by receiving and warehousing intoxicating liquor. In delivering judgment, the Chief Justice, held that the police magistrate's decision to convict was not justified. The I.C.R., was constructed under the British North America Act, and being the property of the Crown and operated in the public interest, could not be interfered with by any act of Parliament, unless that act was made specially applicable to it.

The railway to be constructed across the Andes, from Arica in Chile to La Paz in Bolivia, for which a contract has been let to Sir John Jackson, Ltd., London, Eng., will have a length of 300 miles, and in crossing the divide will attain a height of over 12,000 ft. The first 50 or 60 miles will be across a desert, and the next 50 miles through the Andes, and the last 200 miles will be over the high tableland upon which La Paz, the highest city in the world, is built. At present the only means of transit to the coast is by mule trains, in which two mules have to carry water for every mule carrying baggage. The first work which the contractors will carry out will be the provision of a water supply for the desert section of the line.

JOYCE CRIDLAND CO.'S

New Right Hand Journal Jack

Notice the neat design. The lightest 15 ton Journal Jack on the market. Weight only 34 lbs.

Write for Catalogue, showing above; also Joyce Cridland Co.'s LEVER, TRACK, GEARED, HYDRAULIC and SCREW JACKS.

CARRIED IN STOCK BY

Yours truly
J. C. Co.
July 14 1909

A. R. Williams Machinery Co., Limited

Toronto, Winnipeg and Vancouver. WILLIAMS & WILSON, Montreal

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.

MONADNOCK, CHICAGO

Railway Commissioners' Traffic Orders

Summaries of other traffic orders passed are given on another page under the heading of Orders by Railway Commissioners.

LIQUOR FREIGHT ENGLAND TO FORT WILLIAM.

7084. May 19.—Re complaint of Downing's American Despatch, general merchandise forwarders, Montreal, complaining against overcharge made by C.P.R. of local rate from Fort William, Ont., to Winnipeg, on a carload of liquor shipped from England to Fort William, instead of a pro rata proportion of lake and rail rates agreed upon between the C.P.R. and the steamship companies, upon hearing the complaint in the presence of counsel for the railway company, the complainants being represented at the hearing, and what was alleged, it is ordered that the same be dismissed.

Chief Commissioner Mabee gave the following judgment:—In this case the whole matter seems to us to be a question of fact, or, at least in so far as it may be necessary to determine the application it must turn upon a question of fact. The applicants allege that they were duly appointed agents of Jacques & Co. and were parties along with the C.P.R. Co., to this lake and rail through freight tariff on general merchandise from London and a number of other places, via Quebec, Montreal and so on, and points between Kenora and Strathcona and a number of other places named upon the tariff. It would seem that Jacques & Co. have no office in Great Britain, that they entered into some sort of an arrangement with the Downing's Despatch Co., whereby the Despatch Company should receive a certain percentage upon freight directed over this route covered by this tariff. The Despatch Company assuming that they had authority to do so, issued through bills of lading in their own name upon their own forms for this traffic, and they assumed by that act to bind all the parties who were named as carriers in this joint tariff. When this particular shipment arrived at Fort William the C.P.R. Co. refused to recognize the authority of Downing's American Despatch Co. to bind them by issuing a through bill of lading, and they charged instead of the through rate under the tariff their local rate from Fort William to the destination. The applicants asked that the C.P.R. be ordered to refund to them the difference between what would have been their charge on the through rate governed by the joint tariff, and the local rate which had been charged. The Despatch Company I suppose having paid, or the consignee perhaps having been compelled to pay in order to get the goods released, this sum, and then I presume the consignee had had recourse back on the Despatch Company and it has had to make a refund. It seems to us there is not sufficient evidence here, even for the moment assuming, which perhaps is a matter of some doubt, that Jacques and Co. could have authorized some agent there to bind the C.P.R. Co.; that as a matter of fact they did not have any agent and did not intend that the Despatch Company should have any such agency or authority to do what they attempted to do in the case in hand. A letter was produced by counsel for respondents, from Jacques & Co. in which they repudiate having given the Despatch Company authority to issue this through bill of lading upon their own forms. The applicant, Mr. Halloway, who appeared, produced a letter in which he confirmed the arrangement made orally with Jacques & Co. under which they were to be paid certain commission for diverting this traffic, but there is nothing in the letter which he produced which would be read as showing that Jacques & Co. were intended to confer upon the Despatch Company—again assuming they had the power to do it, and as to which it is not necessary to say anything now—the authority to issue bills of lading of the kind they assumed to issue. It was simply a correspondence showing that upon this traffic they were to be paid the commission mentioned in the correspondence. So that we find on the question of fact, that Jacques & Co. did not confer upon the Despatch Company a general agency which would be necessary to confer in order to authorize them to issue bills of lading of the kind issued in this case. Finding that fact it is not necessary to consider further whether—even if there had been sufficient evidence of the attempt to establish an agency of that sort—whether Jacques & Co. would have had the authority to appoint an agent there who could bind the various carriers in the course of transit including the respondent. The result is that the application failed and it must be dismissed.

CRUDE OIL SHIPMENTS.

7093. May 31.—In the matter of the complaint of the British American Oil Co., Toronto, that the G.T.R. unjustly discriminated against crude oil shipments from Stoy, Ill., to Toronto, by refusing to carry it at the published and filed joint tariff 5th class rate, in accordance with the official classification and at the same rate as animal and vegetable oils, in carloads; and that the company refused to deliver at Toronto cars containing crude oil from Stoy, except upon the payment of 12½c. per 100 lbs., which additional rate had been paid under protest and which the company refuses to refund, upon hearing the application, the evidence adduced, the argument of counsel for the complainants and the G.T.R. and C.P.R., and what was alleged, it is declared that the legal rate chargeable upon the shipments complained of was 20c. per 100 lbs., the joint tariff 5th class rate under the official classification, published and filed with the Board, which rate is still in force; and it is further ordered that the G.T.R. be, and it is hereby, authorized to refund to the complainants the difference between the said rate of 20c. per 100 lbs. and the rate of 32½c. per 100 lbs. charged and collected by it on the said shipments.

CARRIAGE OF VALUABLE ORES.

7164. June 3.—Re application of C.P.R. Co., for order making general and applicable to all railway companies subject to the Board's jurisdiction, the form of release or special contract, respecting carriage of silver and other valuable ores, approved upon the application of the G.T.R. Co. It is ordered that the form of release or special contract respecting the carriage of silver and other valuable ores, approved by order 6972, of May 6, 1909, as published in the Railway and Marine World for June be extended to apply to all railway companies under the Board's jurisdiction, the companies being authorized to use the form upon their respective lines until the Board shall hereafter otherwise order and determine.

The following is the form:—

Release or Special Contract respecting the carriage of silver and other valuable ores.

.....Consignee.

.....Destination.

Description of Property .....

"In consideration of the..... and its connecting lines receiving for transportation over their lines at.....station .....ore consigned to..... .....at.....station, and carrying same at the rates mentioned in the freight tariff in force at the time of shipment,.....do hereby undertake and agree that no claim in respect of any loss of or damage to such ore for which the said company and its connections, or any of them, may be responsible, will be made against the said company, or its connections, or any of them, for an amount exceeding $500 per net ton of such ore, and that in case of any such loss or damage arising from which the said company or its connections, or any of them, shall be liable, any claim therefor shall be computed and paid upon the basis of the actual weight of the ore lost or damaged and of the value thereof which shall not, however, exceed in any case the amount of $500 per net ton as herein provided. The rates fixed by this tariff are made in consideration of the shipper giving an undertaking and guaranty to the railway company that in case of any loss or damage to the ore, the railway company shall not be held responsible for an amount exceeding the actual value of the ore lost or damaged, which value, however, shall not exceed in any case the sum of $500 per net ton."

WHITE PASS AND YUKON RAILWAY RATES.

7246. June 16.—Re application of Board of Trade of Dawson and the White Pass route, the White Pass and Yukon Ry. Co., the Pacific and Arctic Ry. and Navigation Co., the British Columbia-Yukon Ry. Co., The British-Yukon Ry. Co., and the British-Yukon Navigation Co. It is ordered:

1. That the White Pass and Yukon Ry. Co., the Pacific and Arctic Ry. and Navigation Co., the British Columbia Yukon Ry. Co., and the British Yukon Navigation Co. be added as parties to these proceedings. That this application in so far as it affects or is directed against the British Yukon Navigation Co. be dismissed.

That the British Yukon Ry. Co., the British Columbia Yukon Ry. Co., the Pacific and Arctic Ry. and Navigation Co., and the White Pass and Yukon Ry. Co., or one or more of the said companies do within 30 days file with the Board pursuant to the Railway Act, tariffs of the companies tolls covering all through traffic reeceived at Skagway and destined to White Horse or to any intermediate point or points between the International boundary line between Alaska and British Columbia upon the line of railway, and White Horse; and covering all through traffic received at any point or points upon the railway between White Horse and the International boundary and destined to Skagway. That for the purpose of filing such tariffs, the said companies or some or more of them enter into the necessary agreements (if any such are not now in existence). That the said tariff shall cover and include at least all the class and commodity rates now in existence upon the White Pass and Yukon route. That the Board shall be informed of the proportion in which the said tolls is divided or allotted between the said companies if any such division or allotment is continued or made.

WEIGHING COAL IN ONTARIO.

7261. May 31.—Re application of Retail Coal Dealers' Association for an order that all railway companies weigh all coal carried by them, received from foreign countries, at the port of entry, and for other matters: it is ordered that, in the event of any consignee of any car or cars of bituminous coal, shipped from the United States, desirin to have such car or cars weighed at the port of

THE ALGOMA STEEL CO., LIMITED

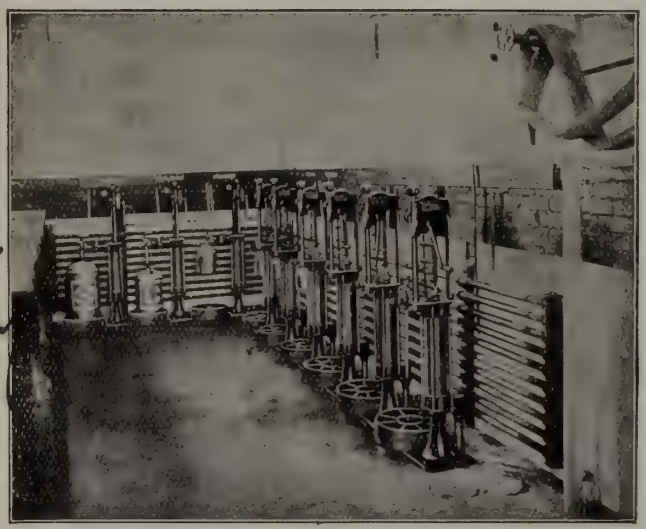
SAULT STE. MARIE, ONTARIO

IS NOW BOOKING ORDERS FOR **STEEL RAILS** FOR DELIVERY DURING THE SEASON OF 1909

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to insure desired deliveries.

Office:
CANADA LIFE BUILDING
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS



Bowser Pumps in a Railway Storehouse

FIRE-PROOF OIL STORAGE

When your oils are stored by the Bowser System, you know they can never be the source of a fire—

What is more, fire starting from some other source cannot get to the oils.

These are only two results of

THE BOWSER SYSTEM

The Bowser is constructed so as to secure the measure of safety prescribed by the National Board of Fire Underwriters.

Equipments for Railway Oil Houses described in Bulletin 18. Send for it.

S. F. BOWSER & CO., LIMITED
66-68 FRASER AVENUE - - TORONTO

THE

NEW HOTEL BREVOORT CHICAGO

The Twentieth Century Hotel **Absolutely Fireproof**

Centrally located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG,
PROPRIETORS

ARTHUR M. GRANT,
MANAGER

entry, he shall be at liberty to give a written notice to the agent of the railway company, receiving for delivery or furtherance such car or cars at such port of entry, before the said coal is received by such railway company, that he requires the same or any car or cars of such consignment weighed; and upon the receipt of such notice it shall be the duty of the company to weigh free of charge, at such port of entry, all cars covered by the notice. Any consignee may give a general or continual written notice that he requires all cars consigned to him weighed as above provided. For such weighing at the port of entry, the cars to be weighed may remain coupled one to another in a train. On notice in writing from a consignee of such coal, to the freight agent of the railway company hauling the same at the point of destination, within 24 hours of the arrival of the coal at the point of destination and before the car or cars containing same have been unloaded, that he wishes the car weighed, the company shall weigh any car of such coal at the scales nearest to the point of delivery; and for such service the railway company may charge and collect from the consignee, 5c. for every ton of coal in the car, with a minimum $1, and a maximum $2 per carload; but no such charge shall be made and no amount collected for such service, if the weight of the car is more than 500 lbs. less than the weight of the coal at the port of entry, or if the coal is not weighed at the port of entry, then the weight shown by the waybill to be in the car at the time of shipment, plus the weight of the car itself as shown by the tare. On notice in writing from a consignee of such coal, to the freight agent of the railway company hauling the same at the point of destination, within five hours from the unloading of any car containing such coal, that he wishes the empty car weighed, the company shall weigh the same at the scales nearest the point of delivery; and for such service the railway company may charge and collect from the consignee $1 a car; but no such charge shall be made and no amount collected for such service, if the actual weight of the car exceeds the tare marked on it by more than 500 lbs. This order shall only apply, in case the port of entry or point of delivery is in the Province of Ontario. Any person or company affected by this order may, after one year from the date hereof, apply to the Board to vary or rescind it.

VANCOUVER, WESTMINSTER AND YUKON RY. RATES.

7277. June 16.—Re complaint of British Columbia Mills, Timber & Trading Co., Burnaby, B.C., alleging excessive freight rates charged on Vancouver, Westminster & Yukon Ry., from Vancouver to Burnaby: Upon hearing this application, and hearing what was alleged on behalf of the applicant as well as the railway company, and the parties agreeing, and upon the consent of the C.P.R. Co., it is ordered that the Great Northern Ry. Co. operating the V.W. & Y. Ry., shall forthwith file and publish rates on lumber, shingles, and articles taking the same rates in the special tariffs of the C.P.R. Co., via New Westminster or Vancouver in connection with the C.P.R. as follows:—From points on the V.W. & Y.R. Co.'s line between Vancouver and New Westminster, not inclusive, to points on the C.P.R., except such points as may be reached directly by the G.N.R. or its connections; joint rates based upon 1c. per 100 lbs. higher than the rates established from Vancouver by the C.P.R.; the V.W. & Y.R. to be allowed 2½c. per 100 lbs. Order 6613, Feb. 23, 1909, is rescinded.

SUPPLEMENTS TO CANADIAN FREIGHT CLASSIFICATION.

7295. June 14.—Re application of Canadian Freight Association, through W. R. MacInnes, Chairman of Advisory Committee, under section 321 of the Railway Act, for an order approving proposed supplements to Canadian classification, namely: no. 1, submitted to the Board Jan. 25, 1909; the other, also no. 1, submitted March 4, 1909: Whereas, by order 7023, of May 10, 1909, the additions and changes embodied in the proposed Supplements to Canadian Freight Classification 14, were approved, subject to the exception, amongst others, that the proposed advance in the rating of tinned copper boiler sides or sheets be withdrawn pending consideration by the Canadian Manufacturers' Association and the Montreal Board of Trade of the similarity for classification purposes between these articles and other articles of copper in the Canadian classification 14, pg. 19, items 10 and 16, statements from the bodies named to be filed with the board in time for the traffic sittings on June 15; and whereas statements on behalf of the bodies named have been filed as required under the said order—upon reading the same; and upon the report and recommendation of the Chief Traffic Officer of the Board. It is ordered that order 7023, approving additions and changes in proposed supplements to Canadian Freight Classification 14, subject to exceptions and additions named in the order, be amended by striking out clause 4, directing the withdrawal of the proposed advance in tinned copper boiler sides or sheets, and substituting therefor the following clause, viz:—"That the proposed advance in rating on tinned copper boiler sides or sheets embodied in the said proposed supplements to Canadian Freight Classification 14, be approved."

SPECIAL COMMODITY RATES.

7325. June 22.—Re application of Canadian Freight Association, through W. R. MacInnes, Chairman of the Advisory Committee, under sec. 39 of the Railway Act, for an order rescinding clause "h" of order 3258, July 6, 1907, which provides "that no special commodity rates now existing, which may be lower than the corresponding class tariff rates herein prescribed, shall be advanced by reason of the changes herein ordered, or without the sanction of the Board": Upon hearing the application in the presence of counsel for the C.P.R., the G.T.R. and the C.N.R. companies, the Canadian Manufacturers' Association and the Montreal Board of Trade being represented at the hearing, and upon the report of the Chief Traffic Officer of the Board; and it appearing that the said clause has served the purpose for which it was intended, it is ordered that order 3258, dated July 6. 1907, be amended by striking out clause "h."

The Morrissey, Fernie and Michel Ry. has filed a copy of its by-law fixing tolls for switching at Michel, with the British Columbia Government, and the same has been approved.

Recent Provincial Legislation.

The acts passed at recent sessions of the Provincial Legislatures affecting transportation interests include the following:

NEW BRUNSWICK.

Canadian Terminal Ry.—Extending time for construction.

Maritime Steamship Co.—Authorizing exemption from taxation in County of Charlotte.

Moncton Electric Tramway Co.—Amending act of incorporation and extending time for construction.

New Brunswick Coal and Ry. Co.—Authorizing granting of loan by the Government for betterment of railway.

New Brunswick Docks and Terminals Co.—Incorporation.

St. John City.—Authorizing city to transfer harbor property and privileges to harbor commission.

St. John Valley Ry. Co.—Incorporation.

Tobique and Campbellton Ry.—Extending time for construction.

Twin Tree Mines Ry.—Amending act of incorporation, altering location of terminals and changing name to Northern New Brunswick and Seaboard Ry. Co.

QUEBEC.

Angus Short Line.—Incorporation.

Dominion Line Co.—Amending charter. (The company constructed a railway from Dudswell, Que., to the lime quarries, 4.80 miles, which is operated by Hereford Ry., leased to Maine Central Rd.)

Grand Lake and Bell River Ry.—Incorporation.

Hull Electric Co.—Respecting company's power.

Lachine, Jacques Cartier, and Maisonneuve Ry.—Incorporation.

Matane and Gaspe Ry.—Extending time for construction.

North Eastern Ry.—Defining company's powers and extending time for construction.

Quebec and Lake St. John Ry.—Extending time for construction of branch lines and extensions.

Quebec and Saguenay Ry.—Extending time for construction.

Quebec County Ry.—Extending time for construction.

Quebec Public Utilities Commission.—To create a commission.

The Spokane and British Columbia Ry. (Kettle Valley Lines) has registered its Standard Passenger Tariff C.R.C. 6 with the Board of Railway Commissioners, providing for a maximum passenger fare between all stations in British Columbia at 4c. a mile.

Vancouver, B.C., press reports state that an agreement has been signed under which the Union Pacific Rd., the Northern Pacific Ry., and the Great Northern Ry. will enter Vancouver from Tacoma, Wash., jointly, and thus obviate the construction of separate tracks.

Hon. W. Pugsley, Minister of Public Works, whose name has been mentioned in the report of the New Brunswick Commission on the financing of the New Brunswick Coal and Ry. Co., which took over the old Central Ry., has entered an action against the old directors of the company for an accounting of all subsidies and other monies from either Dominion or Provincial Governments, as well as proceeds of all bonds, debentures, etc. It is expected that the action will be tried in the fall.

THE SEA-SIDE

100's of Safe Beaches

Water Agreeable Temperature

Accommodation at Reasonable Rates

In

QUEBEC

NEW BRUNSWICK

NOVA SCOTIA

PRINCE EDWARD I.

Halifax, N.S.....Cor. Sackville and Hollis Sts.
St. John, N.B.....3 King Street
Quebec.....22 Dalhousie Street, 7 Dufort Street, 349 St. Paul Street
Montreal, P.Q. .....130 St. James St.
Toronto....51 King Street, King Edward Hotel Block

Write for copy of "TOURS TO SUMMER HAUNTS" to
General Passenger Dept.
INTERCOLONIAL RAILWAY
MONCTON, N.B.

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING, 232 ST. JAMES STREET, MONTREAL

DOMINION IRON & STEEL CO. LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1909. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICES AND WORKS: SYDNEY, CAPE BRETON, CANADA

Canadian Northern Ry. Construction.

Canadian Northern Quebec Ry.—The construction of the cut-off between Garneau Junction and Quebec, is being proceeded with rapidly, and it is expected to get it completed by July 31. Over 500 men are at work.

The St. Leon Ry. Co. was incorporated by the Dominion Parliament in 1907, to construct a line of railway from Louisville, Maskinonge Co., northward to Alexis, with branches from St. Leon to Three Rivers, and to Lake Maskinonge, Que. No construction has been undertaken.

Canadian Northern Ontario Ry.—On the line between Hawkesbury and Ottawa construction is being pushed forward rapidly and it is expected that the line will be completed to Ottawa during Aug. The plans for the entrance into Ottawa were approved by the Minister of Railways June 18.

Matters in connection with the projected line from Toronto to Ottawa, are still in process of settlement. A deputation from the Lanark County Council waited on the Minister of Railways, June 18, to ask that the line be located through that county, and a deputation from Smiths Falls appeared in opposition, as the line is wanted through that district. The Minister said the arguments presented would be fully considered when the matter came up for settlement.

The Board of Railway Commissioners gave judgment, June 1, confirming the agreement made between the C.N.O.R. and the G.T.R. and C.P.R., by which the first named was to pay $1 a car in and out of the Union Station, Toronto, and that the C.N.O.R. should not be called upon to contribute towards fixed charges. The judgment was given upon an application for an order to compel the C.N.O.R. to pay one-third of the fixed annual charges of Toronto Union Station.

At Parry Sound, about three miles of line is under construction, to connect the C.N.R. with the C.P.R. This line will give both companies access to the water front, and enable them to make connection with the principal industries of the town. The C.P.R. has constructed its half of the line, and the remaining 1.50 miles is now under construction by the C.N.R. It will be operated and maintained jointly.

There are over 1,000 men at work on the extension from Selwood Junction, Ont., towards Port Arthur, and it is expected to get about 32 miles completed this season.

Schomberg and Aurora Ry.—In 1896 the Dominion Parliament passed an act authorizing the construction of a line from between King and Newmarket to Schomberg, Ont., and in 1906 a further act was passed authorizing the construction of additional lines to Beaton and Collingwood, Oshawa to Bowmanville, from Bond Lake to Big Bay Point—and from Barrie to Sutton, Ont. The total mileage authorized is 135 miles, and of this there has been constructed 15 miles from near Bond Lake, on the Metropolitan Division of the Toronto and York Radial Ry., to Schomberg. The line is owned by Mackenzie, Mann & Co. interests and is operated by steam.

Nipigon Ry.—An act was passed by the Dominion Parliament in 1902 incorporating a company with this title to construct a railway from Nipigon station on the C.P.R. transcontinental line, to Lake Superior, and to Nipigon Lake, Albany River and James Bay, a total of about 500 miles. An extension of line was obtained in 1904 for the construction of the line, and the charter subsequently passed into Mackenzie, Mann & Co.'s possession. No construction has been done.

Duluth, Winnipeg and Pacific Ry.—We are advised that it has not been decided when the line from Virginia to Duluth, Minn., will be constructed. This line is the southerly extension of the Duluth, Rainy Lake and Winnipeg Ry., which connects with the Canadian Northern Ry. at Fort Frances, Ont., and which was recently acquired by C.N.R. interests.

The company is reported to have filed a mortgage to secure $1,250,000 of bonds, to provide funds for the construction of the proposed line from Virginia southerly to Duluth, Minn. (June, p . 427.)

Canadian Northern Ry.—Good progress is being made with the erection of the Winnipeg Union Station. The original contract with Peter Lyall & Co., called for a basement, ground floor, two office floors, and an attic. A further contract has been made for the addition of another office floor. The total cost of the building will be about $1,250,000.

In Manitoba the construction in hand for the present includes the extension of the Rossburn branch from Russell, westerly for 40 or 50 miles. From Hallboro, a line is to be constructed through Rapid City for about 60 miles. The Oak Point line is being extended from Oak Point northerly and northwesterly, and 15 miles is being constructed from Ochre River easterly.

In Saskatchewan a line is being constructed from Maryfield southwesterly. The Goose Lake line, which now ends about 75 miles from Saskatoon is being further extended. An extension is also under construction from Prince Albert westerly, for 30 miles. This extension will, it is understood, ultimately connect with the main line at or near Battleford.

There have been some large real estate transactions in Regina, Sask., recently, and on June 8, it was reported that the C.N.R. had secured options on a large area in the city for terminal purposes. The company's Winnipeg officials state that the C.N.R. is not buying any land in Regina.

The freight sheds at Saskatoon, Sask., have been completed and opened for business. Tenders have been asked for a passenger station at Saskatoon. The plans provide for a building, including a covered way of about 40 ft., 224 ft. in length. with a projecting roof at either end. The waiting rooms, and other public offices are on the ground floor; upstairs there will be the operating offices, and there will also be a third floor, the use of which is not yet specified.

Construction has been started from Vegreville, Alta., to Camrose, the objective point of the line being Calgary. D. D. Mann, Vice President, stated recently that this section of the line would undoubtedly be constructed during the summer.

The company's application for the amalgamation with it of the Saskatchewan North-Western Ry., and the Alberta Midland Ry., was heard by the Board of Railway Commissioners at Ottawa, June 10. These two companies were incorporated under charters granted by the Saskatchewan and Alberta Legislatures, to construct certain lines of railway, as branches of the C.N.R., for which guarantees of bonds were given.

In 1899 the Dominion Parliament passed an act incorporating the Edmonton and Slave Lake Ry., with power to construct a railway, having a length of 400 miles from Edmonton via Athabasca Landing and Lesser Slave Lake to Peace River. In 1902 and 1904 acts were passed extending the time for construction. There was completed in 1906, a section of the line extending from Edmonton to Morinville, 21.50 miles, which is being operated as the C.N.R. Morinville branch.

Work is in progress upon an extension of this line from Morinville towards Athabasca Landing, the point at which the navigable waters of the Mackenzie River basin is reached. It is said that in course of time the line will be extended into the Peace River Valley. M. McCrimmon, Edmonton, Alta., is the contractor. (May, 1908, pg. 319.)

It is under the E.Y. and P. Ry. charter, that the C.N.R. route from Edmonton to the Pacific Coast is being surveyed, and its amalgamation was provided for in the act granting aid towards the construction of the line. The preliminary plans for the line from Edmonton to Vancouver and New Westminster, B.C., have been approved, but it is not expected that construction will be undertaken this season. The distance between the Yellowhead Pass and Vancouver is about 500 miles, and T. H. White, who is in charge of the surveys, said June 6 that he expected the location survey would be completed by the end of the year, as very satisfactory progress was being made. From Yellowhead Pass the route surveyed follows the Fraser River for about 40 or 50 miles to opposite Tete Jaune Cache, and thence through a low pass to the head waters of the North Thompson River, via Cranberry and Bridal Lakes. A fourth survey party with C. F. Hannington in charge, has been started at the head waters of the North Thompson River working west; and J. Irvine is working from 50 miles up the North Thompson River, and is running east to meet Hannington's party. J. V. Nimmo has been detached from the North Thompson survey, and with a party is now working down the Fraser River from Lytton, and W. K. Gwyer is working in the Yale district to meet the Nimmo party. As soon as this gap is covered the location of the line to the coast, and also between Lytton and Kamloops along the main Thompson River will be undertaken. The object of all these surveys is to locate a route from the Yellowhead Pass and the mouth of the Fraser River, to Tete Jaune Cache, over by Cranberry Lake, and Albreder Lake to the head waters of the North Thompson River and down it to the junction with the South Thompson at Kamloops. The route down the Thompson River from Kamloops will be on the opposite bank to that occupied by the C.P.R. From above Lytton where the Thompson joins the Fraser River, the line will take the same side of the river as the C.P.R., but at a lower level, and crossing it under one approach to the cantilever bridge at Cisco flat.

The Company's right of way and townsite agents reached Kamloops, May 31 and are reported to be arranging for securing land for terminal purposes, station sites, etc. (June, pg. 427.)

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for Sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

Canadian Gold Car Heating & Lighting Co. Ltd.

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished. **Improved System of Acetylene Car Lighting.**

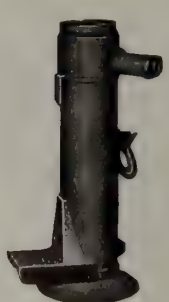
Send for Circular of our New Combination Pressure and Vapor Car Heating System

Largest Manufacturers in the World of Car Heating Apparatus

H & E Patent Ball-Bearing Lifting Jacks

For Railway and Bridge Work, Contractors' and Builders' Use

Foot-Lift

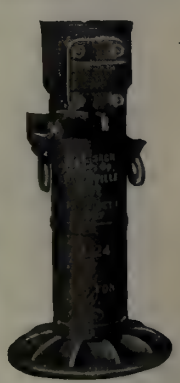


For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed. Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

MANUFACTURED BY

Square Base

Journal Jack



Plain

H & E LIFTING JACK COMPANY = = WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

National Transcontinental Railway.

Quebec Bridge and Ry. Co.—The Minister of Railways returned to Ottawa, June 11, from New York, where he had been in consultation with the engineers, who are preparing plans for the reconstruction of the bridge over the St. Lawrence River at Quebec. He stated that the report as to the plans would be ready at an early date. While nothing definite has been given out it is said that the Commissioners will recommend that the present piers be utilized for the new bridge, and that the central span be 1,600 ft., instead of 1,800 ft., as in the structure which collapsed. This reduction of 200 ft. will be effected by the construction of two new piers, one at each side of the river, 100 ft. towards the centre from the present ones. The bridge will be constructed on the cantilever principle, the towers standing on two piers each, instead of on single piers as in the old plans. The material to be used it is said will be nickel steel. The new bridge will cost, it is stated, about $6,000,000.

Quebec Terminals.—The Dominion Premier, visited Quebec, June 7, and discussed the question of the purchase of the Champlain market for a terminal site for the N.T.R.

National Transcontinental Ry.—The section from Winnipeg easterly to the junction with the G.T.P.R. branch from Fort William to Lake Superior Jct., was reported completed, so far as the grading is concerned, June 8, and engineers representing the G.T.P.R. and the N.T.R. Commission, have been going over the line preparatory to its being taken over for operation by the company. This inspection is being made for the purpose of fixing the cost, upon which the company is to pay the percentage named in the Act as rental. Should the two engineers disagree, C. Schreiber, the Dominion Government's consulting engineer, is the final arbitrator. The length of the piece of line is 240 miles, and the cost of construction has been heavy. Track laying is being gone on with from both ends. Already 70 miles of track has been laid from Winnipeg to the Winnipeg River, where a bridge is being built, and 20 miles from Lake Superior Jct. westerly. The gangs are laying about three miles of steel a day, and it is expected that the 150 mile gap will be closed by the end of July, and everything got ready for the opening of the line by Sept. 1.

Grand Trunk Pacific Ry.—It is expected that by Sept. 1, the company will be able to have its line in operation from the head of the lakes to Edmonton, Alta., a distance of about 1,200 miles.

The work of tracklaying between Wainwright and Edmonton, Alta., has been interferred with, it is reported, by wet weather, and has been closed down altogether at intervals. In some places the rails are said to have sunk two or three feet in the mud. It is confidently expected, however, that track will be laid into Edmonton, by the middle of July. The weather has also interfered with the work west of Edmonton, but tracklaying is being pushed forward as fast as circumstances will permit, so as to enable the company to haul in material for the construction of the big bridge across the Pembina River.

On the line already in operation between Winnipeg and Wainwright, Sask., the company is proceeding with the work of station building and otherwise providing facilities for carrying the increasing traffic.

Location surveys for the line to Vancouver, are being proceeded with along the valley of the North Thompson River.

At Prince Rupert, C. M. Hays, President, stated recently, it was expected that of the first 100 miles there would be completed by Oct. 1, the section to the Copper River. The sale of lots at the Prince Rupert townsite took place at Vancouver, B.C., May 25 to 29, and it was reported that over $1,000,000 was realized.

Pacific, Northern and Omineca Ry.—In 1902 the Dominion Parliament incorporated a company with this title, to construct a railway having a total length of about 900 miles, from Kitimat Inlet on the Pacific coast, via Hazelton to Teslin, or Atlin Lake, or both, and from Hazelton to Peace River Pass, and thence to Edmonton, Alta. Extensions of time were granted in 1904 and 1906. The charter came into the possession of the G.T. Pacific Ry., and a section of the line is now under construction.

G.T.P. Branch Lines.—E. J. Chamberlin, General Manager, stated recently that the company was preparing to let contracts for all its branch lines in Western Canada, so that construction could be gone on with. The Mayor of Regina, stated that W. Wainwright, Fourth Vice-President G.T.R., had informed him that the first line to be constructed would be that from near Yorkton to Regina, and that it would be finished this year if men and money could do it. Contracts have been awarded to McMillan Bros. & Kenny, Winnipeg, for the section from Melville towards Regina, Sask., 35 miles; and to Rigby & Hyland, Fredericton, N.B., for the section from Melville to Yorkton, Sask., 25 miles. Tenders have also been received for the construction of a branch line from Biggar, northerly to Battleford, Sask., 49 miles. It is also hoped to be able to start construction this year on lines north and south from Melville, Sask. (June, pg., 439).

Great Northern Ry. Lines in Canada.

A Winnipeg press despatch referring to railway construction work in Manitoba and the other western provinces says that under the name of the Great Northern Ry. the Hill interest operations are practically nil, but there are at least a dozen companies operating under local charters actively engaged in constructing short lines, or in surveying for short lines, which when connected will form a formidable rival to existing lines in Canada, as seven or eight of them will give direct connection between the projected main line in Canada and the main line in the U.S., making outlets for Canadian wheat which, of course, will be taken direct to Minneapolis mills.

Jas. Fisher, K.C., the legal representative of the G.N.R. in Winnipeg, stated May 27 that all surveys for the G.N.R. direct air line between Noyes, N.D., and Winnipeg had been completed, and he had no doubt but that the line would be constructed this year. A contract had not yet been let, but it was not too late, as the line would be only 60 miles long.

The company's plans for entering Winnipeg have been filed with the Railway Department, but not with the city council. The plans show that in order to come into the city by surface tracks it will be necessary to cross Leonard, Ellen, Isabel, Nena, Tecumseh, Brant, Xante and McPhillips Sts. The company proposes to put in subways at Nena and Isabel Sts., the two main avenues.

Brandon and Southwestern Ry.—The Dominion Parliament in 1890 incorporated a company with this title to construct a line from tp. 1, r. 23 or 24, w. prin. mer., to the C.P.R. near Brandon, and extensions of time for construction were granted in 1894, 1896 and 1898. In 1899 it was given power to construct an additional line from tp. 1 to the western boundary of Manitoba, and in 1900 to construct lines to Gladstone, Cameron and Winnipeg, with a number of branches. This latter act also granted an extension of time for construction, and a further extension was granted in 1903. The original mileage authorized was 70 miles, and no construction has taken place.

Kaslo and Lardo-Duncan Ry.—The Dominion Parliament in 1877 incorporated a company with this title to construct a railway of 150 miles from Kaslo to Lardo, thence to Upper Kootenay Lake, to the mouth of the Duncan River, to the headwaters of the Duncan River, with a branch from the mouth of Lardo River to Lardeau on Arrow Lake. The time for the construction of the railway was extended in 1900 and in 1905, but up to the present there has been no work done.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—Vancouver press reports state that the company will start construction shortly upon its proposed wharves on Burrard Inlet. A spur in connection with the work is under construction from the head of False Creek, and will be completed by June 30.

It is reported that 80% of the grading between Hedley and Princeton, B.C., on this line has been completed. Tracklaying from Keremeos will be started as soon as there is no danger from high water, but Chief Engineer Kennedy says he cannot state when the steel will be laid into Princeton. The grading has reached a point near the Similkameen bridge, where a temporary structure will be put up for construction purposes. Plans have been prepared for a tunnel and a roundhouse at Princeton, for terminal purposes during the construction of the Ashurta branch, and the main line up the Tulameen. A number of spurs and side tracks are also to be constructed in the vicinity for the handling of the output of the V.F.M. Co.'s colliery. (June, pg. 417.)

The Canadian Northern Ry. is reported to have purchased the Empire Hotel, Winnipeg, adjacent to the Fort Garry station, at present under construction.

The C.P.R. Winnipeg shop employes held a picnic June 29, when a special train conveyed the party to Selkirk, where a programme of sports was gone through.

The Montreal Locomotive Works has delivered two 4-wheel locomotives to the Quebec Contracting Co., details of which were given in our May issue; 14 locomotives to the C.P.R., already noted, and one small contractors' locomotive.

W. J. Christie has been nominated by the Canadian Northern Ry., to represent the company's interests in the investigation into the requests of its Winnipeg employes, for increases of pay, etc. J. G. O'Donoghue will represent the men.

CANADIAN LOCOMOTIVE CO., LTD.,

KINGSTON, ONT.

Builders of Simple and Compound **LOCOMOTIVES** Adapted to every variety of service

THE CANADA IRON CORPORATION

Successors to: LIMITED

CANADIAN IRON & FOUNDRY CO., LIMITED
CANADA IRON FURNACE CO., LIMITED
ANNAPOLIS IRON CO., LIMITED
JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE — MONTREAL, P.Q.

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and Gas Pipe, Specials, Valves, Hydrants, Etc. Castings of All Kinds

W. T. RODDEN, Managing Director J. F. JOHNSON, Secretary-Treasure
T. L. GALLAGHER, Sales Manager

Standard Explosives Limited

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL

Works: L'ISLE PERROT, NEAR VAUDREUIL, P. Q.

Railway Finance, Meetings, Etc.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales, for Apr., $10,089 against $18,220 for Apr., 1908. Cumulative net profits, for ten months ended Apr. 30, $342,641. Approximate railway traffic receipts for May, $22,293, against $15,294 for May, 1908. Aggregate railway traffic receipts for 11 months ended May 31, $287,942.

Canada Southern Ry.—Following are the directors elected at the annual meeting at St. Thomas, Ont., June 2, of which Nicol Kingsmill and W. B. Kingsmill, Toronto, acted as Chairman and Secretary, respectively:—W. K. Vanderbilt, F. W. Vanderbilt, C. M. Depew, W. H. Newman, W. C. Brown, H. McK. Twombly, H. B. Ledyard, E. A. Wickes and J. E. Brown. The same directors were also elected for the Niagara River Bridge Co., and the Niagara Island Bridge Co.

Canadian Northern Ry.—An issue of $3,000,000 C.N.R. Winnipeg terminal bonds has been purchased by the Dominion Securities Corporation, Toronto.

There has been deposited with the Secretary of State at Ottawa, a mortgage dated May 18, made between the C.N. Ry. Co., the National Trust Co., Toronto, the British Empire Trust Co., London, Eng., and the King represented by the Province of Saskatchewan, securing an issue of 30 year 4% guaranteed stock or bonds on specified lines of railway to be constructed in Saskatchewan.

Central Ontario Ry.—Following are the officers and directors for the current year:—President, C. E. Ritchie; Vice-President, J. J. Warren; General Manager, G. Collins; other directors, J. H. Moss, and C. B. Stockdale.

Dominion Atlantic Ry.—Gross earnings for Apr., $85,250, against $76,978 for Apr. 1908. Aggregate gross earnings for 4 months ended Apr. 30, $286,200, against $278,037 for same period 1908.

Grand Trunk Pacific Ry.—A deed of trust made by the company to the Royal Trust Co., as trustee, the G.T.R. being guarantor, securing $10,000,000, 4% mortgage bonds, due 1919, was deposited with the Dominion Secretary of State, June 8.

G.T. Pacific Railway Branch Lines.—A London, Eng., press despatch, May 29, says the issue of £1,000,000 of bonds of the G.T. Pacific Branch Lines Co., has been oversubscribed.

Lake Superior Corporation.—The following officers were elected for the current year, at a meeting of the directors held in New York, June 11:—President, C. D. Warren, Toronto; Vice-President, J. T. Lea, Philadelphia, Pa.; second Vice-President, T. J. Drummond, Montreal; third Vice-President, J. F. Taylor.

London and South Eastern Ry.—The annual meetin was held at London, Ont., June 22, when the report for the year was submitted. Following are officers and directors for the current year: President, W. J. Reid; Vice President, T. H. Smallman; Secretary and Treasurer, J. W. Little; other directors, M. Stevely, J. Labatt, J. M. Dillon and M. Masuret.

Quebec and Lake St. John Ry.—Traffic earnings for May, $45,483.43, against $52,879.12 for May, 1908. Aggregate traffic earnings for 5 months ended May 31, $226,030.42, against $200,867.26 for same period, 1908. Mileage operated 285.6 miles, against 240.279 at same period, 1908.

Quebec Central Ry.—Gross earnings for Apr., $80,344.40; expenses, $56,784.77; net earnings, $23,559.63, against $100,-762.01 gross earnings; $65,907.47 expenses; $34,854.54 net earnings for Apr., 1908. Aggregate gross earnings for 10 months ended Apr. 30, $843,395.60; expenses, $600,300.99; net earnings $243,094.61, against $908,119.87 gross earnings; $635,-135.44 expenses; $272,984.43 net earnings for same period 1907-08.

St. Marys and Western Ontario Ry.—Application is being made to the Board of Railway Commissioners for sanction of a lease to the C.P.R., dated Feb. 25, 1909, of the lines and appurtenances of the St. M. and W.O. Ry.

Temiskaming and Northern Ontario Ry.—Railway receipts for Apr., $161,-869.50; expenses, $72,014.36; net earnings, $89,855.14; ore royalties, $10,952.71. Approximate receipts for May, $126,000; expenses, $65,000; net earnings, $61,000.

Toronto, Hamilton and Buffalo Ry.—Following are the directors for the current year:—Sir. Thos. G. Shaughnessy, W. C. Brown, W. H. Newman, H. B. Ledyard, J. N. Beckley, D. McNicoll, C. F. Cox, E. B. Osler, W. P. Torrance, W. L. Scott. They represent the New York Central and Hudson River Rd., and the C.P.R., which own the line jointly. The company does not issue a report.

July Birthdays.

Many happy returns of the day to—

J. H. Black, Superintendent Temiskaming and Northern Ontario Ry., North Bay, Ont., born, near Smith's Falls, Ont., July 8, 1874.

M. S. Blaiklock, Engineer Maintenance of Way, G.T.R., Montreal, born at Quebec, July 19, 1859.

D. E. Blair, Superintendent of Rolling Stock, Montreal St. Ry., Montreal, born at St. Thomas, Montmagny, Que., July 25, 1877.

D. C. Coleman, Superintendent Car Service C.P.R. Western Lines, Winnipeg, born at Carleton Place, Ont., July 9, 1879.

Geo. Collins, Director and Manager Central Ontario Ry., Trenton, Ont., born at Kingston, Ont., July 20, 1860.

D. D'E. Cooper, Canadian Freight Agent Lehigh Valley Rd., Toronto, born at Buffalo, N.Y., July 8, 1862.

John Corbett, General Foreign Freight Agent C.P.R., Montreal, born in Lanarkshire, Scotland, July 19, 1863.

E. J. Coyle, ex-Assistant General Passenger Agent C.P.R., Vancouver, B.C., born at Stayner, Ont., July 23, 1870.

S. E. Dewey, Travelling Freight Agent G.T.R., New York City, born at Beckenham, Kent, Eng., July 4, 1879.

J. F. Dolan, City Passenger and Ticket Agent Richelieu and Ontario Navigation Co., Montreal, born at Kingston, Ont., July 1, 1868.

F. C. Foy, Canadian Passenger Agent, New York Central Lines, Toronto, born there, July 5, 1881.

J. A. Goodearle, General Manager Turbine Steamship Co., Toronto, born at Kingston, Ont., July 4, 1867.

J. H. Gordon, Travelling Freight Agent, C.P.R., Winnipeg, born there, July 21, 1883.

W. R. Haldane, ex-General Freight Agent C.P.R., Vancouver, B.C., born at Galashiels, Scotland, July 6, 1867.

J. H. Hanna, ex-Division Freight Agent G.T.R. at Hamilton, Ont., now at Calgary, Alta., born at London, Ont., July 27, 1867.

R. K. Harris, Chief Engineer, Orford Mountain Ry., Kingsbury, Que., born at Maitland, Ont., July 20, 1866.

A. D. Huff, Division Freight Agent G.T.R., Ottawa, born at Chatham, Ont., July 17, 1866.

C. A. Jaques, General Manager Merchants-Montreal Line Steamers, Montreal, born there July 15, 1849.

J. P. Kavanagh, Local Manager Ogdensburg Coal and Towing Co., Montreal, born at Plattsburg, N.Y., July 17, 1862.

E. W. Kolb, Assistant Superintendent Sleeping, Dining and Parlor Cars and News Service, C.P.R. Central Division, Winnipeg, born at Cincinnati, Ohio, July 22, 1878.

D. T. Lawrence, Manager National Despatch-Great Eastern Line, Boston, Mass., born at Marysville, Ohio, July 20, 1871.

T. J. Maguire, Accountant Quebec Central Ry., Sherbrooke, Que., born at Quebec, July 31, 1860.

R. Preston, Master Mechanic, Central Division, C.P.R., Winnipeg, born at Toronto, July 28, 1863.

J. E. Quick, General Baggage Agent G.T.R., Toronto, born at Richmond, Ontario Co., N.Y., July 10, 1851.

G. G. Ruel, Chief Solicitor Canadian Northern Ry., Toronto, born at St. John, N.B., July 5, 1866.

P. E. Ryan, Secretary National Transcontinental Railway Commission, Ottawa, born there July 26, 1876.

Geo. Stephen, General Freight Agent Canadian Northern Ry., Winnipeg, born at Montreal, July 5, 1876.

R. F. Struthers, Chief Inspector of Time Service, C.P.R., Winnipeg, born at Stratford, Ont., July 31, 1879.

T. Tait, Chairman Board Railway Commissioners for Victoria, Melbourne, Australia, born at Melbourne, Que., July 24, 1864.

H. T. Wilgress, Agent C.P.R. Pacific Steamship Service, Yokohama, Japan, born at Lachine, Que., July 29, 1857.

Cost of Stopping and Starting Trains.

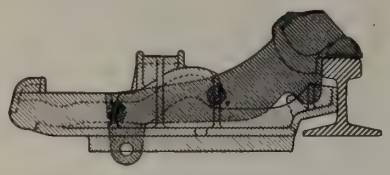
Luther Starratt, locomotive engineer, Truro, N.S., writes as follows: "Please state what it costs to stop and start a two car passenger train, also passenger trains up to 10 cars and the same in freight service."

We would be pleased to receive answers to this enquiry from any of our readers.

Railway Lands Patented.—Letters patent covering lands in Manitoba, Saskatchewan, Alberta and British Columbia were issued during Mar., as follows:—

	Acres.
C.N.R.	45,033.96
G.T.P.R.	1,277.00
Manitoba Southwestern Col. Ry.	80.00
	46,390.96

Manitoulin & North Shore Ry.—We were advised June 16 that no contract had been let for the first section of the extension of this railway. It was expected, however, that a contract would be let and construction proceed without delay. Surveys have been made for one line between Sudbury and Little Current, but it is expected that a revision survey will enable such alterations to be made as will reduce the cost of construction considerably.



The Pennsylvania Railroad System has an average of one Hayes Derail for every two and seven-tenths miles of road.

That's pretty fair evidence of merit; but there are other convincing reasons why you cannot do better than to install our derails:

We are derail specialists; we have done nothing but manufacture derails and attachments for five years.

Our derails have been tried out under every possible condition and have thoroughly proven their efficiency.

We make it our business to have you entirely satisfied with every piece of material we ship you. We want not only your first order but your continued future patronage.

Let us ship you a trial order from our works at Hamilton, Ontario.

Address: Hayes Track Appliance Co., Geneva, N.Y.

CROSSEN CAR MFG. COMPANY

OF COBOURG, LIMITED

MODERN HIGH-CLASS

ROLLING STOCK

Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows

CAR CASTINGS, FORGINGS AND REPAIR PARTS

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON (via Boston & Maine R.R. and Cent. Vermont Ry.) MONTREAL, TORONTO and CHICAGO.

THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.

Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, Gen. Passenger and Ticket Agent, MONTREAL, QUE.

MAINLY ABOUT PEOPLE

F. H. Phippen, General Counsel, C.N.R., has been appointed a K.C. for Ontario.

Chevalier J. Heney, an old-time contractor, died at Ottawa, June 8, aged 88 years.

Sir Wm., Lady, and Miss Van Horne, returned to Canada, June 11, from Great Britain.

Scott Griffin, Manager Canadian Northern Express and Telegraph Companies, is visiting England.

Wm. Whyte, Second Vice-President C.P.R., returned to Winnipeg June 7 from a short visit to Montreal.

Miss B. Brodeur, daughter of the Minister of Marine, was married at Montreal, June 16, to J. G. de Lorimier.

Lord Strathcona is reported to have offered an ornamental fountain to Ottawa, to be erected in Strathcona Park.

F. Jno. Bell has resigned as director and Secretary-Treasurer of the Canadian Crocker-Wheeler Co., Ltd., Montreal.

Wm. Whyte, Second Vice-President C.P.R., Wininpeg, has been re-elected a director of the Imperial Bank of Canada.

Hon. L. P. Brodeur, Minister of Marine, sailed for England, June 25, to attend the Imperial Conference on Naval Defence.

Sir Robt. W. Perks, head of the Montreal and Georgian Bay Canal Co., addressed the Empire Club, Toronto, recently.

R. B. Angus, director C.P.R., and Miss Angus returned to Montreal from Great Britain, on the s.s. Empress of Ireland, June 11.

C. S. Gzowski, of Macdonell, Gzowski & Co., railway contractors, Vancouver, B.C., was married in Toronto, June 5, to Mrs. Patterson.

Col. H. H. McLean, M.P., Vice President St. John, N.B., Ry., sailed on the C.P.R. s.s. Empress of Britain, June 18, for England.

J. F. Lash, youngest son of Z. A. Lash, K.C., Director C.N.R., was married at St. James' Cathedral, Toronto, June 5, to Miss G. C. Baldwin.

W. Whyte, second Vice-President C.P.R., has been elected first W.M. of Assiniboine Lodge of Freemasons, newly instituted in Winnipeg.

A. D. MacTier, assistant to Vice-President, C.P.R., with Mrs. MacTier and family, sailed from Montreal, June 18, on a visit to Great Britain.

Lady Shaughnessy and family left Montreal towards the end of June, to spend a few months at their country home, St. Andrews, N.B.

M. S. Blaiklock, Engineer Maintenance of Way, G.T.R., Montreal, was elected a member of the Canadian Society of Civil Engineers, June 12.

M. J. Butler, Deputy Minister of Railways and Canals, and Chairman Government Railways Managing Board, has been made a Companion of the Order of St. Michael and St. George.

Mrs. D. McNicoll, wife of the Vice President C.P.R., was a passenger on the C.P.R. s.s. Empress of Britain, which sailed from Quebec, June 18.

D. McNicoll, Vice President and General Manager C.P.R., returned to Montreal June 4, after an inspection trip over the company's Ontario lines.

G. E. Smyth, Assistant General Manager Great Southern and Western Ry., Ireland, and Mrs. Smyth visited relatives in Montreal and Toronto during June.

G. J. Bury, General Manager, and C. E. E. Ussher, Assistant Passenger Traffic Manager, C.P.R. Western lines, were in Vancouver, B.C., during June.

Sir Wm. C. Van Horne and Sir H. Montagu Allan are Canadian Directors of the International Banking Corporation which is opening business in Japan.

Lady Reid and Miss Reid have given an observation pavilion to the Alexandra Hospital for Contagious Diseases, Montreal, in memory of the late Sir Robert G. Reid.

R. Kerr, Passenger Traffic Manager, C.P.R., returned to Montreal June 5 from Chicago, where he had been attending the meetings of the Western Passenger Association.

Earl Fitzhugh, only son of E. H. Fitzhugh, Third Vice-President G.T.R., died at Saranac Lake, June 2, where he had been staying for some time on account of his health.

A. M. Grantham, Purchasing Agent Toronto Ry., has recovered from an attack of ptomaine poisoning, which developed while on a fishing expedition on the Nipigon River.

H. E. Curry, resident engineer on construction, National Transcontinental Ry., on section near Lake Nipigon, Ont., was drowned there recently. He formerly resided at Kingston, Ont.

W. R. Haldane, who relinquished his duties as General Freight Agent, C.P.R. Pacific Division, on account of ill health, is at present undergoing treatment at a sanatarium at Alma, Mich.

G. H. Merrick, freight clerk, C.P.R., Winnipeg, was presented with a travelling bag, June 4, on his removal to Brandon, Man., where he has been appointed City Ticket Agent, C.P.R.

Hon. R. W. Scott, formerly Secretary of State, and father of D'Arcy Scott, Assistant Chief Railway Commissioner, has received the honor of knighthood on the occasion of the King's official birthday.

In our list of birthdays of transportation men for June in our last issue, Allan Purvis, Superintendent, District 3, Pacific Division, C.P.R., Nelson, B.C., was stated to have been born in 1864, instead of 1878.

Hon. G. P. Graham, Minister of Railways and Canals, will sail for Europe, July 2. He will be absent about 2 months, and during that time intends to study transportation problems on the Continent.

In announcing the death of N. L. Lusher, steamship and passenger ticket agent, and Canadian Passenger Agent, L. and N.W.R. Eng., at Montreal, in our June issue, the name was inadvertently spelt Luther.

T. Grimes, General Yardmaster, C.P.R. Toronto Terminals, West Toronto, was sentenced to three years in the penitentiary, June 4, for defrauding the C.P.R. of various sums of money by means of padded pay rolls.

F. W. Morse, formerly Second Vice-President and General Manager, G.T.P.R., who sailed from New York for Europe, Jan. 21, after his resignation from the G.T.P.R. management, returned to Canada recently.

The list of subscriptions to the South African Memorial Association includes: Z. A. Lash, K.C., director C.N.R., $1,000; E. B. Osler, M.P., director C.P.R., $500; Wm. Mackenzie, President C.N.R., $500; and Æmilius Jarvis & Co., $200.

F. W. Peters, Assistant to Second Vice President, and W. B. Lanigan, Assistant Freight Traffic Manager, Western Lines, C.P.R., Winnipeg, attended meetings of the Associated Boards of Trade at Saskatoon, Sask., during June.

H. Swinford, who was recently appointed General Agent, Northern Pacific Ry., at Vancouver, B.C., was the chief guest at a dinner given by the Winnipeg Garrison Officers recently, on his leaving Winnipeg, where he occupied a similar position.

Of the total of over $18,000,000 paid out by the life assurance companies in Canada during 1908, among the largest policies paid were the following: John Torrance, ship broker and agent, Montreal, $49,259; and J. I. Tarte, formerly Minister of Public Works, $27,000.

B. Robb, son of W. D. Robb, Superintendent Motive Power, G.T.R., along with a number of engineering students of McGill and other universities, is taking a summer course of practical mechanics at the G.T.R. locomotive repair shops, Stratford, Ont.

Jas. Ross, former C.P.R. contractor, now President of the Dominion Coal Co., and associated with other industrial enterprises, who some years ago presented the Ross Memorial Hospital to Lindsay, Ont., proposes to add a nurses' home to his benefaction.

R. W. and Mrs. Long, of London, Ont., who celebrated the fiftieth anniversary of their wedding recently, are the parents of R. W. Long, G.T.R. Division Freight Agent at Hamilton. Mr. Long was for many years before his retirement in the employ of the G.T.R.

A. Price, General Superintendent, and R. J. Lydiatt, Trainmaster, District 3, Western Division, C.P.R., returned to Calgary, Alta., June 4, from St. Louis, Mo., where they had been attending the Y.M.C.A. Railway Department's International Conference.

A London, Eng., paper, dated May 29, states that D. D. Mann, Vice-President C.N.R., was among the arrivals in England by the s.s. Laurentic. This is incorrect; Mr. Mann was in Toronto at the time, and though his passage was booked on the Laurentic, he did not sail.

P. H. Roy, Secretary-Treasurer Eastern Valley Ry. Co., ex-President of the Banque de St. Jean, Que., and a former Speaker of the Quebec Legislature, was sentenced to 5 years in the penitentiary recently for making false returns in connection with the bank which failed some time ago.

Lawford Grant, Manager for Canada of the British Insulated & Helsby Cables, Limited, has been appointed Honorary Secretary-Treasurer for Canada for the Institution of Electrical Engineers of London, Eng., in succession to Prof. R. B. Owens, late of McGill University, Montreal.

W. S. Cookson, Assistant General Passenger Agent, G.T.R., Chicago, Ill., has been elected Chairman Michigan Passenger Association. This position was hitherto held by G. W. Vaux, then Assistant

(*Continued on pg.* 511).

Dominion Malleable Iron Journal Box

Strong and Light Simple and Tight

Manufactured in Canada.

—ALSO—

Malleable Iron Journal Bearing Wedges

Taylor & Arnold, Montreal

MORISON Suspension Furnaces

The Universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine Boilers

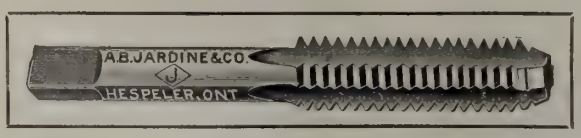
Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

Manufactured by

THE CONTINENTAL IRON WORKS, WEST AND GALVER STS. BOROUGH OF BROOKLYN. Near 10th and 23rd St. Ferries. NEW YORK

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes



Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

ACTON BURROWS LIMITED, - Proprietors, 157 Bay Street, Toronto, Canada.

Local and Long Distance Telpehone, Main 3201.

ACTON BURROWS, - Managing Director and Editor-in-Chief.

AUBREY ACTON BURROWS, - Secretary and Business Manager.

JOHN KEIR, - - - Associate Editor

DONALD F. KEIR, - - - Associate Editor

A. FENTON WALKER, - U S Representative, 143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.

SUBSCRIPTION PRICES, INCLUDING POSTAGE:

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, JULY, 1909.

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, M. MAGIFF, St. Albans, Vt.; MANAGER, J. E. DUVAL, 401 St. Nicholas Bldg., Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. J. Mossman, Buffalo, N.Y.; SEC.-TREAS., T. Marshall, Toronto.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, H. H. Vaughan, Montreal; SECRETARY, J. Powell, St. Lambert, Que. MEETINGS 1st Tuesday each month 8 p.m., except June, July and August.

Canadian Street Railway Association.

PRESIDENT, D. McDonald, Montreal; SEC.-TREAS., Acton Burrows, 157 Bay St., Toronto.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal. MEETINGS at Montreal, alternate Thursdays, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, R. J. Craig, Cobourg, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto. MEETINGS at Toronto, 3rd Tuesday each month, except June, July and August.

Dominion Marine Association.

PRESIDENT, C. J. Smith, Montreal; COUNSEL, F. King, Kingston, Ont.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto.
SECRETARY, R. B. Wolsey, C.E., Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Quebec Transportation Club.

PRESIDENT, F. S. Stocking.
SEC.-TREAS., A. H. Davis, Box 350, Quebec.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

Western Canada Railway Club.

PRESIDENT, G. Hall, Winnipeg; SECRETARY, W. H. Rosevear, Winnipeg. MEETINGS at Winnipeg, 2nd Monday each month, except June, July and August.

Alphabetical List of Advertisers

	PAGE
Abbott, W.	Cover 1
Alexander Car Replacer Mfg. Co.	536
American Brake Shoe & Foundry Co.	512
American Hoist & Derrick Co.	484
Babcock & Wilcox, Ltd.	548
Banwell Hoxie Wire Fence Co., Limited	522
Beatty, M., & Sons, Ltd.	542
Boker, Hermann & Co.	540
Bowser, S. F. & Co., Limited	498
Bradstreet Company	526
Brevoort Hotel, Chicago	498
Brown Hoisting Machinery Co.	472
Burnham, Williams & Co.	526
Burns, R. M. & Co.	538
Burrows,—Aeton Burrows, Limited	Cover 1
Butterfield & Co.	538
Canada Car Co., Ltd.	494
Canada Iron Corporation, Ltd.	504
Canadian Bridge Co., Ltd.	536
Canadian Bronze Co., Ltd.	544
Canadian Gold Car Heat'g & Light'g Co., Ltd.	502
Canadian Locomotive Co., Ltd.	504
Canadian Northern Railway	522
Canadian Office & School Furniture Co., Ltd.	544
Canadian Pacific Railway Land Department	530
Canadian Railway Accident Insurance Co.	528
Canadian Ramapo Iron Works, Ltd.	530
Canadian Rand Co., Ltd.	520
Canadian Road Machine Co., Ltd.	520
Canadian Westinghouse Co., Ltd.	Cover 2
Chicago Ry. Equipment Co.	534
Cleveland City Forge & Iron Co.	526
Clifton Hotel, Niagara Falls, Ont.	528
Coghlin, B. J., & Co.	544
Continental Iron Works	508
Crossen Car Mfg. Co., of Cobourg, Ltd.	506
Date, John	540
Delaware and Hudson Co.	532
Dominion Bridge Co., Ltd.	536
Dominion Car & Foundry Co., Ltd.	Cover 4
Dominion Iron & Steel Co., Ltd.	500
Dominion Wire Rope Co., Ltd.	488
Dougal Varnish Co., Limited	Cover 1
Drake & Wiers Co.	534
Drewry, E. L.	540
Drummond, McCall & Co.	498
Duner Co.	544
Engineering News Book Dept.	516
Falls Hollow Staybolt Co.	534
Farlow Draft Gear Co.	518
Flannery Bolt Co.	480 and 512
Fuce, Edw. O.	509
Galena Signal Oil Co.	470
Galt Malleable Iron Co.	544
Gardner, J. T.	528
Gartshore, J. J.	532
Gartshore-Thomson Pipe & Foundry Co., Ltd.	536
General Railway Signal Co.	532
Goldschmidt Thermit Co.	532
Grand Trunk Railway	506
Greening, The B. Wire Co., Ltd.	544
Ground Anchor Co., Ltd.	510
H. & E. Lifting Jack Co.	502
Hamilton Pattern Works	544
Hamilton Steel & Iron Co., Ltd.	Cover 2
Harrison Dust Guard Co.	528
Hart, John A., and Co.	Cover 1
Hart Otis Car Co., Ltd.	482
Hayes Track Appliance Co.	506
Hicks Locomotive and Car Works	514
Holden Co., Ltd., The	510
Hopkins, F. H. & Co.	482
Hotel Cadillac, Detroit, Mich.	Cover 1
Hudson's Bay Company	502
Hunt, Robert W., & Co.	532
Hutton, James & Co.	542
Illinois Central Railroad	534
Imperial Bank of Canada	544
Imperial Guarantee & Accident Insurance Co.	534
Intercolonial Railway	500
International Marine Signal Co.	538
International Mercantile Marine Co.	536
Jardine, A. B., & Co.	508
Jessop, Wm., & Sons, Ltd.	540
Kerr Engine Co., Ltd.	524
Knowlton, W. H.	544
Lehigh Valley Rd.	544
Lewis, Rice & Sons, Ltd.	514
Lufkin Rule Co.	Cover 1
McConway & Torley Co.	526
McCord & Co.	488
McGregor-Banwell Fence Co., Ltd.	516
Meaford Wheelbarrow Co.	—
Metcalf, John S., Co.	542
Midland Towing & Wrecking Co., Ltd.	532
Montreal Locomotive Works	474
Montreal Rolling Mills Co.	524
Montreal Steel Works, Ltd.	492
Mussens Limited	Cover 1 and 478
National Malleable Castings Co.	Cover 1
New Brunswick Wire Fence Co., Limited	538
Niagara Navigation Co.	510
Northern Electric and Mfg. Co., Ltd.	—
Northern Navigation Co.	512
Norton, A. O.	490
Ontario Wind Engine and Pump Co.	540
Orford Copper Co.	544
Ottawa Car Co., Ltd.	Cover 1
Owen Sound Wire Fence Co., Ltd.	540
Page Wire Fence Co., Ltd.	528
Parry Sound Lumber Co., Ltd.	542
Phillips, Eugene F., Electrical Works, Ltd.	542
Piper, The Hiram L. Co., Ltd.	544
Piper, N. L., Railway Supply Co., Ltd.	518
Polson Iron Works, Ltd.	486
Positive Lock Washer Co.	542
Provincial Steel Co., Ltd.	534
Pyke, J. W., & Co.	500
Pyle National Electric Headlight Co.	496
Rail Joint Co., of Canada, Ltd.	Cover 1 and 490
Rendle, A. Edgcumbe	Cover 1
Renouf Publishing Co.	518
Rhodes, Curry & Co., Ltd.	484
Robb Engineering Co., Ltd.	482
Robertson Machinery Co.	544
Safety Car Heating & Lighting Co.	494
Saxby and Farmer, Ltd.	Cover 1
Sheriffs Mfg. Co.	532
Silliker Car Co., Ltd.	492
Smart, James, Mfg. Co., Ltd.	514
Southam Press	542
Standard Coupler Co.	540
Standard Explosives, Limited	504
Standard Paint & Varnish Co., Ltd.	544
Standard Steel Works Co.	526
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold	508
Toronto Bolt & Forging Co., Ltd.	516
Toronto Pressed Steel Co., Ltd.	520
Union Draft Gear Co.	530
United Typewriter Co.	528
Vulcan Iron Works	514
Waugh Draft Gear Co.	Cover 1
Williams, A. R., Machinery Co.	496
Williams Boltless Rail Joint Mfg. Co.	476
Willis Shaw Machinery Co.	538
Wire & Cable Co.	Cover 1

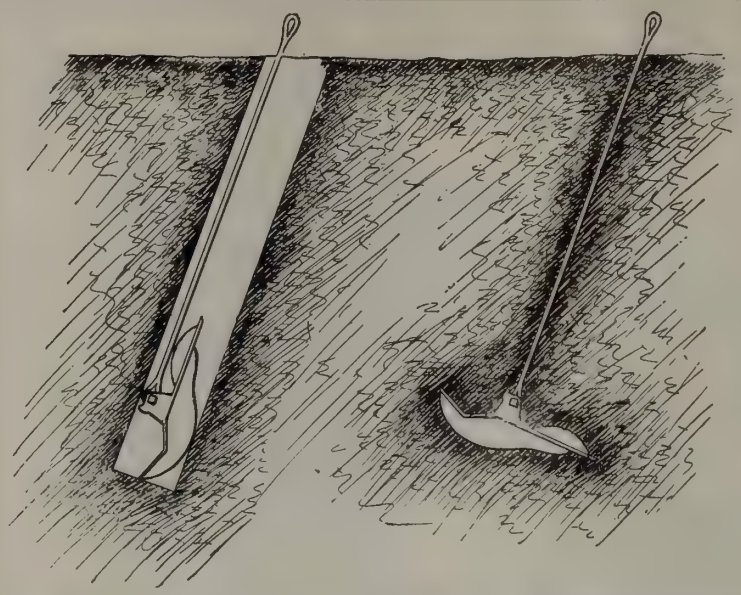
EDW. O. FUCE

Hon. Grad., Univ. Tor. (S.P.S.)
A. M. CAN. SOC. C. E.
ONT. LAND SURVEYOR.

Consulting Civil Engineer
GALT, ONT.

Railway Location & Construction.
Reinforced Concrete Structures.

F&C

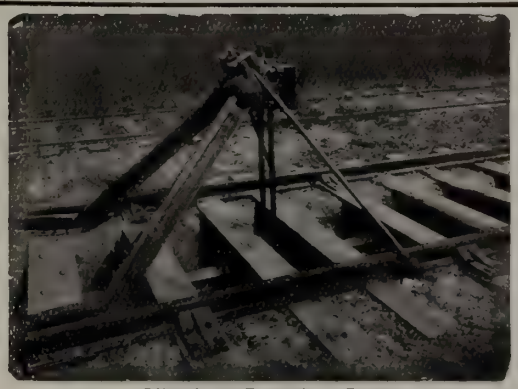


"AULD" TYPE GUY ANCHORS

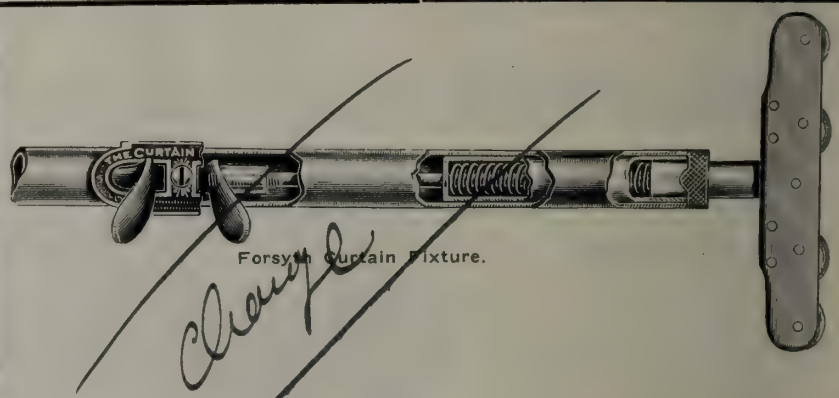
Write us about your pole line; we can increase its efficiency and save you money.

Sole manufacturers under letters patent No. 90301 and No. 101462

THE GROUND ANCHOR CO.
LIMITED
Street Railway Chambers
MONTREAL



Gibraltar Bumping Post.



Forsyth Curtain Fixture.

Our GIBRALTAR Bumping Posts are built on strictly engineering principles, and possess strength, durability and superiority of design. The structural work being entirely of steel, there are no wooden parts to check, splinter and decay. Our FORSYTH Adjustable Roller-tip Pinch Handle Curtain Fixtures are practically standard on all leading roads. They are up-to-date in every respect, embracing all modern improvements. Write us for descriptive literature, and watch for illustrations of our other specialties.

THE HOLDEN COMPANY, Limited

MONTREAL—302 St. James Street. TORONTO—42 York Street. WINNIPEG—291½ Portage Ave

NIAGARA NAVIGATION COMPANY

STEAMERS CONNECTING

Toronto-Niagara Falls-Buffalo

6 trips daily (except Sunday).

Write for illustrated booklet. Dining service on all steamers.

B. W. FOLGER, General Manager, Toronto

General Passenger Agent, G.T.R., Chicago, Ill., now General Passenger Agent, G.T.R., Montreal.

E. A. Evans, General Manager, Quebec Ry. Light and Power Co., was elected Second Vice President, and A. A. Dion, General Superintendent Ottawa Electric Co., was appointed a member of the managing committee of the Canadian Electric Association, for the current year, at its annual meeting, June 17.

W. R. Allan, of Allan, Lang, Killam & McKay, general insurance agents, Winnipeg, and who is also Canadian Northwest Agent for the Allan Line, and is a son of the late Andrew Allan, of Montreal, was married there, June 1, to Mrs. Killam, widow of the late A. C. Killam, K.C., Chief Railway Commissioner for Canada. Mr. and Mrs. Allan are now in Europe.

Jas. Dunsmuir, principal owner of the Wellington Colliery Co., with its railways on Vancouver Island, and its steamship lines trading along the Pacific Coast, and formerly principal owner of the Esquimalt and Nanaimo Ry., has asked the Dominion Government to relieve him of his duties as Lieut.-Governor of British Columbia, a position which he has held since 1905.

L. B. Merriam, who recently resigned his position as Division Engineer on the G. T. Pacific Ry. at Winnipeg, has opened an office in the Builders' Exchange Building there, and will pay special attention to municipal engineering, as well as undertaking railway and irrigation works. He is a member of the Canadian Society of Civil Engineers and of the Western Society of Engineers.

E. W. Kolb, who has been appointed Assistant Superintendent Sleeping, Dining and Parlor Cars and News Service, C.P.R. Central Division, Winnipeg, was born at Cincinnati, Ohio, July 22, 1878, and entered railway service at the age of 17, with the Pullman Co., at St. Augustine, Fla., and remained with that company ever since, chiefly in the southern winter service. During the past three years he was, during the summer months, in C.P.R. service. When he left the Pullman Co., he was Service Inspector of Dining Cars.

O. V. Dotts, who has been appointed Superintendent Sleeping, Dining and Parlor Cars and News Service, C.P.R. Central Division, Winnipeg, was born at Philadelphia, Pa., April 3, 1875, and entered the Pennsylvania Rd. service in 1890, in the passenger department, remaining with that company until his present appointment, principally in the Dining Car and Restaurant Department. When he left the P. Rd. service he was Assistant to the Assistant Superintendent Dining Cars and Restaurants, which position he had held for 4 years.

V. Kistler, who has been appointed District Freight and Passenger Agent, G.N.R., Grand Forks, B.C., was born at Clyde, Ohio, Sept. 4, 1881, and entered railway service July 1, 1901, since when he has been, to Sept. 1, 1901, stenographer Freight Claim Department, Lake Shore and Michigan Southern Ry.; Sept. 1, 1901, to June 1, 1902, stenographer Assistant Traffic Manager's office, Erie Rd.; June 1, 1902, to Jan. 1, 1906, stenographer and clerk General Freight office, G.N.R.; Jan. 1, 1906, to May 15, 1909, Travelling Freight Agent G.N.R.

H. R. Charlton, G.T.R. General Advertising Agent, was the recipient recently of an interesting souvenir of the early days of railways in Canada. It consisted of an annual pass issued in 1863 by the Great Western Ry., now part of the G.T.R., signed by T. Swinyard, as General Manager, to H. P. Dwight, then Superintendent Montreal Telegraph Co. It is interesting to note that both Mr. Swinyard and Mr. Dwight are over 80 years of age, the latter now being President G.N.W. Telegraph Co., and the former having retired from active business several years ago.

C. H. Temple, who has been appointed Assistant Superintendent of Motive Power, C.P.R., Winnipeg, was born at Montreal in 1862, and entered railway service in 1874, since when he has been, to 1881, office boy and apprentice, G.T.R., Belleville, Ont.; 1881 to 1886, mechanic and mechanical clerk in the Mechanical Superintendent's office, G.T.R., Montreal; in 1886 he was appointed foreman, C.P.R. shops at Yale, B.C., and subsequently, to 1902, he acted as foreman at Kamloops, Vancouver, North Bend and Revelstoke, B.C. In 1902 he was appointed Master Mechanic, C.P.R., Pacific Division, and transferred to a similar position, C.P.R. Central Division, Winnipeg, Jan., 1905.

R. E. Larmour, who has been appointed General Freight Agent, Central Division, Winnipeg, was born at Brantford, Ont., Sept. 26, 1868, and entered railway service Aug., 1884, at Stratford, Ont., as office boy in the office of his father, who was then Division Superintendent, G.T.R., remaining there until 1886; since when his record has been: 1886 to 1888, clerk in office of General Manager, Great Eastern Fast Freight Line, Detroit, Mich.; 1888 to 1890, Accountant to General Superintendent, Chicago and Grand Trunk Rd., Detroit, Mich.; 1890 to 1892, G.T.R. Local Freight Department, Detroit, Mich.; 1892 to 1898, Transfer Clerk, Through Freight from Wabash Rd. to G.T.R., at Windsor, Ont.; 1898 to Nov., 1899, Chief Clerk Freight Office, C.P.R., at Fort William, Ont.; Nov. 1899, to May, 1900, Acting Agent, Fort William; May, 1900, to Aug., 1900, Chief Clerk, Superintendent's Office Fort William; Aug., 1900, to Feb., 1903, Agent, Port Arthur, Ont.; Feb., 1903, to Feb., 1905, Freight Claims Agent, Pacific Division, Vancouver, B.C.; Feb., 1905, to Feb., 1906, Freight Claims Agent, Central and Western Divisions, Winnipeg; Feb. to Aug., 1906, City Freight Agent, Winnipeg; Aug., 1906, to June, 1908, Freight Agent, Fort William, Ont.; June to July, 1908, General Agent, Fort William, Ont.; July, 1908, to June, 1909, General Freight Agent, Kootenay and Boundary District, Nelson, B.C.; from 1898, all service with C.P.R.

Fair Visitor—"Why are all vessels spoken of as 'she'? It's because they glide so gracefully, isn't it?"

Mariner—"No, miss. It's because their riggin' costs so much."

A New Englander was travelling in Texas on a new railway.

"Hello, neighbor!" he called out to a fellow traveller. "How about the southbound train? How often does it run?"

"She's a try-weekly," said the Texan. "She runs down one week and tries mighty hard to get back the next."

American Railway Master Mechanics Association.

The President for the year 1908-09, H. H. Vaughan, Assistant to the Vice President C.P.R., in opening the 42nd annual convention at Atlantic City, N.J., June 16, gave a comprehensive historical sketch of the organization and work of the Association, and the many investigations and tests undertaken by it, which have been of considerable value to engineering in general, and railway engineering in particular. The history of the Association was shown to be the history of the development of the locomotive on this continent, and the services of the Association were claimed to be unique, as in other countries, similar organizations are non-existent, development being left to the individual. In dealing with the future of the Association, he pointed out the changes in motive power which are impending. The steam locomotive is faced by the electric locomotive, and while the articulated locomotive has increased the field of steam propulsion, the results and experiences with electricity as a motive power should be at the disposal of the members of the Association, so that they may be adequately equipped when the time arrives for making the change. He said that members have paid attention to the technical side of motive power rather than to the business side, and suggested that more attention should be given to the commercial side of the business in which they were engaged, and recommended properly prepared performance sheets as having a bearing on the commercial and financial questions under their charge. The locomotive repair shops of the country spend annually about $80,000,000, and there is no reason why properly trained observers should not prepare information about one operation after another, which, with a systematic exchange of information would tend to economy. He also advocated closer relations with railway clubs, as the latter are more to be depended on as sources of information than are circular letters, and many of the minor questions at present coming before the convention could with advantage be discussed in the clubs. A union with the Master Car Builders' Association was strongly favored, which he considered would obviate the giving up of two weeks to these annual meetings.

Subsequently a committee was appointed to report on the recommendations contained in the President's address.

The report of the committee on motor cars covering the development of motor cars on steam railways led to a discussion, in the course of which H. H. Vaughan, declared against the steam motor car as an anomalous arrangement. He considered that unless there is a future for the gasolene engine, there is nothing in motor cars for the railways at present.

Among other subjects discussed were, the grading of lumber for railway use; the revision of standards; the standard decimal gauge; safety appliances for locomotives; bank versus level firing; superheating; tender truck types, etc.

Michigan Central Rd.—We are advised that the company intends starting the erection of a 20-stall round house and a passenger station at Windsor, Ont., early in July. (June, pg. 415.)

The Northern Navigation Co.

OF ONTARIO, Limited

GRAND TRUNK LINE

"A FRESH WATER SEA VOYAGE"---1500 Miles up the Great Lakes.

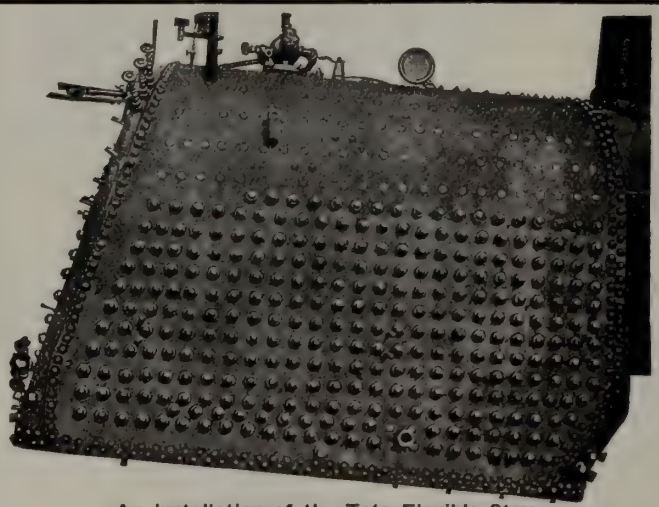
Frequent Sailings for Sault, Port Arthur, Fort William and Duluth.

"THAT GEORGIAN BAY TRIP." Sailings from Collingwood and Owen Sound for Manitoulin Island Points and Sault Ste. Marie.

Also from Penetang and Midland for Parry Sound and Point Au Baril after June 15th.

TICKETS and INFORMATION from all Agents, or address

C. H. NICHOLSON, Traffic Manager, SARNIA.



An Installation of the Tate Flexible Stay.

THE TATE FLEXIBLE STAYBOLT

THE PERFECT STAY

For Locomotive Fire Boxes

Over a million and a half bolts in service on over 100 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited
TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, = Pittsburgh, Penn., U.S.A

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.

The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.

THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

American Brake Shoe and Foundry Company

NEW YORK MAHWAH, N.J. CHICACO, ILL.

THE HOLDEN CO., Limited, Agents, 302 St. James St., MONTREAL

Transportation Appointments.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian Government Railways.—F. P. Brady, Member Canadian Government Railways Board of Management, has also been appointed General Superintendent. Office, Moncton, N.B.

Canadian Northern Ry.—O. C. Bishop, heretofore dining car conductor, has been appointed Inspector Sleeping and Dining Car Service, vice J. E. Durham resigned. Office, Winnipeg.

E. H. Williams is reported to have been appointed Locomotive Foreman at Kipling, Sask.

Canadian Pacific Ry.—F. L. Hutchinson has been appointed Manager Chateau Frontenac Hotel, Quebec, vice C. L. DeRouville transferred to Hotel Vancouver, Vancouver, B.C.

A. Dixon, General Foreman, West Toronto shops, will in future have charge of all matters which came under the jurisdiction of R. Preston, Superintendent, who has been promoted.

Jno. Morton has been appointed night locomotive foreman at Kenora, Ont., vice A. J. Gibbons resigned.

H. W. Wills, manager of the Royal Alexandra Hotel, Winnipeg, has also been appointed Superintendent of Western hotels, with jurisdiction over hotels west of Lake Superior. Office, Winnipeg.

R. E. Larmour, heretofore General Freight Agent Kootenay and Boundary district, Nelson, B.C., has been appointed General Freight Agent, Central Division, vice W. C. Bowles transferred. Office, Winnipeg.

C. H. Temple, heretofore Master Mechanic, Central division, Winnipeg, has been appointed Assistant Superintendent of Motive Power, Western lines. Office, Winnipeg.

R. Preston, heretofore Superintendent West Toronto shops, has been appointed Master Mechanic, Central Division, vice C. H. Temple promoted. Office, Winnipeg.

O. V. Dotts, heretofore Assistant Superintendent Sleeping, Dining and Parlor Cars and News Service, has been appointed Superintendent same service, Central Division, vice C. C. Barclay resigned. Office, Winnipeg.

E. W. Kolb has been appointed Assistant Superintendent Sleeping, Dining and Parlor Cars and News Service, Central Division, vice O. V. Dotts promoted. Office, Winnipeg.

G. B. Williams, heretofore Inspector Refrigerator Service, Western lines, Winnipeg, has been appointed Car Service Agent, Central Division, vice F. T. Anderson, car distributor, transferred. Office, Winnipeg.

R. A. Gamble has been appointed Inspector Refrigerator Service, Western lines, vice G. B. Williams transferred. Office, Winnipeg.

R. H. Rogers, heretofore Assistant General Baggage Master, has been appointed General Baggage Master, Winnipeg, vice W. R. White appointed station master, Winnipeg.

J. Moore, heretofore District Master Mechanic, district 1, Pacific division, Revelstoke, B.C., has been appointed Foreman of repair track, Winnipeg.

J. H. Scott, heretofore Chief Despatcher, District 4, Western Division, Cranbrook, B.C., has been appointed Chief Dispatcher, District 4, Central Division, Souris, Man., vice J. E. Ryan transferred.

G. H. Merrick, of the General Passenger Agent's office, Winnipeg, has been appointed city ticket agent at Brandon, Man.

R. F. Chapman, heretofore Chief Dispatcher at Moose Jaw, Sask., has been appointed Chief Dispatcher at Saskatoon, Sask.

N. S. Fraser, heretofore Chief Dispatcher at Revelstoke, B.C., has been appointed Chief Dispatcher at Moose Jaw, Sask., vice R. F. Chapman transferred.

C. D. Andrews has been appointed chargeman at Lanigan, Sask., vice G. S. Sellars transferred.

J. A. Jenson, heretofore car foreman at Stettler, Alta., has been appointed car foreman at Swift Current, Sask., vice D. Smyth transferred.

F. T. Anderson, heretofore Car Distributor, Winnipeg, has been appointed Car Service Agent, Western Division, vice A. J. MacMillan who has resigned. Office, Calgary, Alta.

D. Smyth, heretofore car foreman at Swift Current, Sask., has been appointed car foreman at Stettler, Alta., vice J. A. Jenson transferred.

F. W. Bergman, has been appointed Manager Banff Springs Hotel, Banff, Alta.

R. W. Drew, District and Travelling Freight Agent, Saskatoon, Sask., has been appointed acting General Freight Agent, Kootenay and Boundary District, vice R. E. Larmour, transferred. Office, Nelson, B.C.

J. E. Ryan, heretofore Chief Dispatcher, District 4, Central Division, Souris, Man., has been appointed Chief Dispatcher, District 4, Western Division, Cranbrook, B.C., vice J. H. Scott transferred.

E. E. Austin, heretofore District Master Mechanic, District 3, Pacific Division, Nelson, B.C., has been appointed District Master Mechanic, Pacific Division, Revelstoke, B.C., vice J. Moore, transferred.

C. A. Cotterell, heretofore Chief Dispatcher at Saskatoon, Sask., has been appointed Chief Dispatcher at Revelstoke, B.C.

W. C. Bowles, heretofore General Freight Agent, Central division, has been appointed General Freight Agent, Pacific division, vice W. R. Haldane, who has relinquished his duties on account of ill health. Office, Vancouver, B.C.

T. L. Roberts, heretofore General Fuel and Locomotive Inspector, Winnipeg, has been appointed acting Master Mechanic, Pacific division, during the absence of S. Phipps on leave.

C. L. DeRouville, heretofore Manager Chateau Frontenac Hotel, Quebec, has been appointed Manager Vancouver Hotel, Vancouver, B.C.

Chicago, Milwaukee and St. Paul Ry.—T. Donald, formerly Travelling Freight Agent at Minneapolis, Minn., has been appointed Commercial Agent at Winnipeg, vice J. I. Gillick transferred to Aberdeen, S.D., on account of ill health.

Commercial Express Line, Grand Trunk Despatch, Lackawanna-Grand Trunk Line, Milwaukee and Michigan Line, Reading Despatch. A joint circular signed by the General Traffic Manager, Erie Rd., and Chairman, Commercial Express Line; the Vice-President Delaware, Lackawanna and Western Rd.; the Chairman, Lackawanna-Grand Trunk Line; the Freight Traffic Manager, New York Central and West Shore Rds., and Chairman, Grand Trunk Despatch and Milwaukee & Michigan Lines; the Freight Traffic Manager Lehigh Valley Rd., and Chairman Reading Despatch, and the Freight Traffic Manager, G.T.R., states that the office of Manager of the Commercial Express Line, Grand Trunk Despatch, Lackawanna-Grand Trunk Line, Milwaukee and Michigan Line and Reading Despatch, has been discontinued in each case. The operation of these fast freight lines for the routing and handling of through freight traffic eastbound and westbound, will be continued under the direct supervision of the railways interested. Correspondence relating to the accounting affairs of these lines should, until otherwise advised, be addressed to I. W. Gantt, who has been appointed Treasurer pro tem., with office, Brisbane Building, 403 Main Street, Buffalo, N.Y.

Grand Trunk Pacific Ry.—R. W. Jones, heretofore Division Engineer, Edmonton, Alta., is said to be about to be appointed District Engineer, St. John, N.B., vice G. C. Dunn transferred.

D. Smith, heretofore shop foreman at Rivers, Man., has been appointed Locomotive Foreman at West Fort William, Ont., in charge of the locomotive and car works there, vice W. P. Agnew, who has left the company's service.

B. B. Kelliher, Chief En ineer; J. G. LeGrand, Bridge Engineer; K. J. C. Zinck, Assistant Engineer, and 11 other engineers, have been transferred from Montreal to Winnipeg.

G. C. Dunn, heretofore, District Engineer, St. John, N.B., has been appointed Divisional Engineer, east of Edmonton, Alta., with headquarters at Winnipeg, vice L. B. Merriam resigned.

C. W. Johnston, heretofore Travelling Passenger Agent, G.T.R., Montreal, has been appointed chief clerk to General Passenger Agent, G.T.P.R., at Winnipeg.

R. C. W. Lett, has been appointed Travelling Passenger and Colonization Agent. Office, Winnipeg.

G. W. Robb, heretofore Assistant Master Mechanic, has been appointed Master Mechanic, in charge of Motive Power, Cars and Shops, vice W. Gell resigned on account of ill health. Office, Rivers, Man.

W. E. Mann, heretofore Branch Lines Engineer, Winnipeg, has been appointed Division Engineer, Edmonton, Alta., vice R. W. Jones.

Grand Trunk Ry.—By agreement with its eastern connecting railways, the G.T.R. has assumed the supervision of the solicitation in the West of the traffic of the following fast freight lines:—Commercial Express Line, via Erie Rd.; Grand Trunk Despatch, via West Shore Rd.; Milwaukee and Michigan Line, via N.Y.C. & H.R. Rd.; Lackawanna-Grand Trunk Line, via Delaware, Lackawanna and Western Rd.; Reading Despatch, via Lehigh Valley Rd.; National Despatch-Great Eastern Line, via Central Vermont Ry., Boston and Maine Rd., and Maine S.S. Co.

I. W. Gantt, heretofore Division Freight Agent, Toledo, Ohio, has been appointed Assistant General Freight Agent, office Buffalo, N.Y. He will have charge of traffic from connecting railways at the Niagara frontier; from connecting railways when from points south of the Michigan-Indiana State line destined to points east of the Detroit and

Foreman in charge Florence Iron Works

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

ESTABLISHED 1854 INCORPORATED 1881

THE JAMES SMART MFG. COMPANY LIMITED

WORKS
BROCKVILLE, ONT.

WESTERN WAREHOUSE
WINNIPEG, MAN.

TOOL MANUFACTURERS

G TRADE MARK

Purchasing Agents should have our Catalogue. Sent promptly on application.

TRAVERSING JACKS

CAP, RATCHET AND BOTTOM of Malleable Cast Steel

BRASS NUTS

Lifting Screw - -	2½ x 14 in.
Height over all - -	24 in.
Traverse - - -	13 in.

Extra Large and Powerful. Fully Guaranteed.

Also Jack Screws for all services

Largest Dealers Rebuilt Equipment in United States

TWO SEPARATE PLANTS

EAST PLANT
Capacity, 25 New Freight Cars per day
10 New Coaches per month

WEST PLANT
Capacity, 10 Heavy Repairs Locomotives per month
Besides Coach and Freight Car Repairs

PROMPT DELIVERY—New Passenger and Freight Equipment—Rebuilt Locomotives, Passsenger and Freight Equipment

HICKS LOCOMOTIVE AND CAR WORKS, = = Chicago, Ill.

Now is the time to place your order for Contractors' Locomotives. Why not buy the best?

VULCAN IRON WORKS

WILKES-BARRE, PA., U.S.A.

Canadian Representatives - MUSSENS LIMITED, MONTREAL

St. Clair frontiers, when routed via G.T.R. junctions in Michigan, including Detroit; and will also have supervision over commercial agencies at Buffalo, N.Y., Toledo, and Cincinnati O., Pittsburg and Philadelphia, Pa. The office of Division Freight Agent at Toledo, O., has been abolished.

H. C. Martin, heretofore Chief of Tariff Bureau, Chicago, Ill., has been appointed Second Assistant General Freight Agent, Chicago, Ill., in charge of tariffs and percentage divisions of G.T.R. lines west of Detroit and St. Clair Rivers. He will report to Assistant General Freight Agent R. L. Burnap, Chicago. The title of Chief of Tariff Bureau is abolished.

The following agents have been appointed:—St. Paul, Que., J. W. Atkinson; Lindsay, Ont., A. MacNabb; Woodville, Ont., T. E. Lord; Whitby, Ont., D. F. Milloy; Brooklin, Ont., W. Brown; Mariposa, Ont., S. McPhaden; Craigvale, Ont., L. G. Armstrong; Allandale, Ont., J. E. Bilingsley; Barrie, Ont., J. E. Billingsley; Novar, Ont., W. W. Langford; Powassan, Ont., F. A. Tebo; Dorchester, Ont., N. G. Case; Clandeboye, G. M. Case; Greenfield, Ont., T. L. Vernier; Rockland, Ont., F. O. Parent (temporary); Algonquin Park, Ont., G. A. Thurston; Rainy Lake, Ont., R. E. Reid.

Great Northern Ry.—V. Kistler has been appointed Division Freight and Passenger Agent, Grand Forks, B.C., vice P. H. Burnham, appointed Assistant General Freight Agent, St. Paul, Minn.

Inland Navigation Co.—W. J. King, heretofore General Agent, Toronto, has been appointed General Agent at Montreal, vice H. W. Cowan.

H. J. Truscott has been appointed acting General Agent, Toronto.

Michigan Central Rd.—A. A. Ingram has been appointed Solicitor at St. Thomas, Ont., vice W. B. Kingsmill, resigned.

The Minneapolis, St. Paul & Sault Ste. Marie Ry. Co. having leased the Wisconsin Central Ry., is now operating the same as a part of its system under the name of the Chicago division. All persons holding positions on the Wisconsin Central Ry. are subject to the authority and control of the M.S.P. & S.S.M.R. Co.'s general officers, and will be governed accordingly in the transaction of business, heretofore managed by similar officers of the W.C. Ry.

C. W. Gardner, heretofore Auditor, has been appointed Comptroller. Office, Minneapolis, Minn.

R. Toombs has been appointed Auditor, R. Kirkwood Assistant Auditor, and A. A. Bell Auditor Traffic Accounts. Their jurisdiction will cover the entire system, including Chicago division.

P. Swenson's jurisdiction as Superintendent of Bridges and Buildings is extended over Chicago Division. All employes of that department will report to him, at Minneapolis.

New York, New Haven and Hartford Rd.—J. F. Stevens, Vice President, has resigned to accept service elsewhere. It is reported that he has been appointed to a position in the Great Northern Ry. in connection with its operations in the Canadian West.

Northern Pacific Ry.—W. E. Belcher, formerly General Agent Freight Department, Detroit, Mich., who was mentioned in our last issue as having been assigned to other duties, has been appointed Travelling Freight Representative in the Detroit territory, with headquarters at Detroit, Mich.

Wisconsin Central Ry.—H. N. Paist has been appointed Assistant Treasurer. Office, Minneapolis, Minn.

See also Minneapolis, St. Paul and Sault Ste. Marie Ry.

Railway Rolling Stock Notes.

The I.C.R., between May 17 and June 15, received 3 second class sleeping cars from the Silliker Car Co., Halifax, N.S., and 2 baggage cars from the Preston Car and Coach Co., Preston, Ont.

Between May 13 and June 14, the Canadian Locomotive Co., Kingston, Ont., delivered 6 mogul locomotives to the G.T.P.R., and one 6-wheel saddle-tank locomotive to the Hamilton Steel and Iron Co., Hamilton, Ont.

The Canadian Northern Ry., between May 15 and June 15, received the following additions to rolling stock:—25 stock cars and 100 flat cars from the Crossen Car Mfg. Co., Cobourg, Ont.; 290 box cars from the Canada Car Co., Montreal, and 305 box cars from Rhodes, Curry & Co., Amherst, N.S.

The G.T.R., since Jan. 25, has ordered 6 first class cars and 4 parlor buffet cars to be built at its Montreal shops; and has received 5 baggage cars and 25 cinder cars. Of the 25 eight-wheel locomotives ordered from the Montreal Locomotive Works, none had been delivered up to the middle of June, and of the 25 moguls ordered from the Canadian Locomotive Co., Kingston, Ont., 12 have been delivered.

The C.P.R., between May 12 and June 13, ordered the following rolling stock: 1 hump switching locomotive, 1 mail and express car, 63 box cars, 2 refrigerator cars, 7 stock cars, at its Angus shops; 2 vans at its Farnham shops; 15 mixed traffic locomotives, from the Montreal Locomotive Works; and one steel coal car from the Dominion Car and Foundry Co., Montreal.

The May report of the G. T. Pacific Ry. shows that it owns the following rolling stock:—86 locomotives, 18 first class coaches, 10 second class coaches, 6 mail and express cars, 12 baggage cars, 18 combination cars, 6 sleeping cars, 3 official cars, 9,000 box cars, 1,278 flat cars, 45 cabooses, 700 Hart convertible ballast cars, 376 construction cars, 5 gondola cars, 11 steam shovels, 2 wrecking cranes, 2 coaling cranes, 1 pile driver, and 1 ditcher.

The C.P.R., between May 12 and June 13, received the following additions to rolling stock: 5 freight locomotives, 8 dining cars, 16 baggage and express cars, 4 mail and express cars, 1 tourist car, 6 second class cars, 4 observation library cars, 296 stock cars, 17 ballast cars, 1 sample coal car, from its Angus shops; 8 vans from its Farnham shops; 131 steel coal cars from the Dominion Car and Foundry Co., Montreal; 2 69-ton cranes, 1 75-ton crane, 3 ballast unloaders, 4 spreaders and 9 ballast plows, from the U.S.

The C.P.R., has added to its equipment 22 observation cars, for use on its transcontinental line. The observation room is 28 ft. long and provided with large windows on each side and the rear, the rear windows reaching to within 12 ins. of the floor, so that passengers have an unbroken view of the passing scenery. The walls are finished in padouk, a wood similar to Spanish mahogany but of a deeper red. The furnishings include 18 large armchairs of various designs of the same wood, upholstered in morocco. Some of the chairs are fitted with a small tray rest, pivoted to the arm for light refreshments, prepared in a buffet situated in the car. Each car is also provided with a selected assortment of books in a cabinet placed at the end of the observation room, at the left of which is an escritoire provided with stationery, etc. In the centre of the car is a large smoking room, similar in design, but finished in English oak, and in front of this are situated a state room and drawing room, each provided with toilet accommodations. The rear ends of the cars have spacious platforms enclosed by massive brass railing and gates, and deck chairs are provided and about 15 passengers accommodated.

The Montreal Locomotive Works is building two 10-wheel locomotives for the New Canadian Co., of which the following are chief particulars:—

Weight in working order	108,500 lbs.
Weight on drivers	83,000 lbs.
Weight on engine truck	25,500 lbs.
Wheel base, driving	10 ft. 6 in.
Wheel base, engine	20 ft. 8 in.
Wheel base, engine and tender	49 ft. 0 in.
Cylinders	18 in. by 24 in
Driving wheels, diameter	51 in.
Boiler, type	Extended wagon top.
Boiler, diameter	54 in.
Boiler, pressure	160 lbs.
Firebox	90 3-16 in. by 33 7-8 in.
Tubes, no. and diameter	198, 2 in.
Tubes, length	12 ft. 3 in.
Brakes	Westinghouse
Capacity of tank	3,500 imp. gals.
Style of tank	V shape, sloping front.
Tender truck	4 wheel, arch bar.
Tender journals	4¼ in. by 8 in.

Following are details of the 15 ten-wheel mixed traffic locomotives which are being built for the C.P.R., by the Montreal Locomotive Works:—

Weight in working order	194,700 lbs.
Weight on drivers	143,000 lbs.
Weight on engine truck	51,700 lbs.
Wheel base, driving	14 ft. 10 in.
Wheel base, engine	26 ft. 1 in.
Wheel base, engine and tender	54 ft. 4¼ in.
Valve gear	Walschaert
Cylinders	22½ in. by 28 in.
Driving wheels, diameter	63 in.
Boiler, type	Extended wagon top.
Boiler, diameter	69 in.
Boiler, pressure	180 lbs.
Firebox	103 in. by 70½ in.
Tubes, no. and diameter	240, 2 in. and 24, 5 in.
Tubes, length	14 ft. 4 in.
Brakes	Westinghouse
Tank, capacity	5,000 imp. gals.
Tank, type, C.P.R. standard,	semi water bottom.
Tender truck	4-wheel pedestal type.
Tender journals	5½ in. by 10 in.

"You know, Miss Blank," said the proprietor of a railway station restaurant, "there is a great deal in having your sandwiches look attractive."

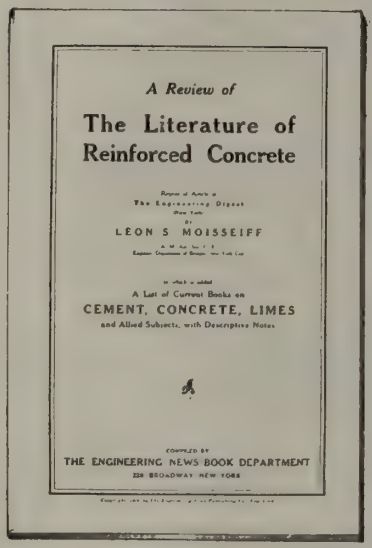
"Yes, sir, I know it," replied the girl; "I have done everything I could. I have dusted those sandwiches every morning for the last ten days!"

"Has your son had any success as a lawyer?"

"Well, no, to tell the truth, he hasn't. He has been practising now for nearly eleven years, and he has never been elected to the Legislature, or been appointed receiver for anything, or even become president of any railway company. It begins to look as if he may have to eke out a living just practising law."

CEMENT AND CONCRETE

This 64-page Pamphlet


A Review of
The Literature of Reinforced Concrete
LEON S MOISSEIFF
A List of Current Books on
CEMENT, CONCRETE, LIMES
and Allied Subjects, with Descriptive Notes
THE ENGINEERING NEWS BOOK DEPARTMENT
220 BROADWAY NEW YORK

has been issued in an endeavor to answer the hundreds of letters we have received, requesting information on cement and concrete literature, and which could not be answered individually in detail.

More than 100 books have been listed and described sufficiently to permit the selection of the best books to suit any special requirements.

The pamphlet is of practical value to everyone interested in any way in this form of construction, and every Engineer, Contractor, Manufacturer and Builder should have a copy, which will be sent to any address on receipt of 5 cents, to cover cost of mailing. The supply is limited—if you want a copy, get it NOW. Use the attached coupon.

R.M.W. 9.

Send me pamphlet on Concrete Literature—5 cents enclosed for mailing. Also send me notices of new books on

..Civil Eng'g. ..Mining ..Cement and
..Electrical ..Municipal Concrete
..Mechanical ..Railroad ..Contracting
..Metallurgy

Name .....

Address .....

.....

ENGINEERING NEWS
BOOK DEPARTMENT
220 Broadway New York.

TORONTO BOLT AND FORGING CO.
LIMITED

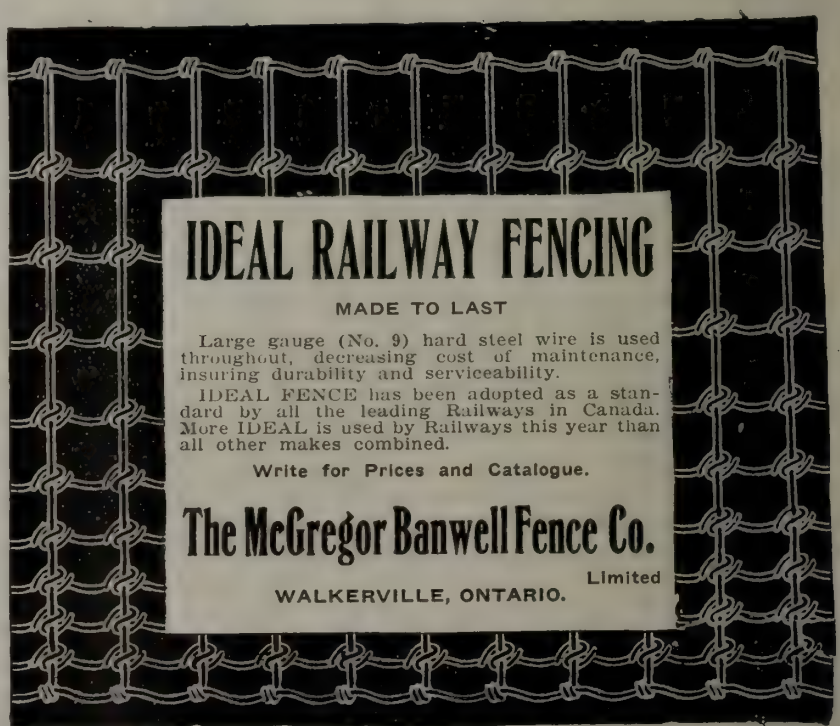
Manufacturers of

BOLTS AND NUTS

OF ALL KINDS, INCLUDING

Track Bolts
Track Spikes
Lag Screws
Boiler and
Bridge Rivets

TORONTO — CANADA


IDEAL RAILWAY FENCING
MADE TO LAST
Large gauge (No. 9) hard steel wire is used throughout, decreasing cost of maintenance, insuring durability and serviceability.
IDEAL FENCE has been adopted as a standard by all the leading Railways in Canada. More IDEAL is used by Railways this year than all other makes combined.
Write for Prices and Catalogue.
The McGregor Banwell Fence Co.
Limited
WALKERVILLE, ONTARIO.

The Tehuantepec Route.

The question of establishing a route for the shipment of western grain from Pacific coast ports, has been taken in hand by the C.P.R., and other transportation companies, and investigations which have taken place have led to the inauguration of a connected service from British Columbia to Salina Cruz, Mexico, thence via the Tehuantepec National Ry., to Puerto Mexico, connecting with Atlantic steamships. The main link in the route, the Tehuantepec National Ry., is owned by an English company, with Sir Weetman D. Pearson as President, and S. Pearson and Son, Ltd., as managing directors. The railway, which is 188 miles long, connects the Pacific port of Salina Cruz with Puerto Mexico on the Atlantic, across the Tehuantepec isthmus.

Arrangements have been completed with the Canadian Mexican Pacific Steamship Line for the continuation of the Pacific service from B.C. ports to Salina Cruz, and with the Elder-Dempster Co., for the Atlantic service between Puerto Mexico and ports in Eastern Canada; while trans-Pacific and trans-Atlantic connections have also been arranged from the ports respectively. A monthly service will be operated from Montreal and Eastern Canada points via Tehuantepec to Victoria, Vancouver and all B.C. ports and inland points, which it is claimed will enable the Eastern Canadian manufacturer to compete with European manufacturers there.

The route to Europe, via Tehuantepec, for western grain is considered to be the most feasible yet, if the facilities for handling grain in bulk are provided. The cost of sacks and sacking for the grain, such has been proposed is too great, while it is not considered a necessity, as it is when shipping round the Horn or through the Suez canal, when the wheat is likely to be damaged in crossing the equator. Several schemes are at present under discussion for the erection of elevators on the B.C. coast, to deal with western grain, and while the Tehuantepec National Ry. at present has no elevator accommodation at either port, such construction is under consideration by the directors, and it is anticipated that a definite move will shortly be made to enable the railway to deal with grain. F. W. Peters, Assistant to Second Vice President, Winnipeg, was in Mexico recently when he conferred with Sir Weetman Pearson, and the suggested facilities were discussed.

Rescuscitation After Electric Shock.

J. Murphy, Electrical Engineer, Board of Railway Commissioners, made the following report April 29: "Yesterday, while inspecting a wire crossing at the Elgin St. subway at Brantford, Ont., I learned from the G.T.R. section foreman some particulars regarding the death by electric shock of one of their sectionmen on April 8. The foreman assured me that a small burn on one finger of deceased was the only visible sign of injury on the latter's body. In reply to my inquiry as to whether anyone had attempted to revive the deceased by means of artificial respiration, the foreman replied, 'Oh, no, the doctor said he was dead, and his body was carried away.' I proceeded to explain to the foreman that many persons shocked into insensibility—and apparently dead—had been revived by the same method that is employed to revive persons apparently dead from drowning, and that so many cases of complete revival were well known that it was always worth trying, and trying constantly for several hours, to revive anyone who had been shocked into insensibility, no matter how many pronounced the victim dead. To my astonishment, the foreman replied: 'I guess you are right because one of our gang used to be a lineman and he had some fingers burnt right off. He says he was stone dead for two hours—but they brought him back.' With this knowledge so close at hand it seems very strange that no attempt was made to revive the man above referred to. One of the first things I did when I became connected with the Department of Railways and Canals three years ago was to have copies of an illustrated sheet, entitled, "Resuscitation from Apparent Death from Electric Shock," distributed amongst the various places belonging to the Department where electrical energy was generated, received, or used. I am attaching a copy of this sheet. In view of the circumstances outlined above, it is, in my opinion, very desirable to have the railway companies directed to supply the information contained in this sheet to all their employes without delay. An unfortunate circumstance in connection with this question is that some medical men—apparently not familiar with the fact that many persons have been revived who would otherwise have died—actually interfere and deter willing persons in their well-meant attempts by announcing that the victim is dead. On the other hand, generally speaking, the medical profession now recognizes the value of the means described and illustrated in the attached sheet."

The Secretary of the Board of Railway Commissioners has issued a circular letter to railway companies, asking what steps have been taken by them to notify their men as to the methods of resuscitation suggested by Mr. Murphy.

ELECTRIC RAILWAYS.

Canadian Street Railway Association.

The annual meeting held at Winnipeg recently was probably the most successful in the Association's history. Representatives of eastern member companies assembled in Toronto May 29 and left that night in a special car placed at their disposal by the C.P.R., travelling by that line to Winnipeg, where they arrived early in the afternoon of May 31, being welcomed at the station by Wilford Phillips, Manager, and other Winnipeg Electric Ry. officials.

Meetings were held at the Royal Alexandra Hotel on May 31, June 1 and 2, J. E. Hutcheson, President, occupying the chair. A. W. Warnock, G.P.A., Twin City Rapid Transit Co., Minneapolis, Minn., attended as a special delegate from the American Street & Interurban Railway Association and spoke at length on matters of mutual interest to the two associations. The Hull Electric Co. was unanimously elected to membership in the Association.

The Secretary-Treasurer, Acton Burrows, presented a report coverin the Association's work for the year and dealing, among other matters, with membership, annual returns to Dominion Government, the transfer question, transportation of mails and letter carriers, taxation of real estate and gross earnings, responsibility for interlocking crossing accidents, Sunday electric car service, zone fares for Ontario interurban lines, fire insurance, use and occupancy insurance, and statistics of employes' wages. Reports were presented by the special committee on transfers and on transportation of mails and letter carriers. Papers were read on electrical franchises, their legal status and basis of valuation, on the care of interurban railway tracks and on the British Columbia Electric Ry. Co.'s Fraser Valley branch. The reading of each paper was followed by discussions thereon. There were topical discussions on the following questions:—

Accident claims and how to dispose of them.

Concrete track construction. Has past experience proven the initial expenditure for such construction justified?

Have A.S.C.E. rails of 70 or 80 lb. sections been used with entire satisfaction in paved streets? Are not the ties in such track too near the paving to be permanently satisfactory?

What improved joints can be suggested?

In considering a department of statistics, how much expenditure should be made for such information?

When should apparatus be withdrawn from service and scrapped on account of excessive repairs?

What are the rates for fire insurance paid by the several companies and have any had experience with automatic sprinklers in car houses and shops?

What is the cost per 1,000 miles to oil cars operated by the different companies belonging to the Association?

What kind of babbit is used for journal and motor bearings, what does it cost per pound, and do the different companies manufacture their own babbit?

The relative merits of aluminum and copper in the transmission of power.

Considerable time was devoted to a discussion on the various topics and a large amount of valuable information was elicited.

A standing committee on the maintenance of rolling stock was appointed.

The following officials were elected for the current year: President, D. McDonald; Manager Montreal Street Ry.; Vice-President, J. Anderson, Manager, Sandwich, Windsor & Amherstburg Ry.; Secretary-Treasurer, Acton Burrows, Managing Director and Editor in Chief, The Railway and Marine World. In consequence of the large increase in the Asosciation's work, it was decided to appoint an Assistant Secretary, and Aubrey Acton Burrows, Secretary and Business Manager of the Railway and Marine World, was elected. The following were elected members of the Executive Committee: P. Dubee, Secretary, Montreal Street Ry.; E. A. Evans, General Manager, Quebec Railway, Light & Power Co.; H. M. Hopper, Secretary-Treasurer, St. John Ry.; C. B. King, Manager, London Street Ry.; R. J. Fleming, General Manager, Toronto Ry. The by-laws having been amended by providing that the retiring President be a member of the Executive Committee for the year following his retirement, J. E. Hutcheson is ex officio a member of the committee for the current year.

The visit to Winnipeg was much enjoyed by representatives of eastern companies, many of whom had not been there before. The weather was very fine and every opportunity was afforded them to see the city thoroughly. On the evening of May 31 they were the guests of the Winnipeg Electric Ry. Co. at the

RENOUF

Publishing Co.

School, College and Scientific Books

61 Union Avenue

Montreal, Canada

ORROCK—**Railroad Structures and Estimates.** 8vo, vi+270 pages, 93 figures. Cloth, $3.00.

RAYMOND—**The Elements of Railroad Engineering.** 8vo, xvi+404 pages, 107 figures, 18 plates. Cloth, $3.50.

HAUCH-RICE—**Tables of Quantities for Preliminary Estimates.** 16mo, iii+92 pages. Cloth, $1.25 net.

GRIMM—**Secondary Stresses in Bridge Trusses.** 8vo, viii+140 pages, 60 illustrations, and 13 numerical examples. Cloth, $2.00.

FOWLER—**Ordinary Foundations.** Including the Coffer-dam Process for Piers. 8vo, xxvi+314 pages, 148 figures. Cloth, $3.50.

WEBB—**The Economics of Railroad Construction.** Large 12mo, viii+339 pages, 34 figures. Cloth, $2.50.

WEBB—**Railroad Construction.** Fourth Edition, revised and enlarged. 16mo, xvii+777 pages, 217 figures, 10 plates. Morocco, $5.00.

WILSON—**Elements of Railroad Track and Construction.** 12mo, v+320 pages, 181 figures. Cloth, $2.00.

THE **N. L. PIPER RAILWAY SUPPLY CO.** LIMITED

314 FRONT ST. WEST

TORONTO

EMBOSSED ALUMINUM NUMBERS

Our Signs and Numbers are made of ALUMINUM and riveted with ALUMINUM RIVETS to a BLACK JAPANNED STEEL PLATE. The great benefit of our Numbers and Signs is. that being made of Aluminum they will never CRACK, RUST or TARNISH, and can be seen much better both by day and night than any other manufactured. The Light, Glistening Aluminum Figure standing out on the Black Background makes a PERFECT CONTRAST between the Number and the Plate.

THE

Farlow Twin Spring Draft Gear

Designed for Wooden or Steel Cars and Engines.
Pulling Strains Distributed Equally on the Three Cross Keys.
Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.

Baltimore, Md. **Chicago, Ill.**

Walker Theatre. On June 1 they were entertained at luncheon at the Royal Alexandra Hotel by the W.E.R. Co. and on June 2 they went over the company's interurban line to Selkirk and inspected the company's car barns and car shops, and also paid a visit to River Park, a beautiful summer resort owned by the company.

Montreal St. Ry. Mutual Benefit Association.

Following are extracts from the report for the year ended Apr. 30, presented at the annual meeting, June 17: A summary of the relief work done during the years shows that 554 members were disabled through sickness or injury; $9,457.40 was paid to such members; $1,697.07 was paid for medicine; $255 for pensions, and $6,566.67 for death and burial insurance. Since the organization of the Association, $27,192.72 has been paid for death and burial insurance, and $44,511.45 for sickness and injury benefits. The 5th annual picnic realised a net profit of $7,325.35. During the year $15,509.25 was invested, which, together with the sum previously invested, amounts to $48,725.50. The securities are held by the Royal Trust Co. for safe keeping. The committee of management acknowledged a special Christmas donation of $3,000, received from the Montreal St. Ry., making the total contributions received from the company, $13,910.27, which amount, added to the fees and dues received from the members, $13,008.50, and the proceeds of the picnic, and interest on investments and bank deposits, $10,395.69, makes a total revenue for the year of $37,314.46, the expenses being $24,400.76, leaves a surplus of $12,913.70.

At a meeting held June 14, the following committee of management was elected for the current year:—W. G. Ross, President; J. Delaney, R. M. Hannaford, A. S. Byrd, J. Hughes, J. Gagne, N. Lachance, W. Butler, A. Arel, A. Leblanc, H. G. Taylor, A. Gaboury, D. McDonald; P. Dubee, Secretary-Treasurer. After the meetings, the members proceeded in 10 special cars to Dominion Park, where supper was served, followed by a concert.

Height of Street Car Steps.

The question of the height of street car steps came up before the Ontario Railway and Municipal Board recently, after a number of adjournments to enable certain tests to be made as to the practicability of the addition of another step to the cars. In delivering judgment, June 2, J. Leitch, K.C., Chairman of the Board, said:—

This is an application filed by Dr. Helen MacMurchy on Sept. 10, 1908, with the Board for the purpose of having a regulation or order made fixing the height of the first step on street and electric railway cars at from 9 to 12 in. from the ground, and the other steps with a rise of from 7 to 9 in., one above the other. The application was served on all street and electric railways under the Board's jurisdiction and upon the clerks of the different municipalities in which such railways are operated. The only municipalities that took an active interest in the matter were the city of Toronto and the then city of West Toronto. A. O. Graydon, City Engineer, London, Ont., wrote a letter to the Board in which he expressed the opinion that a 12 in. step should be the maximum height for street cars and that anything over that should be prohibited by law. An order was made by the Toronto Board of Control Sept. 21, instructing the city Solicitor to represent Dr. MacMurchy on this application, and from that time on the controversy was between Toronto and the Toronto Ry. Co., and was confined to the company's cars and operating conditions in Toronto. Dr. MacMurchy called the most eminent medical gentlemen in the city to testify, who gave it as their opinion that the height of the first step from the ground should be as near 12 in. as possible. This was only one aspect of the case. The Board could not overlook the difficulties and possibilities connected with operation. It appeared from the evidence that there was little difficulty, if any, in reference to the steps on the Toronto Ry. Co.'s single truck cars. It was the double truck open cars that were complained of. It appearing to the Board that the difficulty and expense of lowering the bodies of open double truck cars so as to permit of lowering the steps was insuperable, they suggested that the application should be adjourned and that the Toronto Ry. Co. should equip a double truck open car with three steps instead of two, in order to test the feasibility of having the first step not higher than 12 in. from the ground. The matter was consequently adjourned for several weeks, and the Toronto Ry. Co. did equip a double truck open car with three steps instead of two. In actual operation the Board found that, while the three steps would be very convenient and comfortable, they extended out so far into the street as to render them very dangerous to pedestrians and vehicles, and the adoption of such car steps would involve a reconstruction of the car barns, repair pits, etc. It was clear to the Board that the difficulty could not be solved in this way. The Board then instructed its Engineer, J. F. H. Wyse, to ascertain if the longitudinal seats in the Toronto cars could be taken out and replaced by lateral seats with an aisle down the centre of the car, for the reason if this was feasible the difficulty in reference to the height of the steps would be solved. By reason of the narrow devil strip in the city of Toronto, the Board's Engineer found it impossible to operate a car with a wider inside breadth than 80 in. Under these conditions it would only be possible to have lateral seats 32 in. wide with an aisle of 16 in. Every expert car operator or builder consulted by the Board and the Engineer was of the opinion that seats 32 in. wide with an aisle of 16 in. would be impracticable, and the scheme of changing the seating had to be abandoned. The Toronto Ry Co. built another car as an experiment to assist the Board in coming to a conclusion. M. Power, the company's Master Car Builder, built this car so that the body came to within 38 in. from the ground. The Board is of opinion that this was so close down that there was no margin of safety left for the operation of the brake rods or the compressed air pipes. The Board has come to the conclusion that to be safe the floor of the car should be not less than 40 in. above rail level. From the evidence adduced the Board is of opinion, as to all cars hereafter built and put in operation, it would be safe in standardizing the steps of open double truck cars at from 14 to 16 in. for the first step, and 14 and 12 in. for the two upper steps. On open single truck cars from 12 to 15 in. for the first step, and 12 and 9 in. for the two upper steps would be reasonable. On closed double truck cars the first step should be from 14 to 16 in. from the ground, and on closed single truck cars from 12 to 15 in.

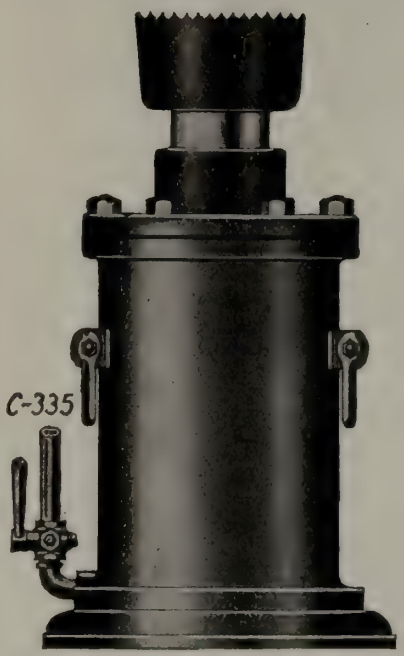
A regulation will be promulgated by the Board to the above effect. As the conditions of operation in Toronto are more difficult than in any other city or town in Ontario, the regulation will apply to all street and electric railways under the Board's jurisdiction. The Board makes no order as to costs.

Militia Versus Street Cars.

An important issue has arisen at Winnipeg as to whether the militia or electric cars have the right of way on the streets. On June 1, the 90th Rifles were on parade, proceeding from the drill hall across Broadway to the University grounds. Part of the leading company had crossed the track, when a car approached and appeared to be slowing up. A captain ordered the motorman to stop, but the car went on for a few yards. The Captain jumped on the fender and some of the rest of the company scattered to avoid the car. The motorman and conductor were hauled from the car by riflemen, the car being left on the track, and the motorman and conductor were taken under guard before the officer commanding the regiment, and after being detained by him for some two hours, they were marched through the streets to the police cells, escorted by a guard of ten armed riflemen. When the case was heard in the police court, the motorman testified that he thought he could get over the crossing ahead of the regiment, but on getting closer found he could not do so and he applied the emergency brake. The wheels skidded, and when the car stopped the fender was partly over the crossing. The evidence of the conductor, who is also a corporal in the 90th regiment, showed that the car did not completely block the crossing, and that after it stopped, the balance of the regiment could easily have crossed in front of it. Counsel for the railway company contended that the Militia Act only applied in times of war or riot, when troops were on active service.

The Police Magistrate, Hon. T. Mayne Daly, in giving judgment said: "It seems the desire of the company not to let this matter stand, but to know exactly what their rights are on the city streets. I find that there is an entire absence of the word 'wilful' in the section of the act referred to. In the act regarding the handling of His Majesty's mails there is the word wilful, and it is an indictable offence to wilfully delay the mails. The question raised in this instance is of more importance in that it is a question of whether the militia of Canada have the right of way. To my mind there is not the slightest doubt that they have. This despite the fact that the company has secured a charter from the city which has been passed upon by the provincial legislation that they have the right of way under any circumstances. A militia corps proceeding to drill is under orders and is lawfully pursuing its course as prescribed in the act. In my opinion it is not necessary that the interference should be wilful to come within the act. The fact of the motorman having seen

Compressed Air-Jacks



For short lifting around car and repair shops and manufacturing plants.

Rand Jacks are built in several styles from 4 to 30 thousand pounds capacity.

All of the latest construction, fitted with safety check valves for holding the load if the hose becomes detached or burst.

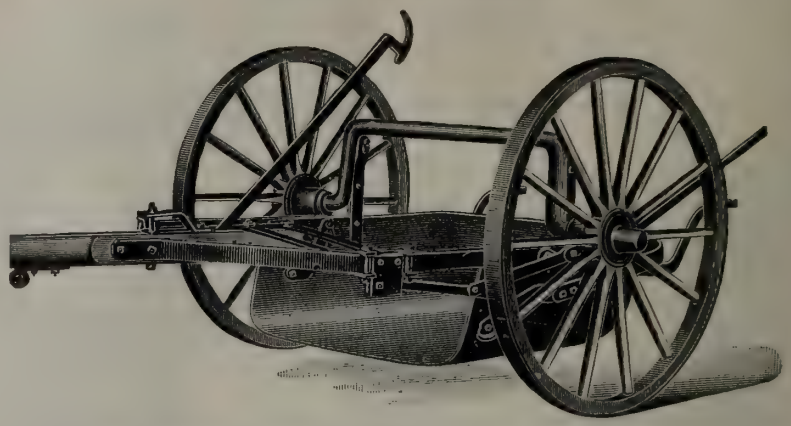
We carry in stock or can make quick delivery of all compressed air appliances and Rand Air Compressors.

Catalogs on all subjects.

Canadian RAND Co. Limited
MONTREAL, QUE.

Branches at:
TORONTO, WINNIPEG, ROSSLAND, COBALT, HALIFAX, MONTREAL.

THE TORONTO PRESSED STEEL CO.
LIMITED
TORONTO, CANADA



Our **SOLID PRESSED BOWL DRAG** and **WHEEL SCRAPERS** are the most satisfactory in the market. They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies including

PLOUGHS **DUMP CARS**
DUMP WAGONS **DUMP CARTS**
WHEELBARROWS **TRUCKS**
CEMENT MIXERS **WAGONS**
etc., etc.

PROMPT SHIPMENTS **SEND FOR CATALOGUE**

Champion Revolving Dump Car

The CHAMPION CAR is radically different from any now on the market. It is simple, strong, compact and being built entirely of iron except the bed, is extremely durable. The bed revolves and may be dumped on either side or end. Write for catalogue of cars and drums.

The Canadian Road Machine Co., Limited
HAMILTON, CANADA

the troops approaching should have dictated to him that he should have stopped the car. It would almost seem that he did not know what his duties were under the circumstances and he was going through anyway. I find from the evidence given that there was an obstruction as charged. If it were only a question of whether the obstruction were wilful I would find in his favor. But it is probably best to find what were his rights. In this case the rights of the militia are paramount, first because they are His Majesty's troops, and secondly because the militia act covers that very point. Entirely to show the standing of the motorman I will fine him $5 so that the case may be carried to a higher court. It must not be forgotten, however, that the motorman, like the troops, was acting under orders from his superiors. He had orders from his superior officers and was carrying them out as he saw best. I hope that no bad blood will result from this action."

The case against the conductor was dismissed. The motorman's conviction is being appealed by the company.

Niagara, St. Catherines and Toronto Ry.

Following are extracts from the directors' report for the year 1908: During this period your company suffered, in common with other transportation companies, in the general business depression throughout the country, and, in view of the conditions prevailing, the returns shown may be considered satisfactory. With the exception of the completion of the construction under way, referred to in the last annual report, no new work was undertaken during the year. The permanent improvement work on the main line is now finished with the exception of the change of line at Merriton, which will receive consideration during the coming year. The Welland divison was completed as far as the Welland River, and opened for traffic on May 1. During the summer a pile bridge was constructed across the river, and the line extended into the town of Welland. Connection was subsequently arranged with the Toronto, Hamilton and Buffalo Railway at this point. This, with the business developed locally, should result in a large increased revenue to your company. The company has constructed spur tracks into the Lincoln Paper Mill, Merriton, and the Hedley-Shaw Milling Co.'s plant, Thorold. Arrangements have been made for the construction of a branch line into the Welland Vale Manufacturing Co.'s plant at St. Catharines, all of which promise considerable freight business. The equipment and rolling stock has been maintained in a high state of efficiency, notwithstanding the fact that all our passenger cars are in almost daily use. Owing to the increased mileage operated and the additional traffic requirements, the question of further purchase of equipment will receive early attention. The company's steamers will receive the usual repairs during the winter, and will be in first-class shape for next season's business. While the company handled considerably more tonnage last year than the previous year, the revenue was somewhat less, due to the reduction in fruit rates ordered by the Railway Commission, as well as to the cutting of rates by the large freight boats which handled business in opposition to your boats across the lake from Port Dalhousie.

ASSETS.

	1908.
Investment account	$2,598,679.04
Current Assets:—	
Accounts receivable	8,646.48
Stores	21,563.15
Stations	2,985.24
Cash	14,972.93
Suspense	
Navigation stock in treasury	100,000.00
	$2,746,846.84

LIABILITIES.

	1908.
Capital Stock—Railway	$ 925,000.00
Navigation	100,000.00
First Mortgage Bonds—	
Niagara, St. Catharines and Toronto Ry. Co.	866,000.00
Niagara, St. Catharines and Toronto Navigation Co.	200,000.00
Current Liabilities—	
Accounts payable	101,792.99
Bills payable	49,186.90
Interest accrued but not due	8,882.00
Permanent improvement account	103,867.95
Welland extension	161,483.62
Profit and loss	230,633.38
	$2,746,846.84

EARNINGS.

	1908.
Main Line—Passenger earnings	$93,007.94
Freight earnings	55,702.30
Express earnings	1,018.77
Sundry earnings	2,319.42
Wesley Park—Earnings	31,731.34
Local Line—Earnings	20,460.69
Welland Division—Earnings	10,671.99
Navigation Co.—Pass. earnings	30,972.79
Freight earnings	21,152.25
Sundry earnings	1,171.83
	$268,209.32

EXPENSES.

	1907.	1908.
Maintenance bridges and buildings	$16,885.71	$17,703.91
Maintenance locomotive and car department	35,427.92	35,761.50
Maintenance passenger department	32,004.91	32,561.72
Maintenance freight department	19,686.78	20,291.69
Maintenance boat department	35,656.27	35,612.01
Maintenance power house	12,491.69	14,103.14
General expenses	30,949.92	32,277.41
Total operating	$183,103.20	$188,311.38
Net earnings from operations	$87,360.05	$79,897.94
Interest and discount	47,304.00	51,571.20
Surplus for year	$40,056.05	$28,326.74

Per cent. total operating to total earnings, 70%.

DESCRIPTION OF FREIGHT CARRIED.

	1908. Tons.
Flour	6,411
Grain	6,160
Lumber	3,758
Coal	20,501
Building material, stone, sand, cement, etc.	32,017
Paper, pulp	16,009
Iron, hardware, etc.	5,594
Fruit and canned goods	5,641
Miscellaneous	19,755
	115,846

Passengers carried: Main line, 983,661; local line, 442,300; Wesley Park line, 680,436; Welland line, 92,108; steamboats, 86,355; total, 2,284,860.

The directors of the current year are: D. B. Hanna, President; J. D. Morton, Vice-President; E. H. Wood, Z. A. Lash, F. Nichols, H. G. Nicholls, Æ. Jarvis.

St. John, N. B., Ry. Report.

Following are extracts from the report for the year ended April 30, 1909, presented at the annual meeting, June 9: The year's business showed a net profit, after providing for the interest on bonds and all other charges, of $52,980.58, out of which the directors have declared two half-yearly dividends of 3%, amounting to $48,000, leaving a balance of $4,980.58, which has been transferred to profit and loss account. The roadbed, rolling stock, buildings and other property have been efficiently maintained. The agreement with the city of St. John for the removal of snow and repairs of streets has been renewed for 10 years, from April 1, 1908. This agreement now covers all the company's tracks in the city. While the general business of the company shows a satisfactory increase for the last year, the net earnings from the street railway have not increased. This is due to the extra car service provided, and the loss in operating the street railway system on the west side of the harbor.

ASSETS.

Cost of property	$1,898,486.39
Accounts receivable	33,071.00
Stores	37,444.43
Cash on hand	1,000.00
Cash in bank	51,519.18
	$2,021,521.00

LIABILITIES.

Capital stock	$ 800,000.00
Bonds	1,000,000.00
Accounts payable	39,746.67
Dividends payable June 9	24,000.00
Outstanding tickets	1,981.66
Contingent and depreciation	49,412.20
Profit and loss	106,380.47
	$2,021,521.00

INCOME ACCOUNT.

Profits for the year after providing for interest on bonds and all other charges		$52,980.58
Dividends	$48,000.00	
Transferred to profit and loss	4,980.58	
		$52,980.58

Projects, Construction, Betterments, Etc.

Brantford and Hamilton Ry.—In 1904 the Dominion Parliament incorporated a company with this title for the purpose of constructing an electric railway connecting Brantford and Hamilton, Ont., 23 miles. The line has been constructed and is in operation. The charter passed out of the hands of the original holders to the Dominion Power and Transmission Co., Hamilton, and it is being operated in connection with the other lines owned by that company. (Jan., pg. 51.)

British Columbia.—A U. S. press report states that J. T. Lanigan of Chicago, Ill., is interested in a company which proposes to construct 100 miles of electric railway in the vicinity of Vernon, B.C.

A Vancouver press report states that the construction of an electric railway about 100 miles in length to serve the fruit growing districts on both sides of the Okanagan River is under consideration. The route of the projected line is from Vernon, along the west side of the lake as far as Summerland; and, another line on the east side of the lake as far as Kelowna, a distance of nearly 40 miles. It is proposed to use water power for generating electricity. J. F. Lanigan, of Chicago, Ill., who is interested in the undertaking, has returned after an inspection of the routes, and stated in Vancouver, that there was no reason why the line could not be in operation within 18 weeks. The company is reported to have been incorporated under the provincial laws.

British Columbia Electric Ry.—The General Manager states in connection with the company's franchise in D. L. 301 and Hastings townsite, that it has a perpetual franchise on certain streets only, and that there is nothing to prevent any other company or corporation obtaining a franchise upon other streets at any time. (June, pg. 447.)

The taxpayers of South Vancouver by a majority of 730 out of a total poll of

1,032, granted the B.C.E. Ry. a franchise May 29. A date has been fixed for the voting on the by-law for a franchise in Coquitlam municipality, but all the details have not been settled.

A contract has been let to Naylor Bros., Huddersfield, Eng., for the enlargement of the hydraulic tunnel connecting lakes Coquitlam and Buntzen. The capacity of the tunnel will be trebled by the improvement, which is undertaken in connection with the construction of the new dam at the outlet of Lake Coquitlam.

Buffalo, Niagara and Toronto Ry.—The Dominion Parliament in 1906 incorporated a company with this title to construct an electric railway of 40 miles from Niagara-on-the-Lake to Fort Erie, with branches from St. David's to St. Catharines; from Fort Erie to Port Colborne, and from the main line near the crossing of Welland River into Welland. It has not done anything in the way of construction. (Dec. 1907, pg. 927; see also Fort Erie and Buffalo Bridge Co., Mar., pg. 214.)

Calgary, Alta.—All the material for the construction of the municipal street railway, was reported to have been delivered June 5. The first portion of the line to be completed and opened, will be that of the fair grounds. (June, pg. 447.)

Chatham, Wallaceburg and Lake Erie Ry.—A company with this title was incorporated by the Dominion Parliament in 1903, with power to construct 75 miles of electric railway located as follows: from Chatham to Wallaceburg and Petrolia; Chatham to Rondeau, with branches to Dresden, and Blenheim, Ont. Of these lines there has been constructed a line from Wallaceburg to Lake Erie, 21.50 miles. (May, pg. 365.)

Cobourg, Port Hope and Havelock Electric Ry.—The Northumberland-Durham Power Co., has obtained from the Dominion Government a lease of the remaining portion of the water power at Healey Falls. The development of this power will, it is said, proceed concurrently with the construction of the Trent Valley Canal. It is said that the C.P.H. and H.E. Ry., when it is constructed, will be operated by power obtained from this source. (May, pg. 365.)

Edmonton Radial Ry.—The work on the 5½ mile extension of this line is approaching completion. The rails recently ordered were 600 tons of 60 lb., and 200 tons of 80 lb., and it is anticipated that the whole will be ready for operation early in Aug. Lubbock and Matheson, Edmonton, Alta., are the contractors.

Egerton Tramway Co.—See Pictou County Electric Co.

Hamilton, Galt and Berlin Ry.—This company was incorporated by the Dominion Parliament in 1903 and an extension of time for construction was granted in 1905. The line, which is to be operated by electricity, will be about

---

WANTED.—Position with Canadian Electric Railway to take charge of traffic transportation or employment and inspection department. Capable of organizing and installing modern system in either. Fifteen years experience. At present employed by one largest American Electric Railway properties. References from present and past employers. Canadian citizen. Box 4325, care The Railway and Marine World.

New Ways To The Woods

The six railways of the Canadian Northern Railway system offer the widest choice of new territories for the fisherman, canoeist, camper and hunter.

IN NOVA SCOTIA the Halifax and Southwestern Railway, from Halifax to Yarmouth, serves seven hundred miles of ocean shore; two score generous trout streams and the famous Rossignol lake system.

IN CAPE BRETON, sixty miles of the Gulf of St. Lawrence shore is skirted by the Inverness Railway, which gives easy access to the Margaree valley—far-famed for its salmon fishing.

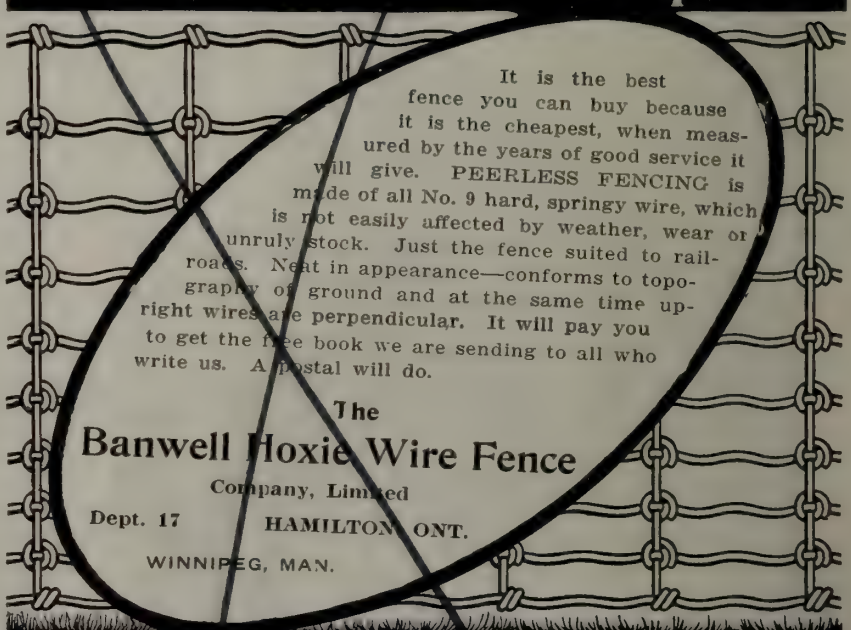
IN QUEBEC, the Canadian Northern. Quebec and Quebec, and Lake St. John Railways give easy access to the Saguenay, Upper St. Maurice, the Batiscan, the La Tuque game and fish preserve, and the valleys of the St. Lawrence and Ottawa. All good fishing waters, abounding with ouananiche, trout and bass.

IN ONTARIO, the entire range of the Muskokas, the Georgian Bay hinterland, the French, Pickerel, Still and Maganetawan rivers—well stocked with bass, mascalonge, and pickerel, are best reached by the Canadian Northern Ontario Railway.

IN WESTERN ONTARIO and the prairie provinces, the Canadian Northern Railway serves over three thousand miles of splendid territory. The Rainy River section follows the old Dawson fur trail, which is the finest canoe trip on the continent. There is an amplitude of sporting opportunities for the camera hunter, the fisherman and canoeist.

For literature and general or special information inquire of the information Bureau, Canadian Northern Railway System, Toronto.

PEERLESS
The Fence that saves Expense


It is the best fence you can buy because it is the cheapest, when measured by the years of good service it will give. PEERLESS FENCING is made of all No. 9 hard, springy wire, which is not easily affected by weather, wear or unruly stock. Just the fence suited to railroads. Neat in appearance—conforms to topography of ground and at the same time upright wires are perpendicular. It will pay you to get the free book we are sending to all who write us. A postal will do.
The
Banwell Hoxie Wire Fence
Company, Limited
Dept. 17
HAMILTON, ONT.
WINNIPEG, MAN.

STRONGER
Than Stock-Weather and Wear

40 miles, and will connect up Hamilton, Galt, and Berlin, Ont.

Hamilton, Waterloo and Guelph Ry.—A line 90 miles in length from Hamilton to Elmira, and from Hamilton to Elora and Fergus, Ont., was authorized to be constructed by a company with this title, which was incorporated by the Dominion Parliament in 1906. Up to date, nothing in the way of construction has been done. (Mar., pg. 215.)

Huron and Ontario Ry.—Originally incorporated by the Dominion Parliament in 1896, to construct a railway from Port Perry to Kincardine, Princeville to Kincardine, Walkerton to Goderich, and a connection between Lucknow and Kincardine, this company obtained various additional powers in 1903, 1906, 1907 and 1909, and proposes to develop its lines as electric rather than steam railways. The total mileage authorized is 250 miles, but no construction work has yet been started. (Jan., pg. 53.)

Manitoba Radial Ry.—This is the title of a company incorporated by the Dominion Parliament in 1907, having for its object the construction of a line of 160 miles from Winnipeg to Clandeboye, Lake Manitoba; to Grand Rapids on Lake Winnipeg with a branch from Winnipeg to Stonewall and Lake Francis, Man. No construction has been undertaken to date, but an extension of time for construction was granted at the recent session of Parliament. (April, pg. 281.)

Montreal and Southern Counties Ry.—This company was incorporated by the Dominion Parliament in 1897 to construct a railway from the northern limit of Chambly Co., to Sherbrooke, Que., 80 miles. It obtained additional powers as to construction, connection and amalgamation with other lines in 1898, 1902 and 1905, and has an arrangement with the G.T.R. for a line over the Queen Victoria Jubilee Bridge, and with the Montreal city council for the entrance of its lines into the city. The lines in Montreal and St. Lambert are now under construction. Contracts have been placed for steel rails, special track work, spikes, switch ties, tubular poles, brackets, trolley poles, etc. The companies obtaining contracts include Montreal Steel Works and Canadian Ramapo Iron Works. (June, pg. 449.)

Niagara Gorge Rd.—The damage done by the ice jam to this railway was sufficiently repaired to permit traffic to be opened on the outer track, May 23, and the inner track was opened up at a later date. The principal part of the cost, about $18,000, was for the removal of ice on the road, which varied from a few feet at the whirlpool, to 25 and 30 ft. at the lower end near Lewiston, N.Y. (May, pg. 367.)

Niagara, Queenston and St. Catharines Ry.—This company was incorporated by the Dominion Parliament in 1903, and authorized to construct 30 miles of electric railway from St. Catharines, via Queenston and Niagara-on-the-Lake, back into St. Catharines, Ont. An extension of the time for construction was granted in 1906, but up to date no work has been done. (May, 1906, pg. 275.)

Niagara, St. Catharines and Toronto Ry.—This company was incorporated by the Dominion Parliament in 1899 to acquire the St. Catharines and Niagara Central Ry., and extend the same to Fort Erie, also to Toronto via Hamilton, with a branch from St. Catharines to Port Dalhousie, Ont. The mileage authorized by the new act was 130 miles, and of this 30 miles has been constructed. Extensions of time were granted in 1905, 1906 and 1908. (June, pg. 449.)

We have been advised that nothing has been decided as to the construction of the projected extension to Port Colborne.

Nipissing Central Ry.—In 1907 the Dominion Parliament incorporated a company with this title to construct a railway from Latchford to Blanche River, Windigo, and to the National Transcontinental Ry. at Matagami River; also from Latchford along Montreal River through Barr and Willison tps. to the National Transcontinental Ry.; also from Latchford to Temagami station on the T. and N. O. Ry., with some branch lines. The length of the lines authorized is 500 miles. The company was granted an extension of time for construction in 1908, but up to the present time no work has been done.

Work is reported to have been started on the construction of the section of the line from Cobalt to Haileybury, and it is expected to have it completed and in operation by Sept. The route will be on the west side of the T. and N. O. Ry. at North Cobalt, which will be made the point from which the line will be operated. (May, pg. 367.)

Ontario West Shore Ry.—The question of the appointment of an independent engineer to check the progress certificates, came up at a meeting of the Ashfield tp. council, June 19. A statement credited to the council's solicitor, says that municipalities have no power under the Railway Act to make such an appointment. The certificates are made out by the company's engineer, who is liable to a severe penalty for any falsification. The same question has already been raised at the Goderich council, where it was referred to a special committee with instructions to consult the Ontario Railway and Municipal Board. Considerable progress has been made between Goderich and Kincardine, and it is said that the line will be running in "due time." The operations in connection with the Maitland River power development scheme, which is considered to be a necessary feature for the success of the railway, will probably be pressed forward at an early date, and it is anticipated that the question of an agreement between the two companies will be brought before the Ontario Legislature at its next session.

Ottawa and St. Lawrence Electric Ry. We were advised June 16, that there have been no surveys made to date for this projected railway, but it was expected to start them in the near future. The line as projected will have a total length, including three branches, of about 250 miles, the main line being 201.50 miles in length. It will start at Ottawa, run south to Morrisburg, thence westerly to Brockville, then north through Perth, Lanark, White Lake to Arnprior, then east through Fitzroy, Harborne, and Brittannia to Ottawa. The branches are from Kenmore to Russell, four miles, from Morrisburg easterly to the Interprovincial boundary, about 30 miles, and from Darling, Lanark county, to High Falls, about 15 miles. It is proposed to get the power from Ottawa, the Clints Falls, Fitzroy, the Madawaska River near White Lake, and Morrisburg, with probably a steam plant in the vicinity of Brockville. The total cost would approximate $3,000,000. It is said that construction may be started this season. The distances between the principal points on the projected main line are: Ottawa to Morrisburg, 44 miles; Morrisburg to Brockville, 33.5 miles; Brockville to Perth, 42 miles; Perth to Arnprior, 46 miles; Arnprior to Ottawa, 36 miles; total 201.50 miles. A. H. N. Bruce, Ottawa, is Chief Engineer. (June, pg. 449.)

Ottawa Electric Ry.—Work was started June 1 upon the construction of the loop line at the end of Elgin St. The work was expected to be completed within 15 days. (Apr., pg. 283.)

Pictou County Electric Co.—The franchise, plant and line of the Egerton Tramway Co., at Stellarton and New Glasgow, N.S., has been acquired by the P. C. E. Co., which has also acquired the New Glasgow Electric Light Co. The company operated 8.10 miles of electric lines. The company proposes to add to its power equipment, and is reported to have placed orders for additional power plant.

Quebec and Saguenay Ry.—In connection with the report that interests allied with this company had secured a controlling interest in the Quebec Ry., Light and Power Co., and that the rearranged company will undertake the construction of the projected Q. and S. Ry. from St. Joachim to Murray Bay, we are advised that no proposition for such an extension has been brought before the Q. Ry., L. and P. Co. (June, pg. 449.)

Quebec Ry., Light and Power Co.—See Quebec and Saguenay Ry.

Thorold and Lake Erie Ry.—The Dominion Parliament in 1904 incorporated a company with this title to construct an electric railway from Thorold to Port Colborne, thence easterly to Fort Erie, and westerly to Brantford, Ont., about 80 miles. An extension of time was granted in 1906, but up to date no construction has been done.

Three Rivers, St. Maurice and Champlain Ry.—In 1905 the Dominion Parliament incorporated a company with this title, to construct an electric railway from Three Rivers westerly through Pointe au Lac, Temachiche, and other places to Maskinonge parish, and from Three Rivers easterly to St. Anne de la Parade parish, Que., about 60 miles. The company has not undertaken any construction.

Toronto, Niagara and Western Ry.—The Dominion Parliament in 1903 incorporated a company with the title of the Toronto and Hamilton Ry., with power to construct an electric railway from Toronto to Hamilton, 40 miles. In 1904, 1906 and this year extensions of time for construction were granted and in 1906 the name of the company was changed to the Toronto, Niagara and Western Ry. (May, pg. 369.)

Vancouver Island Power Co.—Notice has been given of an application for a license under the Water Act, in the Malahat and Renfrew districts. The proposed works comprise a plant for the generation of electricity, and the construction of a dam across a stream flowing into a small lake about 1,000 ft. east of the Jordan Meadows in the Malahat district. The company, with office at Victoria, has a capital of $75,000, and has power to generate electricity for a

number of purposes, including the propelling of tramways, etc.

Windsor, Chatham and London Ry.—A company bearing this title was incorporated by the Dominion Parliament in 1906, with power to construct an electric railway of 120 miles from Windsor to Chatham and London, Ont. It obtained an extension of time for construction in 1908, but up to the present time it has not done any work. (Apr., 1908, pg. 283.)

Electric Ry., Finance, Meetings, Etc.

Berlin and Waterloo St. Ry.—The Berlin Light Commission and the Waterloo Town Council have held several meetings, with a view of deciding the amount which Berlin will pay to Waterloo for the right to operate its street railway in Waterloo, Ont. Waterloo ask 5% of the gross receipts, but the Berlin authorities refuse this, and decline to make any offer. The Waterloo Council proposes to appeal to the Ontario Railway and Municipal Board.

B.C. Electric Ry—Gross operating earnings for Apr., $188,071; working expenses, $109,267; net operating earnings, $78,804; renewal funds, $13,958; net earnings, $64,846; approximate income from investments, $13,550; net income, $78,396, against $153,725 gross operating earnings; $95,352 working expenses; $58,373 net operating earnings; $10,750 renewal funds; $47,623 net earnings; $11,036 approximate income from investments; $58,659 net income for Apr., 1908. Aggregate gross earnings for 10 months ended Apr. 30, $1,900,352; net earnings, $861,531, against $1,643,985 gross, and $785,789 net for same period, 1907-08.

Egerton Tramway Co.—See Pictou County Electric Co.

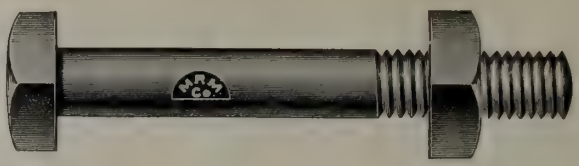
International Railway Co.—The accounts of the Commissioners for the Queen Victoria Niagara Falls Park for the year, 1908, show a receipt of $10,000 as rental from the I. Ry. Co.

Kingston, Portsmouth and Cataraqui Ry.—A letter has been sent by H. W. Richardson, President, to the Kingston, Ont., Council, offering to sell the line to the city, for a sum equal to that invested in 1905, plus 6% interest. The operating of the line has not paid the company. The company purchases its power from the city at 1.66c. a kilowatt hour. The matter is being considered by the finance committee. The question of purchasing the line has been discussed upon more than one occasion. During the spring of 1905, when the line was in the hands of the bondholders, they offered to sell to the city for $125,000, but this was declined, a suggestion being made that $50,000 be offered, but this was not done.

London St. Ry.—Gross earnings for May, $19,172.85; operating expenses, $14,191.27; net earnings, $4,981.58, against $18,891.22 gross earnings, $14,385.32 operating expenses, $4,505.90 net earnings for May, 1908. Aggregate gross earnin s for 5 months ended May 31, $89,809.25; operating expenses, $67,246.16; net earnings, $22,563.09, against $86,356.90 gross earnings, $66,928.59 operating expenses, $19,428.59 net earnings for same period, 1908.

The directors declared an interim dividend of 3%, June 17, payable July 2.

Montreal St. Ry.—Total earnings for May, $329,339.28; operating expenses,



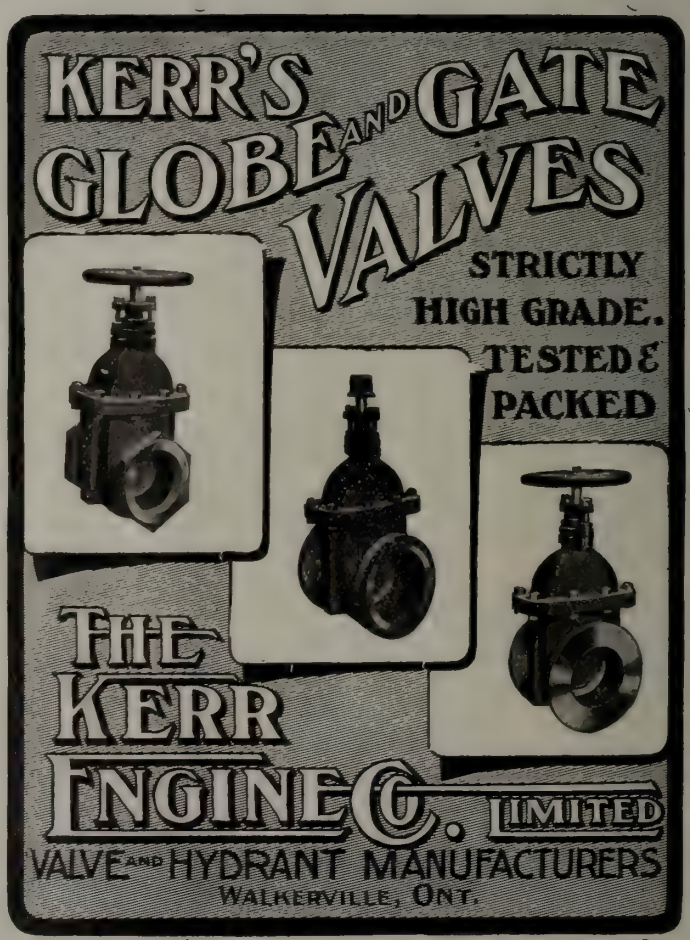
Screw Bolts

For Bridge and Construction Work

Made from the best material. Heads well set up. Threading full and accurate. Nuts fit perfectly.

We can supply all sizes promptly.

The Montreal Rolling Mills Co.


KERR'S GLOBE AND GATE VALVES
STRICTLY HIGH GRADE. TESTED & PACKED
THE KERR ENGINE CO. LIMITED
VALVE AND HYDRANT MANUFACTURERS
WALKERVILLE, ONT.

$184,147.58; net earnings, $145,191.70; city percentage on earnings, $28,005.30; interest on bonds and loans, $14,386.85; rent leased lines, $498.67; surplus, $102,-300.88, against $313,678.91 total earnings; $169,723.59 operating expenses; $143,-955.32 net earnings; $26,595.72 city percentage on earnings; $19,422.34 interest on bonds and loans; $444.43 rent leased lines; $97,492.83 surplus for May, 1908. Aggregate total earnings for 8 months ended May 31, $2,437,055.68; net earnings, $912,972.76; total charges, $261,-756.86; surplus, $651,215.90; against $2,-341,551.62 aggregate total earnings; $855,928.09 net earnings; $270,571.05 total charges; $585,357.04 surplus for same period, 1907-08.

Pictou County Electric Co.—This is the title of a company which has taken over the Egerton Tramway Co. of New Glasgow, N.S., and the New Glasgow Electric Light Co. The N.G.E.L. Co. carried on the business of supplying electric light and power in New Glasgow, Stellarton, and the vicinity, and supplied power to the E.T. Co.

Quebec Ry. Light and Power Co.—The annual meeting was held at Quebec, June 23. The following directors were elected for the current year to replace the previous board, which resigned: W. G. Ross, Managing Director Montreal St. Ry., President; Hon. R. Mackay, J. N. Greenshields, N. Belleau. This constitutes an entirely new control of the company, rumors of which have been current for some time. (June, pg. 451.)

Toronto Ry.—Gross earnings for Apr., $298,258; operating expenses, maintenance, etc., $153,594; net earnings, $144,-664, against $273,329 gross earnings; $161,826 expenses; $111,503 net earnings for Apr., 1908. Aggregate gross earnings for 4 months ended Apr. 30, $1,160,026; net earnings, $541,602, against $1,077,097 gross and $440,854 net for same period 1908.

Approximate earnings for May, $323,-322.95, against $295,809.05 for May, 1908.

Winnipeg Electric Ry.—Gross earnings for Apr., $192,400; expenses, $96,900; net earnings, $95,500, against $172,700 gross earnings; $93,500 expenses; $79,200 net earnings for Apr., 1908. Aggregate gross earnings for 4 months ended Apr. 30, $827,500; net earnings, $410,000, against $680,700 gross and $347,600 net for same period 1908.

Electric Railway Notes.

The Winnipeg Electric Ry. is building 30 or more electric cars this year at its Fort Rouge car shops. They will be 45 ft. long and 7 ft. platforms, and seating accommodation for 50 passengers.

The time within which the Chatham, Wallaceburg and Lake Erie Ry., was ordered by the Board of Railway Commissioners to equip all its cars with air brakes, was extended recently to July 4.

The Mexico Electric Tramways, Ltd., incorporated under the Imperial Parliament of Great Britain and Ireland, has been licensed under the act respecting extra provincial corporations to carry on its executive and administrative Toronto, as its attorney.

Electric railway enterprise in Canada is beyond anything we have imagined, if the mention of the Toronto and New York Radial Ry., by the Manitoba Free Press, in reporting the Canadian Street Railway Association's meetings in Winnipeg recently, can be taken as evidence.

The municipal census of London, Ont., for the current year shows that the population is still under 50,000, consequently there cannot be a vote, under the act passed by the Ontario Legislature last session, upon the question of the operation of the street cars on Sundays.

The question of the operation of the street railway in Kingston, Ont., is likely to remain unsettled, the directorate being divided on the subject. H. W. Richardson, the President, is opposed, whilst W. F. Nickle, the Secretary-Treasurer, is favorable to the running of cars on Sunday, which it is claimed the company's charter permits.

The board of conciliation at Winnipeg has filed a decision giving the Winnipeg Electric Ry. Co.'s men a nine-hour day with an increase of pay, and some minor changes in the condition of working. The arbitrators direct that there shall be no discrimination by either parties to the agreement against any man for being or not being a member of the union.

At a meeting of the St. Thomas, Ont., Board of Works, June 15, permission was granted the Southwestern Traction Co., to lower the subway at First Avenue one foot, to allow freight cars to pass over the M.C.R. Complaint was made that the company is violating its agreement by hauling freight cars through the city at other times than permitted by the agreement, and that the speed of its passenger cars is too high.

The Ontario Court of Appeal has dismissed the defendants' appeal in the case of Bradenburg v. Ottawa Electric Ry. Co. Plaintiff E. Bradenburg, mining engineer, was riding in a car of defendants last year in Ottawa when he sustained serious injuries. He was at the time under an agreement for his services with five years to run at a yearly salary of $6,000. He was awarded $30,000 damages. The award stands.

The cost of cleaning the snow off Montreal streets upon which the street railway operates, last winter was $219,-308, for which the Montreal St. Ry. Co. is alleged to be liable, under the by-law for $109,654. The company has paid $60,000. For the winter of 1907-08, the company withheld $20,000, on the ground that the cost was excessive, and the question is before the courts. The company before the commencement of the winter of 1908-09 offered to take over the whole work on the understanding that the cost would not exceed $3,000 a mile.

The claim of the St. Catharines, Ont., council against the Niagara, St. Catharines and Toronto Ry., for $4,451.95, the cost of construction of a portion of the asphalt block paving between the rails on Ontario St., St. Catharines, was dismissed in the Divisional Court, Toronto, June 3. It was held that the agreement with the company provided only for macadamizing the space between the rails, and as the portion of the street in question was, and continued to be macadamized, and as the space between the rails has been laid by the company and under the direction of, and as required by the Board of Works, there was no liability as to the asphalting.

James Anderson, Manager and a director of the Sandwich, Windsor and Amherstburg Ry., who has been elected Vice President of the Canadian St. Ry. Association, was born on a farm near Ayr, Ont., June 20, 1851. At the age of 19, he entered the old Great Western Ry. Co.'s service, and after serving a few years, was appointed a conductor, which position he held until Nov., 1883, when he resigned and went into the grocery business as a member of the firm of Robinson & Anderson, which partnership was continued for 10 years. In June, 1893, he sold his interest to his partner, and associated with Jno. Davis, W. J. Tucker, Dr. Coventry, W. J. Pulling, of Windsor, and the late Robt. Thomson and Wm. Hendrie, of Hamilton, purchased the Sandwich, Windsor and Amherstburg Ry., which was operated under that ownership for eight years. When it passed into the hands of the present owners, the Detroit United Ry. Co., in 1901, the D.U.R. Co. appointed Mr. Anderson General Manager, and the road has since extended to Amherstburg and Tecumseh, and now operates 35 miles of line. Mr. Anderson married in 1879 Anna M. Smith, daughter of the late Sidney Smith, of Acton, Ont., and has two sons and one daughter. He is a Scotch Liberal and a Presbyterian.

Duncan A. L. McDonald, Manager Montreal St. Railway Co., and Montreal Park and Island Ry. Co., who has been elected President of the Canadian St. Ry. Association, was born at St. Thomas, Montmagny, Que., June, 1859, and removed to Montreal in 1875. He entered the Montreal St. Ry.'s service in 1881 as a driver in order to acquire a thorough knowledge of street railway work from its very commencement. He was soon changed to conductor, and after about twelve months service in that capacity was appointed roadmaster. In 1886 he severed his connection with the company and engaged in other business. Anticipating the progress that the trolley system would make, he went to St. Paul and Minneapolis, Minn., in 1889, and secured a practical knowledge of the operation of electric tramways. He returned to Montreal in 1892, and re-entered the Montreal St. Ry.'s service as inspector, and in 1894 was appointed Superintendent of Transportation, which position he held until 1898, when he resigned to become General Manager of the East Parisian Tramway Co. with headquarters at Paris, France, in which position he organized the Parisian system to a high state of efficiency. In 1903 he returned to Montreal, having been offered the position which he now holds. He is a director of the Montreal Park & Island Ry. Co., President of the Pay-as-you-enter Car Company, director and late President of the Automobile Club of Canada, and a member of the Civil Engineers' Society of France, and is also interested in the direction of several other corporations.

Grain Elevator Notes

The Brackman-Kerr Milling Co., has erected a 50,000 bush. elevator at Hobbema, Alta.

The Canada Grain Co., is said to be arranging to erect an elevator at Auburn, Ont., during this year.

The British American Grain Elevator Co., is reported to be erecting 9 elevators on the C.N.R., between Brandon, Man., and Regina, Sask.

BALDWIN LOCOMOTIVE WORKS

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND

LOCOMOTIVES

Mine, Furnace and Industrial Locomotives
Electric Locomotives with
Westinghouse Motors and Electric Trucks

BURNHAM, WILLIAMS & COMPANY
PHILADELPHIA, PA., U.S.A.
Cable Address;—"Baldwin," Philadelphia

STANDARD STEEL WORKS CO.

Harrison Building, Philadelphia, Pa., U.S.A.

THE BRYDGES ENGINEERING AND SUPPLY CO.
WINNIPEG, MAN. Limited Representatives

Wheels mounted on axles fitted with motor gear
ready for application to equipment

STANDARD

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES
46th, Robey and Lincoln Streets.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.

Manufacturers of

DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:
22 St. John Street
MONTREAL, QUEBEC

I. A. YOUNG,
AGENT

The McConway & Torley Co.

PITTSBURG, PA.

Manufacturers of the

JANNEY,
JANNEY "X"
AND
PITT FREIGHT COUPLERS

BUHOUP 3-STEM EQUIPMENT
BUHOUP VESTIBULE EQUIPMENT

MALLEABLE IRON AND STEEL CASTINGS
FOR RAILROAD USE

ESTABLISHED 1849

BRADSTREET'S

Capital and Surplus $1,500,000
Offices throughout the Civilized World
Executive Offices:
NOS. 346 and 348 BROADWAY, N. Y. CITY, U. S. A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

Correspondence Invited.

OFFICES IN CANADA:
Halifax, N.S.; Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.; Toronto, Ont.; Vancouver, B.C.; Calgary, Alta.; Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

The Consolidated Elevator Co., is reported to have placed a contract for the erection of an elevator plant at Fort William, Ont., with a capacity of 1,700,000 bushels.

The Alberta Pacific Elevator Co., is arranging for the construction of an elevator at Daysland and Strome, Alta., this year. Applications for elevator sites at Daysland, Alta., have been received from the Alberta Grain Co., Strathcona, Alta.; J. Richardson & Son, Kingston, Ont., and the Great West Grain Co.

The Department of Trade and Commerce has taken up the question of grain shortages, and is reported to have an inspector looking into the methods of elevator management on both sides of the lakes, with a view to the adoption of some regulations for the removal of the complaints.

The Consolidated Elevator Co., has let a contract to J. Stewart & Co., for the construction of a 1,000,000 bushel addition of reinforced concrete to its present elevator capacity at Fort William, Ont. The cost is estimated at $250,000, and the addition will be ready for operation early in 1910.

The work on the Ogilvie Milling Co.'s elevator at Fort William, Ont., it is stated, will be commenced at once, the contract having been let to the Barnett and McQueen Co., Fort William. A press report states that when the elevators at present building and contemplated are completed, the elevator capacity at Fort William will be 20,000,000 bush., and of Fort William and Port Arthur, combined, 30,000,000 bush. Elevators are in course of erection for the Empire, Western, and G.T. Pacific companies; contracts have been let for the erection of the new Consolidated and the Ogilvie elevators, and the Muirhead and Black contract will be let immediately.

Grain Elevator Capacity.

A circular issued by the railway companies operating in Manitoba, Saskatchewan and Alberta, gives the elevator capacity of the West as follows:

	Bush.
C. P. R. terminals	14,752,405
C. P. R. interior	29,041,490
C. N. R. terminals	7,000,000
C. N. R. interior	10,875,500
G. T. P. R. interior	1,374,000
Midland Ry. interior	235,000
Hudson Bay interior	435,000
Alberta Ry. & I. Co.	294,000
Total	64,007,395

The number of elevators in the provinces are situated on the various lines as follows: C.P.R., 975; C.N.R., 396; G.T.P.R., 46; Midland Ry., 8; Hudson Bay Ry., 15; Alberta Ry. and Irrigation Co., 15.

MARINE DEPARTMENT.

Lake Navigation History.

The Nautical Gazette is publishing "A history of the first century of steam navigation" in instalments. No. 46 deals with Lakes Ontario and Erie, as follows:

"Up to 1816 three steamboats, the Accommodation (1809), the Swiftsure (1813), and the Malsham (1814), all Canadian boats, had been built for service on the St. Lawrence, the latter having accommodations, it is said, for 1,000 passengers. The engines of these vessels were constructed by Bolton & Watt, at their Soho works, Birmingham, England, the builders of the engine of the North River steamboat of Clermont in 1806. In 1816 the Frontenac, the first Canadian steamboat to navigate Lake Erie, was built at Finkel's Point, 18 miles above Kingston, Ont., being launched on Sept. 7 of that year. She was built by Teabout & Chapman, of Sackett's Harbor, N.Y., and was owned by a company made up of citizens of Kingston, Niagara, Queenston, York and Prescott, all Canadians. She was 170 ft. long over all, and of 700 tons. Her engine was built by Bolton & Watt, and her entire cost was $100,000. The Frontenac was placed on the Prescott and York (Toronto) route, on June 5, 1817, and made a round trip each week. Her commander, Capt. James Mackenzie, remained in charge until she was totally destroyed by fire at Niagara, in 1827.

"To an American steamboat named Ontario, however, belongs the honor of having been the first to navigate Lake Ontario—or any of the Great Lakes for that matter—this vessel having been built at Sackett's Harbor, N.Y., in 1816. In the Albany Advertiser of Aug. 16, 1816, we find the following item regarding this vessel:

"'Steam Boat on Lake Ontario.—We are requested to state for the information of the public that the Sackett's Harbour steamboat is expected to be in operation in all the month of September next, to ply between Lewiston and Ogdensburg. She will carry freight and passengers.'"

"The Ontario was built by C. Case, Sackett's Harbor, N.Y., in 1816, her official measurements, filed in the collector's office at the port in which she was constructed, being 232 tons, 112 ft. in length from stem to stern, 28 ft. breadth, and 8 ft. 3 ins. depth 'from spar deck to keel.' Her first trip was made in April, 1817, or two months in advance of that of the Frontenac, and over a year before the famous Lake Erie steamboat Walk-in-the-Water started on her first voyage. The Ontario was constructed under a grant obtained from the heirs of Robert Fulton, and her engine, of 28 horse-power, was built by S. Sexton, on the plan of those used in the Fulton steamboats. When the Ontario started out on her first trip she encountered heavy weather on Lake Ontario, and the waves lifted her paddle-wheels bodily, tearing the main shaft from its bearings, smashing the paddle-boxes and wrecking things generally. She was with difficulty got back to port, where repairs were made and the matter of securing the outboard bearings in a more rigid manner effected, after which she proved a conspicuous success, plying on Lake Ontario for many years. Her owners were E. Camp & Co.

"The Ontario's success as a passenger packet was immediate and it is said she made handsome returns to her owners on their investment. An item from the New York Evening Post in the summer of 1817, soon after she went into service, will show how well the craft was patronized:

"'Oswego, Aug. 7.—The Steam Boat Ontario, Capt. Mallaby, touched here this morning from Niagara on her way to S. Harbour, Ogdensburg, etc. She was so much crowded with passengers that the captain was under the necessity of leaving a number of applicants at Niagara, for want of more extensive accommodations. Among those left was the Russian Minister and suite. It could scarcely have been anticipated by the most sanguine friends of the steam boat establishment on this lake, that this route would so soon have become so fashionable.'

"C. Case, the builder of the Ontario, afterward constructed other steamboats at Sackett's Harbor, among which were the Brownville, and the Charles Carroll, in 1831, and the Wm. Avery in 1833.

In 1817 another American steamboat was built for use on Lake Ontario. She was named Sophia, and was placed on the route between Sackett's Harbor and Kingston, Ont. She was much smaller than the Ontario, being only 67 ft. 8 ins. long, 18 ft. 2 ins. beam, and 4 ft. 7 ins. deep, and of 50 tons, official figures. A. S. Robberts was her builder and J. P. Allaire, the New York engine-builder, was the constructor of her machinery.

"In the year following the Sophia's advent the Canadians set afloat their second Lake Ontario steamboat, the Queen Charlotte, which was launched on April 22, 1818. She was constructed in the same yard as that in which the Frontenac was built, and largely from material left over from the building of the latter vessel. Ward Bros., Montreal, furnished the machinery, and she is described as being a very substantially-built craft, though of limited dimensions. For twenty years she plied from Prescott, on the St. Lawrence, to the Carrying Place at the head of the Bay of Quinte. The hull was finally broken up in Cataraqui Bay."

If any of our readers have any facts in their possession in regard to the above-mentioned matters, or if any of the statements made are not in accordance with facts, we would be pleased to receive correspondence on the subject.

Notices to Mariners

The Department of Marine has issued the following:—

No. 38. May 21. 95.—Quebec, Gulf of St. Lawrence, Magdalen Islands, Grindstone Island, hand fog horn at Etang du Nord light station. 96.—Quebec, River St. Lawrence, mouth of Saguenay River, Prince shoal, position of gas and bell buoy. 97.—Quebec, River St. Lawrence, above St. Thomas de Montmagny, gas buoys placed temporarily for dredging purposes. 98.—Quebec, River St. Lawrence, Orleans Island, west end, Maranda rocks, change in character of buoy.

No. 39. May 21. 100.—British Columbia, Vancouver Island, east coast, Stuart channel, Boat harbor, uncharted rock. 101.—British Columbia, Juan de Fuca Strait approach, Swiftsure Bank, gas, whistling and bell buoy withdrawn.

No. 40. May 22. 102.—Ontario, Lake Ontario, entrance to Presqu'Ile Bay, Salt Point light re-established. 103.—Ontario, Lake Huron, Goderich, shoal south of outer breakwater marked by buoy, caution.

No. 41. May 27. 104.—Quebec, River St. Lawrence, Port-neuf-en-bas, change in position of range lights. 105.—Quebec, River St. Lawrence, below Quebec, Orleans channel, off Pointe au Pavillon, buoy established. 106.—Quebec, Richelieu River, Chambly wharf light discontinued.

No. 42. May 28. 107.—Ontario, Lake Ontario, Kingston harbor approach, Myles shoal, gas buoy placed temporarily for experimental purposes. 108.—Ontario, Lake Ontario, Kingston approach, Penitentiary shoal, gas buoy established. 109.—Ontario, Lake Erie, Port Stanley, light on west pier moved inwards.

No. 43. June 4. 110.—Nova Scotia, Cape Breton, names of certain geographical features fixed. 111.—New Brunswick, Chaleur Bay, Caraquet Island, lighthouse and light improved. 112.—Ireland, south-west coast, Mizen Head, fog signal established. 113.—Scotland, west coast, Stourhead lighthouse, alteration of light.

No. 44. June 7. 114.—Ontario, Detroit River, Windsor, shoal. 115.—Ontario, St. Joseph Channel, Shoal Island lighthouse burned down, temporary light.

No. 45. June 7. 116.—Nova Scotia, south coast, Beaver Island, fog alarm established.

No. 46. June 8. 117.—Quebec, River St. Lawrence, Bicquette Island, temporary light. 118.—Quebec, Richelieu River, St. Jean, open lantern replaced by lighthouse tower.

No. 47. June 9. 119.—Quebec, River St. Lawrence, St. Roch Shoals, change in

FENCE TALK NO. 6

The Page "High Carbon" "Empire" Fence is a fence that outclasses them all, at every point of fence-value. It's the strongest wire-fence made, and it will outlast two—yes, three—ordinary wire-fences.

It is not an expensive fence, although every upright and every horizontal wire is made of 9-gauge steel. Not expensive even though its horizontals are High-Carbon Galvanized Steel wire guaranteed to stand 2,400 lbs. tensile strain without breaking as compared with "hard drawn" wire, that breaks at 1,800 lbs. and less.

Decidedly not expensive, because the toughness of the wire, the springiness and the solid-joint lock-knot, insure that this fence will stretch tighter, stand up better, and never sag, even though but two posts are used as against three on any other fence.

With all its betterments, that no other fence even approaches, a Page "Empire" Fence costs less, in the first place and in the long run once it's up, than any fence made.

Shall we prove that to you? Ask nearest Page place for free booklet that tells about the many kinds of Page Fence (including "Empire") and shows how you can prove any fence before purchasing.

The Page Wire Fence Co., Ltd., Walkerville, Toronto, Montreal, St. John, Vancouver, Victoria.

"Page Fences Wear Best"

Duplicators

With the typewriter in universal use, every business man and every professional man as well, has use for a duplicating machine of some kind, for making easily and quickly a number of facsimile copies of a typewritten original.

We sell several devices for the purpose: The Hectograph at $3.50; the Box Neostyle, $15; the Rotary Neostyle, $35; and the modern Flexotype, which produces 10,000 perfect typewritten letters an hour.

UNITED TYPEWRITER COMPANY

Adelaide Street E., Toronto

THE CLIFTON HOTEL

NIAGARA FALLS, CANADA.

Rates $4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

The only Hotel that Commands an Unrivalled View of Both Falls.

HOW TO REACH THE CLIFTON HOTEL.

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes. Arriving on Michigan Central Rd., Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make Canada plain in the address.

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA

A PURELY CANADIAN COMPANY

JOHN EMO, General Manager H. W. PEARSON, Secretary-Treasurer D. MURPHY, President

AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

position of can buoy no. 61B. 120.—Quebec, River St. Lawrence, Orleans Island, St. Jean, light moved to new freight shed on outer end of wharf.

No. 48. June 10. 121.—British Columbia, Strait of Georgia, sandheads of Fraser River, Roberts bank, Canoe pass, buoy established. 122.—British Columbia, Chatham Sound, Alexandra patch, uncharted rock. 123.—United States of America, Juan de Fuca strait entrance, Duntze rock, whistling buoy established.

No. 49. June 124.—Nova Scotia, Bay of Fundy, Cumberland basin, off Minudie Point, buoy established. 125.—Nova Scotia, southwest coast, Cockerwit passage, buoys established. 126.—Nova Scotia, northwest, Northumberland strait, Pugwash harbor, Fishing point, change in character of light. 127.—Prince Edward Island, south coast, Northumberland strait, Belle River, buoy established.

No. 50. June 19. 128.—Ontario, Lake Ontario, east end, Simcoe Island, Four mile point, hand fog horn established. 129.—Ontario, Lake St. Clair, Belle River, day beacons established. 130.—Lake Huron, westward of Cove Island, whistling buoy established.

No. 51. June 22. 131.—Quebec, St. Lawrence River, Chat River, light established on wharf. 132.—Quebec, St. Lawrence River, above St. Thomas de Montmagny, additional gas buoys placed temporarily for dredging purposes.

The U.S. Hydrographic Office has issued the following:—

No. 22. May 29. 1072.—Lake Huron, Martin reef, light vessel established, gas buoy withdrawn.

No. 23. June 5. 1140.—St. Marys River, Sailors' Encampment, blasting in channel, caution.

Atlantic and Pacific Ocean Marine.

C. Holdsworth, General Manager, Union Steamship Co. of New Zealand, was in Montreal, June 14, on his way from New Zealand to England for a holiday trip.

The White Star-Dominion Line s.s. Megantic ran her trial trip at Belfast, Ireland, June 4, after which she proceeded to Liverpool, Eng., and sailed for Montreal, June 17. She is a sister ship to the s.s. Laurentic, and is similar in all respects but in machinery, which is composed of reciprocating engines only as against the combination of reciprocating and turbine engines of the s.s. Laurentic.

Speaking in the Senate recently, the Minister of Trade and Commerce said, while referring to amendments to the Ocean Steamships Subsidies Act, "I may remark that the Union Steamship Co. have been requesting an increase in their subsidy, which I am afraid, in the present state of finances, looking at the volume of trade, we can hardly give." The company receives a subsidy of about $230,000 a year for service between Canada and New Zealand and Australia.

The Plant Line s.s. Halifax, which was running between Havana and Florida during the winter, has been overhauled at Halifax, N.S., and is to be run during the summer between Charlottetown, Port Hawkesbury, Halifax and Boston.

The Quebec Steamship Co.'s s.s. Campana, inward bound, grounded near St. Valier, about 20 miles below Quebec, June 17. The passengers were landed safely and subsequently the vessel was raised, and after examination abandoned to the underwriters.

Press reports from Montreal are again busy with the statement that the White Star-Dominion Line is planning to invade the Pacific ocean as the result of an agreement with the G.T.P.R., with Prince Rupert, B.C., as its headquarters. The rumor is chiefly based on the statement made by C. M. Hays, President G.T.P.R., some time ago to the effect that should the company enter the ocean steamship business it would probably be by arrangement with some ocean steamship company, and not on its own account.

A proposal was made at the recent session of the Dominion Parliament to subsidize a steamship line between Eastern Canada and New Zealand and Australia and possibly South Africa. It was stated that a company had offered to establish such a line, to sail eight times each year with vessels having a deadweight capacity of 6,000 tons, in return for a subsidy of $250,000 a year for three years. The matter is to be brought up at the next session, and in the meantime some enquiries will be undertaken regarding the possibility of such a line becoming a paying business.

The Minister of Marine recently announced that the deepening of the St. Lawrence ship channel to 30 ft. will be practically completed this year, and in order to cope with the growing requirements of deep draught vessels using that route it was necessary to further deepen the channel. The work of deepening to 35 ft. will in all probability be taken in hand next year, so that the largest of ocean going vessels can utilize the channel with complete safety. A dredge for operation in the channel for this purpose is at present under construction at the Government dockyards, Sorel, Que.

A press despatch, which evidently emanated from Montreal, and which has been reproduced in most of the newspapers throughout the Dominion and in various U.S. periodicals, in the latter part of May and early in June, states that A. Piers, Manager C.P.R. Steamships, who recently sailed for England, "is understood to carry with him instructions from the C.P.R. executive to place with one of the big British shipbuilding firms orders for the immediate construction of two new Empress liners for the Atlantic service." We have at various times given denials on official authority to similar statements. We were advised, May 27, by letter over the signature of Sir Thos. G. Shaughnessy, President, that "there is no foundation for these periodical reports about orders having been placed for the construction of some new steamers for our Atlantic line."

Maritime Provinces and Newfoundland.

Capt. J. G. Rayne, a well-known West Indies captain, died at Barrington, N.S., June 2.

H. Cann and Sons, Yarmouth, N.S., have sold their steam tug Marina to F. R. Eaton for use on the Gaspe route.

Capt. G. W. J. Bissett, commander of the Dominion Government s.s. Lansdowne, died at St. John, N.B., June 4, aged 64.

The name of the schooner Annie, no. 80,886, registered at St. Andrews, N.B., has been changed by order in council to Fred Greene.

J. F. L. Parsons, Agent of the Department of Marine at Halifax, N.S., died there, June 14, aged 68. He occupied the position for 15 years.

Capt. C. Barkhouse, Liverpool, N.S., has been appointed a Fishery Officer in the Fisheries Protection Service with the rank of Master Mariner.

The name of the schooner Maggie Roach, no. 74368, registered at Richibucto, N.B., has been changed by order in council to Maude Weston.

Sandy Point, N.S., a customs preventive station, has been established a customs out-port and warehousing port, under the survey of Shelburne, N.S.

The Reid Newfoundland Co., recently purchased the s.s. Dromedary in Glasgow, Scotland, to replace the wrecked s.s. Virginia Lake in the Labrador mail service.

The Dominion Department of Marine is reported to have purchased the schooner W. J. Foley from H. Le Blanc, Tusket Wedge, N.S., for use on the lakes as a lightship.

Capt. F. Wollard, of Yarmouth, N.S., who was sentenced to 16 years in the penitentiary at St. John's, Nfld., in 1903, for shooting one of his crew, has been released and pardoned.

The British Admiralty surveying ship, Ellinor, has resumed her summer work, surveying along the Newfoundland coast.

The Quebec Steam Whaling Co., Ltd., received tenders recently for the purchase of its whaling plant, which included the steamer Falken.

N. A. Currie, formerly chief engineer Dominion Atlantic Ry. s.s. Boston, and at one time second engineer Dominion Government s.s. Stanley, has been appointed inspector of marine boilers and machinery for Nova Scotia, succeeding J. P. Esdaile, deceased.

The Government ice-breaking steamship Earl Grey, which is to be operated across the Northumberland Straits, was launched at Barrow-in-Furness, Eng., June 18. The ceremony was performed by the Countess of Antrim, on behalf of the Dominion Government.

Capt. C. N. Mylius, who was for 41 years a commander of Allan Line and other steamships and subsequently, to the date of his retirement about 15 years ago, was master of the mail steamer Newfoundland, running between Halifax and St. John's, died at Halifax, June 12.

The contract for the dredging to be done on the western side of St. John harbor, near Beacon Bar, recently awarded by the Public Works Department, was signed May 10, and the work immediately commenced. The dredge Iroquois, with a capacity of 250 cubic yards an hour, up to a depth of 27 ft., is at present working there, and arrangements have been made to place an additional dredging plant on the contract, so that the work may be pushed through as speedily as possible.

The Home Steamship Co.'s s.s. Morien, which was launched at Sunderland, Eng., May 20, is on her way to Halifax, N.S., with a cargo of pipe for that city, in charge of Capt. C. M. Burchell. Her dimensions are:—Length, 215 ft.; beam, 31ft. She is equipped with electric light and

has three hatches, respectively, 21 ft., 25 ft., and 44 ft. She has been specially designed and built for the coal trade, and is considered one of the finest collier coasters. After discharging her cargo, she will proceed to go on charter with the North Atlantic Collieries.

The Sincennes McNaughton Line's steam tug, Sin-Mac., which has been built for that company at Dumbarton, Scotland, underwent trials of her machinery there, June 3, when she ran at about 13 knots an hour. The dimensions are: length, 138 ft.; breadth, 26 ft.; depth, 14 ft. Her equipment includes the most up-to-date arrangements for the speedy handling of vessels, and in addition to all the necessary tugboat fittings, she has a large salvage pump and a fire pump. The vessel is fitted with electric light, and water ballast is arranged for in the cellular double bottom under the engine, and in the fore and aft peaks.

The collier Fornebo has just performed a smart bit of work. She arrived at Quebec recently, in the afternoon, from Sydney, N.S., with a cargo of 7,000 tons of coal, and proceeded to Montreal, where she arrived at 4 p.m. the following day, discharged her cargo there and passed Quebec outbound at 4.30 p.m. on the third day. Thus she made the run from Quebec to Montreal, discharged 7,000 tons of coal there, and returned to Quebec in a little over 40 hours, which is certainly fast work. The Norwegian steamer Wacousta has also done some fast work. She left Quebec, May 25, at 11 p.m., proceeded to Sydney, N.S., where she loaded 5,700 tons of coal and reached Quebec at 2.30 a.m. May 31, notwithstanding the fact that she was detained 29 hrs. by fog.—Shipping Illustrated.

An order in council has been issued granting permission for the changing of the name of the steamboat Phantom to Mabel Reid, under which name the vessel has been registered at St. Andrews, N.B.

The Home Steam Ship Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $95,000 and office at Sydney, N.S., to own and operate steam and other vessels, and to carry on the business of common carriers within and without the Dominion. The provisional directors are: J. T. Burchell, J. A. Young, F. A. de Young, H. C. Harrington and H. Ross, Sydney, N.S.

In our June issue we gave a report to the effect that the Bras d'Or Steamship Co., was building a steamboat at Shelburne, N.S., which it hoped to launch about June 1. This vessel which is being built to take the place of one controlled and operated by the Bras d'Or Steamship Co., is, however, owned by the North Shore Steamship Co. The dimensions of the new vessel, which is named Aspy, are:—Length, 124 ft.; breadth, 25ft.; depth, 9 ft. The machinery consists of a compound engine, 15" by 32", supplied with steam from a Scotch boiler, 10 ft. by 11' 6", and she is equipped with electric light. When completed she will be operated in the passenger and freight trade of the north shore of Cape Breton, calling at St. Ann's, Ingonish, Aspy Bay, and Bay St. Lawrence.

Following are the vessels, with their captains and chief engineers, of the Black Diamond Steamship Co., operated by the Dominion Coal Co., Glace Bay, N.S., for the current season. Of those named, the Bonavista, Cabot, Cacouna, Cape Breton, Coban and Louisburg, are owned by the company; the remainder

C.P.R. LANDS

The Canadian Pacific Railway Company have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2 - South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally)	8.00 to per acre.
Map No. 5 South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7 - Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160	Acres at	$ 8.00	per acre,	cash payment	$191.70	first year's interest	$ 65.28	and nine instalments of	$160.00
"	"	9.00	"	"	213.70	"	"	"	73.46	"	"	180.00
"	"	10.00	"	"	239.70	"	"	"	81 62	"	"	200.00
"	"	11.00	"	"	263.60	"	"	"	89.78	"	"	220.00
"	"	12.00	"	"	287.60	"	"	"	97.96	"	"	240.00
"	"	13.00	"	"	311.55	"	"	"	106.10	"	"	260.00
"	"	14.00	"	"	335.60	"	"	"	114.32	"	"	280.00
"	"	15.00	"	"	359.50	"	"	"	122.44	"	"	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-selected districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

FOR HARD SERVICE, USE THE

It Will Save You Both Labor and Money

Correspondence Solicited

RAMAPO MANGANESE POINTED SWITCH.- STYLE No. 13

MANUFACTURED BY

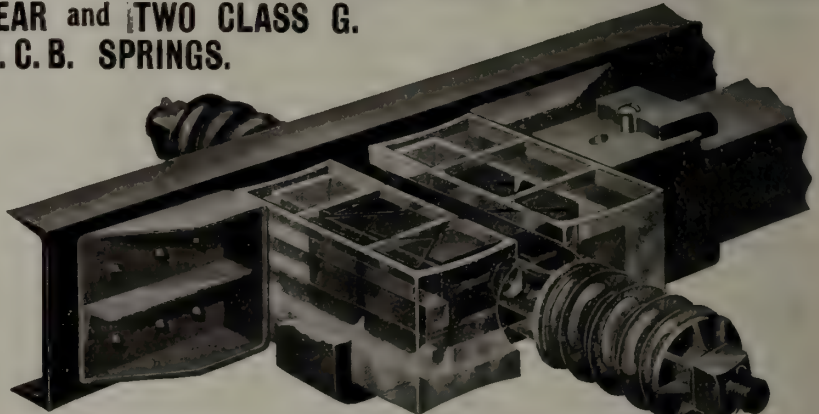
CANADIAN RAMAPO IRON WORKS, Limited

NIAGARA FALLS, ONT.

354 Main St., WINNIPEG, MAN.

605 Eastern Townships' Bank MONTREAL, QUE,

35 to 1 is the relative amount of work done by ONE CARDWELL FRICTION DRAFT GEAR and TWO CLASS G. M. C. B. SPRINGS.



CARDWELL FRICTION DRAFT GEAR—MADE BY

UNION DRAFT GEAR CO., CHICAGO, ILL.

are chartered:

Bonavista	D. C. Fraser	D. Cameron
Borgestad	A. Nilsen	O. E. Aarin
Cabot	J. Kemp	S. A. Stevenson
Cacouna	L. Holmes	P. J. Lahey
Cape Breton	A. F. McDonald	W. E. Sutherland
Coban	A. McPhail	J. Scott
Chr. Knudsen	A. Sorensen	O. B. Jernas
Dominion	W. H. Norcott	A. S. Mills
Fornebo	Chr. Hansen	A. Hanisch
Fritzoe	E. Quale	O. Fuglestad
Finn	J. L. Lundgren	
Kronprins Olav	P. Nilsen	K. Kristinsen
Louisburg	K. Marsters	C. Cooke
Ocean	O. Jacobsen	H. C. Antonsen
Ocland	H. Bonn	N. Linchanson
Sigstad	— Ellefsen	
St. Andrews	P. O. Nanuen	
Tanke	H. Hansen	H. Mattusen

Province of Quebec Marine

The Department of Marine received tenders June 29, for about 625 tons of steel plates and shapes required for the construction of elevator dredge no. 26, to be built at the Government shipyard, Sorel.

A deputation representing the Quebec Harbor Commission visited the Montreal harbor, June 2, and inspected the works completed and in progress there, with the view to the carrying out of a number of improvements in the Quebec harbor.

The two vessels operated by Revillon Bros., Montreal, during the current season, with their officers are as follows: Minawa, W. P. Moore, captain; J. Fowler, chief engineer—and Ombabika, G. A. Patton, captain; E. Drinkwater, chief engineer.

It is announced that the aids to navigation in the St. Lawrence Channel between Montreal and Quebec, in Lake St. Louis and the Ottawa River, have been placed under the Marine Departments' staff at Montreal instead of at Quebec as heretofore.

The Montreal Harbor Commissioners' large floating crane which was built in England last year, and which should have arrived at Montreal nearly a year ago has at last reached its destination. The crane broke loose from the tug towing it last year and was subsequently picked up on the north west coast of Scotland and towed to Barrow-in-Furness, Eng.

La Compagnie de Navigation Canada has been incorporated under the Quebec Companies Act, with a capital of $20,000 and office at Montreal, to own and operate steam and other vessels, and to carry on a general business in navigation, towage, the construction of wharves and other works connected with navigation. The provisional directors are:—L. Lacouture, L. E. Morin, Jr., Montreal; A., G. W., and H. L. Couture, Sorel, Que.

The S.S. Torgorm from the West Indies consigned to the Robt. Reford Co., Montreal, collided with and sank, the river steamboat Pierreville, owned by Niquet et Freres, Pierreville, June 14, near Ile aux Raisins. The crew escaped in the boats. The Pierreville is a paddle wheel steamer with engine of 8 n.h.p. She was built at Pierreville, Que., in 1906, her dimensions being, length, 100 ft.; breadth, 24 ft.; depth, 3.7 ft.; with a tonnage of 121 gross, 76 register. A notice has been issued to mariners that the wreck is located right in the channel and advising caution to both incoming and outgoing vessels.

An act passed at the recent session of the Dominion Parliament defines the extended boundaries of Montreal harbor, and empowers the corporation controlling the harbor to maintain and operate tracks and harbor lines and move cars by any motive power for the carriage of goods, and for such purpose to build, purchase or otherwise acquire rolling stock and machinery of all descriptions. The previous acts are amended by confining the corporation powers to the harbor of Montreal, as apart from the port of Montreal, as defined by sub-sec. 1, sec. 5 of the Montreal Harbor Commissioners' Act 1894, which is under the jurisdiction of the Minister of Marine.

Ontario and the Great Lakes.

Capt. Wm. Nanson, a well known lake navigator, died at Port Hope, June 3, aged 59.

The Inland Navigation Co.'s steamboat, Stadacona, was launched at Detroit, Mich., May 29.

The ratepayers of Toronto defeated a by-law, June 5, to raise $700,000 for the completion of the construction of a sea wall on the west side of the city.

Polson Iron Works, Ltd., has applied to the Toronto city council for a site for the construction of a shipbuilding plant, including a large floating drydock.

The Niagara Navigation Co. has completed the repairing of its wharf at Lewiston, N.Y., which was wrecked during the recent ice jam in the river.

Captain Robert Clapp, who retired from the command of the Niagara Navigation Co.'s steamboat Corona, about two years ago, owing to a paralytic stroke, died at Picton, Ont., June 13.

The Northern Navigation Co.'s s.s. Ionic has had 5 ft. of new steel welded to her starboard propellor shaft, and a few other repairs completed at Duluth, Minn.

Residents on both sides of the Detroit River are agitating for a reduction of the fare from 10c. to 5c. for passages charged by the Detroit, Belle Isle and Windsor Ferry Co.

The board of conciliation appointed to deal with the longshoremen's troubles at Owen Sound consisted of D. Ross, Barrie, chairman; Wallace Nesbitt, K.C., and J. G. O'Donoghue.

Capt. G. Moulton, of the Toronto Ferry Co.'s ferry steamboat Mayflower, was presented with a gold mounted pipe by the crew, June 3, on the completion of 19 years service with the company.

B. W. Renaud, has been appointed Superintendent Bisco-Gowganda Transport Co., at Biscotasing. The company is said to be building a large number of scows and launches for service on the route.

Plans for the construction of proposed coal and general freight docks at lots 13 and 11, concession K, Fort William, have been filed with the Minister of Public Works, and application has been made for approval of same.

In carrying out some excavations at Merriton, one of the locks of the original Welland canal has been unearthed. This structure was a part of the construction which was commenced in 1824, and completed 5 years later.

A report is current that the operation of the Kingston drydock is about to pass from the Government into private hands, and the Canadian Locomotive Co., or interests intimately connected therewith, has been named as the future owner.

The Department of Marine is erecting an octagonal wooden lighthouse tower on the summit of the northern Lawyer Island, Chatham Sound, replacing the old one. The work will be completed and the light exhibited from the new tower during the present season.

J. C. Eaton, Toronto, President Turbine Steamship Co., and Hamilton Steamboat Co., has recently purchased a pleasure yacht, named Tekla, which he has had equipped with a wireless telegraph system in connection with a station erected on the T. Eaton Co.'s store, Toronto.

An order in council has been passed declaring Owen Sound harbor, comprising all the waters of Owen Sound harbor, and the navigable portions of all streams flowing into it, south of a line drawn due west, astronomically from the northern extremity of Squaw Point, to be a public harbor.

The s.s. Iron Age, owned and commanded by Capt. W. J. Willoughby, Windsor, was destroyed by fire, June 4, near Bar Point in Lake Erie. The captain and crew escaped in a small boat. The vessel, which was a wooden steamer, was valued at $32,000, but was only insured to the extent of $5,000.

The Pelee and Lake Erie Navigation Co. is reported to have purchased the steamboat Saugatuck in the U.S., for operation between Pelee Island and the mainland. Another report states that the steamboat Ossifrage, formerly owned by the Algoma Central Steamship Line, has been acquired for a similar purpose.

Sir Robt. W. Perks, who has been in Canada in connection with the proposed Georgian Bay canal scheme, returned to England by the s.s. Laurentic June 19. It is stated that the Premier has conveyed to him the impossibility of the Dominion Government guaranteeing the bonds of the company during the present fiscal year.

The Keystone Transportation Co.'s steamboat Key West, arrived at Montreal, June 6, from England, and was followed by the Keyport later on. These vessels, details of which were given in our last issue, will be operated in the interests of the Montreal Light, Heat and Power Co., carrying coal between Lake Erie ports and Montreal.

The Thornbury Transportation and Reduction Co., Ld., has been incorporated under the Ontario Companies Act, with a capital of $500,000, and office at Thornbury, Ont., to own and operate steam and other vessels, and to carry on a reduction works, etc. The provisional directors are: K. Davidson, M. Vail and G. G. Athery, Meaford, Ont.

The Board of Conciliation appointed under the Labor Disputes Act, in the case of the complaints of the Owen Sound longshoremen against the C.P.R., consisting of W. Nesbitt, K.C., D. Ross and J. G. O'Donoghue, has reported, recommending an increase of 2c. an hour in the men's pay. A minority report has been sent in on behalf of the men suggesting further increases.

At a joint meeting of the St. Catharines and Toronto boards of trade, June 9, a resolution was adopted to the effect that it is highly desirable that the enlargement of the entire canal system from Port Colborne to the Atlantic Ocean be proceeded with, and to such dimensions as will permit the passage of

DOMINION BUREAU

ROBERT W. HUNT & CO.
ENGINEERS

BUREAU OF INSPECTION
TESTS AND CONSULTATION

Chemical and Cement Laboratories, Montreal

NORFOLK HOUSE, CANNON ST., LONDON

CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

NEW AND RELAYING
RAILS

FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.

LOCOMOTIVES, CARS AND OTHER EQUIPMENT.

John J. Gartshore
83 Front Street West - TORONTO

Frame Welded and Engine Returned to Service in Twelve Working Hours

This isn't any pipe dream but a simple statement of what actually occurred last May at one of the large railroad shops using the Thermit Process. It is also a statement of what can be done at YOUR SHOPS if you adopt the Thermit Process. Quickness in making repairs is not the only advantage of our method, however, as we fuse a REINFORCEMENT OF STEEL around the welded section which makes this part stronger than ever before and less likely to break under the same strains that caused the first fracture.

Frames and mud rings are welded without removing them from the engine. The process is also particularly advantageous for welding driving wheel spokes, connecting rods and for other general repair work.

Full particulars are given in our new pamphlet No. 25-N.

GOLDSCHMIDT THERMIT CO.
103 Richmond St. West, Toronto, Ont.
General Offices: 90 West St., New York.
Pacific Coast Branch, 432-436 Folsom St., San Francisco

SHERIFFS
MANUFACTURING CO.

MILWAUKEE, WIS., U.S.A.
ESTABLISHED 1854

GENERAL RAILWAY SIGNAL COMPANY
ROCHESTER, N.Y.
DESIGNERS AND MANUFACTURERS OF

Signaling Appliances
For Steam and Electric Railways

Electric and Manual Interlocking Systems
Automatic and Controlled Manual Block Systems
Telephone Selectors, Relays, Indicators, Circuit Controllers, Locks, Crossing Gates, Derails.

Catalogues, Estimates and Plans on Request.

Chicago 1339 Monadnock Bldg. Montreal 305 Eastern Township's Bank New York 708 Night and Day Bank

Delaware & Hudson
RAIL AND STEAMER LINES

Shortest, Quickest and Best Rail Line between
MONTREAL AND NEW YORK

Trains leave Montreal 7.45, 10.55 a.m., and 7.40 p.m. Steamers through Lake Champlain the Magnificent and Lake George the Beautiful, which connect with trains to Albany via Saratoga Springs.

D. I. ROBERTS, Gen. Can. Pass. Agent.
W. H. HENRY, Can. Pass. Agent, 286 St. James St., Montreal, P.Q.
A. A. HEARD, Gen. Pass. Agent, Albany, New York.

JAMES PLAYFAIR, Pres. & Gen'l Mgr. D. L. WHITE, Vice-President. J. W. BENSON, Sec'y-Treas.

MIDLAND TOWING & WRECKING CO., LIMITED, MIDLAND, ONT., CANADA

FIRST-CLASS TUGS FOR WRECKING, RAFT TOWING, ETC.
STEAM PUMPS, DIVERS, JACKS, HAWSERS AND LIGHTERS

the largest lake vessels from the head of the lakes to the seaboard.

The Toronto Cuban Grape Fruit Co., Ld., has been incorporated under the Dominion Companies Act, with a capital of $100,000 and office at Toronto, to carry on the business of nurserymen, etc., and in connection therewith to build, acquire and operate steam and other vessels. The provisional directors are: J. Robson, F. W. Sawtell, A. A. Raynor, A. E. Longbottom, L. M. Heal, Toronto.

The Montreal River Navigation Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of $40,000, and office at Cobalt, Ont., to acquire and operate steam and other vessels, and to conduct a general passenger and freight business on the lakes and rivers of Northern Ontario. The provisional directors are: A. G. Smith, Latchford, Ont.; R. J. Jemmett, and H. H. Lang, Cobalt, Ont.

The Western Drydock and Shipbuilding Co., is reported to have signed an agreement with the Port Arthur city council for the construction of a large drydock and shipbuilding plant there, capable of repairing and building the largest lake vessels. A by-law is being prepared for submission to the public vote granting a subsidy for the proposed works. A. Bowerman, Southampton, Ont., represented the company in the negotiations.

The Union Mining and Transport Co., Ld., has been incorporated under the Ontario Companies Act, with a capital of $40,000 and office at Toronto, to carry on a general mining business, and to build, purchase or otherwise acquire and operate steam and other vessels, and to carry on the business of common carriers. The provisional directors are: I. M. Scott, Lambton Mills; F. R. Baumhard and R. F. Stibbard, Toronto.

The Port Stanley Navigation Co.'s steamboat, Lakeside, which arrived at Port Stanley from Cleveland, O., on its first trip for this recently incorporated company, was built at Toledo, O., in 1901. She is 156 ft. long, with 28 ft. beam and tonnage, 225 register. She has license to carry 650 passengers. It is stated that a guarantee of $7,000 has been given for the operation of the vessel between Port Stanley and Cleveland for the season to Sept. 15.

The U.S. Lake Survey reports the levels of the Great Lakes for May, in feet, above tide water, as follows: Superior, 601.65; Michigan and Huron, 580.84; Erie, 572.54; Ontario, 247.16. It was anticipated that during June, Superior would rise 3¾ ins.; Michigan and Huron, 3 ins.; Erie, 2½ ins.; Ontario, 1 in. Compared with the average May levels of 10 years, Superior is 8¾ ins. lower; Michigan and Huron, ½ in. higher; Erie ¼ in. lower, and Ontario 7¼ ins. higher.

The Sault Ste. Marie Dry Dock and Shipbuilding Co., Ld., has been incorporated under the Ontario Companies Act, with a capital of $1,000,000 and office at Sault Ste. Marie, Ont., to construct and operate dry docks, marine railways; to build, repair and equip ships and other vessels, and to carry on all kinds of business connected with the operation of a dry dock and marine railway. The provisional directors are: J. O'Boyle, W. H. Plummer, W. O'Brien, W. H. Hearst and J. McKay, Sault Ste. Marie, Ont.

A deputation, consisting of those interested in the project, was received by the Premier and Minister of Public Works, at Ottawa, June 11, when it was stated that the town of Sault Ste. Marie had voted a bonus of $100,000 towards the construction of a drydock, payment to be made in 20 annual instalments of $5,000. The Government is being asked to grant assistance to the project by the payment of 3% on $500,000, annually for 20 years. The matter was promised consideration.

The Fort William Milling Co., Ld., has been incorporated under the Dominion Companies Act, with a capital of $100,000 and office at Montreal, to carry on throughout Canada the business of grain dealers, and to own and operate all necessary equipment for the conduct of the business of transportation by water in connection with the company's business. A. J. Brown, K.C.; G. H. Montgomery, R. C. McMichael, R. O. McMurtry, F. G. Bush, G. R. Drennan and H. W. Jackson are provisional directors.

The Port Stanley Navigation Co., Ld., has been incorporated under the Dominion Companies Act, with a capital of $10,000 and office at St. Thomas, Ont., to acquire and operate sheds, docks, wharves, elevators, steamboat terminal facilities, steam and other vessels, and to aid by bonus, guarantee, etc., any person or firm engaged or interested in navigation and the transportation of passengers and merchandise. The provisional directors are: W. R. Jackson, B. F. Ronsinger, T. Donley, J. R. Green, J. Griffin, St. Thomas, Ont.

In response to questions in the House of Commons recently, the Minister of Public Works stated, that the amount spent on the Honora dock, Manitoulin Island, during the 1908 season, was $2,591.98, and that the work continued from Sept. 16 to Dec. 31. The dimensions of the dock, which was built in 1904, are shore approach, 175 ft. by 20 ft. wide on top; woodwork, 280 ft., consisting of 7 cribs, each 20 by 20 ft., and an outer block 40 by 20 ft., standing 6 ft. above low water, and with a depth of water of 23¼ ft. at low water.

Replying to a question in the House of Commons recently, as to whether or not the proposed Waterways and Boundaries Treaty would prevent the construction of the proposed enlargement of the St. Lawrence and Welland canals, or the construction of the proposed Georgian Bay canal without the consent of the Commissioners, because of the fact that these works, or either of them, might reasonably be expected to affect the height of water in Lakes Huron, Erie and Ontario, the Minister of Justice reminded the questioner that the whole subject of the treaty is still under consideration.

The Fort Erie and Buffalo Ferry Co., Ltd., has been incorporated under the Dominion Companies Act with a capital of $20,000, and office at Fort Erie, Ont., to operate a ferry between Fort Erie, Ont., and Buffalo, N.Y.; to own and operate steam and other vessels for the transportation of passengers and merchandise; to act as common carriers, forwarders, wharfingers and warehousemen; and to construct, own and use such docks, terminal facilities, etc., as may be convenient or necessary for the purposes of the company. The provisional directors are: B. F. Matthews, P. B. Troupe, J. J. Foster, W. E. Hunt, A. C. Mackintosh, W. J. Hawley, C. E. Harris and R. Jeffrey, Fort Erie, Ont.

An order in council has been passed, rescinding clause 43 of the general regulations governing ports, as added to by order in council, Feb. 19, 1907, and substituting the following therefor: "All through-bound vessels in passing through the St. Clair River in the vicinity of the St. Clair middle grounds, and of Stag Island, in the harbor of Sarnia, shall keep to the right, that is to say, all up-bound boats shall pass through the eastern channel, and all down-bound boats shall pass through the western channel. This rule shall apply to through-bound vessels only, and not to vessels running between local points in the river, which vessels may take either channel, conforming to the ordinary rules of the road for the Great Lakes."

The Dominion Government steamboat Simcoe, which recently arrived in Georgian Bay from England, for the lighthouse and buoy service there, has been the cause of some alarm amongst a section of the daily press, which seems anxious to serve its readers with something sensational, without regard to facts. Statements as to her construction and equipment have been made to show that she is specially adapted for speedy transformation into an armed cruiser and prepared to carry heavy guns,

THE NORTHERN NAVIGATION COMPANY'S STEAMBOAT WAUBIC.

"which, as is known for a fact, the Canadian Government has, for the present, stored away at some Georgian Bay port." An official statement was issued recently that the description as published in the daily papers was entirely erroneous. The Simcoe is not a cruiser but a buoy boat, and if she performs any fisheries protection work it will be only incidentally.

The survey board appointed some time ago by the U.S. Congress to enquire into the feasibility of constructing a navigable waterway from the Great Lakes to the Gulf of Mexico, reports that a 14 ft. channel is practicable, and may be constructed by any one of six different plans. A combined plan giving varying depths of 8 ft. and 9 ft. at different points was recommended, costing approximately $158,697,462, with an annual maintenance cost of $6,810,000. In concluding its report, the board says: "Such a depth (14 ft.) is greater than required for successful river navigation and less than required for economical lake or ocean navigation, and if adopted would require for common use on lake, river and gulf a type of vessel not now in existence, and which, if designed, would be less economical than modern lake or ocean vessels in use on those waters or than towboat and barge navigation on the connecting waterway."

The Northern Navigation Co.'s steamboat Waubic, the keel of which was laid March 15, was launched at Collingwood, June 1. She is of steel construction, with triple expansion engines driving twin screws, with a speed of 16 miles an hour, and has been specially designed for the requirements of the tortuous channels of the 30,000 islands of Georgian Bay. The main deck, in addition to engine and boiler space, accommodates baggage, smoking and toilet rooms. The entrance hall in quarter sawn oak, forms an attractive lobby, from which ascends the stairway to the saloon above. The purser's office is located in the lobby and aft it is the dining saloon, finished in natural woods with large observation windows. The general saloon is designed in colonial style, in ivory white enamel with crimson carpet and furnishings. The staterooms are located aft of the saloon and are provided with all modern conveniences. The vessel is lighted throughout by electricity and she is provided with a powerful searchlight. There is accommodation for upwards of 600 passengers. Her dimensions are, length, 142 ft.; breadth, 25 ft.; molded depth, 9 ft.. She was placed on her route June

NIAGARA NAVIGATION CO., LIMITED

Notice is hereby given that an interim dividend of four per cent. (being at the rate of eight per cent. for the year) has been declared upon the Capital Stock of this Company, and the same will be payable on the 2nd of July, 1909.

The Transfer Books will be closed from June 16 to June 30, 1909, both days inclusive.

By order of the Board.

B. W. FOLGER, General Manager.

Toronto, June 1, 1909.

THE IMPERIAL GUARANTEE AND ACCIDENT INSURANCE CO.

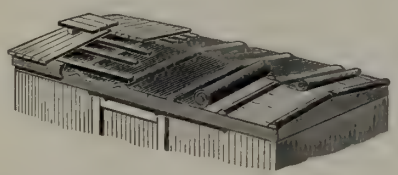
46 King St. West, TORONTO

Capital Subscribed $1,000,000

ACCIDENT AND SICKNESS Insurance protects your income in case of disablement.

GUARANTEE BONDS protect you against loss from dishonest employees.

Write us if you need a Bond or want an Accident Policy.



ASPHALT CAR ROOFING

WILL LAST THE LIFE OF ANY CAR WITHOUT REPAIRS OR ATTENTION

2 AND 3-PLY PLASTIC CAR ROOFS

CHEAPER AND MORE DURABLE THAN STEEL

THE DRAKE & WIERS CO., = CLEVELAND, O.

PROVINCIAL STEEL CO., LTD.

COBOURG, ONT.

The Most Economical and Safest Staybolt on Earth

FOR LOCOMOTIVE, MARINE AND STATIONARY BOILERS
DOUBLE THE ENDURANCE OF SOLID STAYS

AN AUTOMATIC INSPECTOR

Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO

Ticket Agents — Please Note

ILLINOIS CENTRAL RAILROAD — CENTRAL MISSISSIPPI VALLEY ROUTE

Where ILLINOIS CENTRAL RAILROAD COMPANY has through car service both Coach and Sleeper and Free Chair Cars.

Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California.

NEW ORLEANS ROUTE TO THE PACIFIC COAST.

Special low rates to Canadian Northwest and Yukon-Alaska Exhibition at Seattle, all summer, via St. Paul or Omaha.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Pass'g'r Agent.
305 Ellicott Square, Buffalo, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

15, between Penetanguishene, Midland, Parry Sound and Point au Baril.

Manitoba, Saskatchewan and Alberta.

N. F. Loomer, Letelier, Man., has patented a boat propelling device at Washington, D.C., under no. 923,283.

The U.S. steamboat Grand Forks, arrived at Winnipeg, June 7. This is reported to be the first steamboat to arrive from south of the boundary in 28 years.

Among the subjects discussed at the annual meetings of the Western Canada Associated Boards of Trade, at Saskatoon, June 15 to 17, was that of the navigation of the North Saskatchewan River.

The Dominion Government has chartered a vessel from Capt. Ross of Medicine Hat, Alta., for use in the fisheries service on Lake Winnipeg. She is about 50 ft. long with 11 ft. beam, and draws about 4 ft. of water. She was taken from Collingwood to Fort William, and from there was shipped by rail to Winnipeg.

The Peace River Trade and Navigation Co., Ld., has been incorporated under the Dominion Companies Act, with a capital of $1,000,000 and office at Montreal, to conduct a general trading business, and to act as common carriers. The provisional directors are: F. S. Lawrence, Fort Vermillion, Alta.; W. D. Lighthall, C. A. Harwood, E. Greenwood and G. S. Wilson, Montreal.

The steamboat Winnitoba, built by Capt. Bellefeuille, at the mouth of the Seine River, has dimensions, as follows: length, 186 ft.; breadth, 44 ft.; with a draught of 4½ ft. She has been specially designed for service on the Red River and passage through the St. Andrews Locks, to the lake. The engines will develop 500 n.h.p., driving side wheels. There are 41 staterooms with promenade and hurricane decks, and she will probably be licensed to carry 1,000 passengers. It was anticipated that she would be in service by July 1.

The plant of the Pioneer Navigation and Sand Co., Winnipeg, which was offered for sale recently, includes the steamboats Alexandria and J. M. Smith. The former was built in Winnipeg in 1902, her dimensions being:—length, 84 ft.; breadth, 19.8 ft.; depth, 3.2 ft; tonnage, 164 gross, 38 register. The latter vessel was built in Winnipeg in 1905, and has dimensions:—length, 120 ft.; breadth, 21 ft.; depth 4 ft.; tonnage, 179 gross, 122 register. Both vessels are described in the schedule of sale as stern wheel paddle steamers, but in the Canadian register for 1907, the Alexandria, appears as, Alexandra, and is given as a screw driven vessel.

The completion of the construction of the whole of the works connected with the St. Andrews locks and dam, is expected by about Oct. 1. The structures which were begun in 1900, consist, in the main, of abutments on each bank of the river, 7 large piers, 100 ft. apart, the lock with outer and retaining walls strengthened by a pier, and a permanent dam between the piers. The piers will carry a steel traffic bridge, from which a movable dam will be operated. The dimensions of the lock are: length, 200 ft.; width, 45 ft.; depth at lowest stage of water over sills, 9 ft.; lift, 21 ft.

Following are the vessels of the Rat Portage Lumber Co., St. Boniface, Man., for the current season, with their captains and chief engineers respectively:—

Empress	M. McRitchie	H. Johnston
Ethel Banning	J. W. Johnston	F. Gaudreau
Kingfisher	J. J. McKenzie	J. Smith
Mary Hatch	F. Mongrain	G. Shearer
Wendigo	J. Shovedice	C. Johnson

B.C. and Pacific Coast Marine.

The name of the steamboat R. P. Rithet, no. 85316, registered at Vancouver, B.C., has been changed by order in council to Baramba.

Capt. C. Barnes, Victoria, has been appointed a Fishery Officer in the Fisheries Protection Service with the rank of Master Mariner.

D. A. Foster is captain, and J. Watt, chief engineer for the current season of the steamboat, City of Quesnel, operated by T. Marion, Quesnel.

The Dominion Government is negotiating with the British Admiralty concerning the acquirement of a cruiser, suitable for a training ship and for the fisheries protection service on the Pacific coast.

Brown and McCabe Stevedores, a company incorporated in the U.S., with a capital of $100,000 and head office at Portland, Ore., has been licensed to carry on its business in B.C., with P. G. Groves, Vancouver, as its attorney.

The Pacific Woods Co., Ld., has been incorporated under the B.C. Companies Act, with a capital of $100,000, to carry on the business of timber merchants, etc., and to own and operate steam and other vessels and carry passengers and freight.

E. L. Kinman, managing director Island Dock and Warehouse Co., Vancouver, was arrested there, June 2, for assault and resisting a police officer, in attempting to secure a landing at Deadman's Island on behalf of his company.

The Malahat Sand and Gravel Co., Ld., has been incorporated under the B.C. Companies Act, with a capital of $25,000, with power, among other things, to own and operate steam and other vessels and to carry on business as carriers of passengers and freight.

The Union Steamship Co.'s s.s. Coquitlam, which sailed from Vancouver, May 26, for northern coast ports, returned to port the following day with a fire in the engineer's room. One death, and serious injuries to four men were reported as a result.

The Howe Sound and Northern Construction Co., Ld., has been incorporated under the B.C. Companies Act, with a capital of $10,000, to carry on a general business of builders, contractors, etc., to own and operate steam and other vessels, wharves, warehouses, etc., and to act as carriers by land and water.

The steamboats operated by the White Pass and Yukon Ry., for the current season, are, Casca, Dawson, Gleaner, Selkirk, Victorian and White Horse. The Gleaner runs between Caribou and Atlin, and the others make daily sailings from White Horse. The season extends from June 1 to about the end of Oct.

The Vancouver Towing and Lightering Co., Ld., has been incorporated under the B.C. Companies Act, with a capital of $75,000, to take over the tugs, barges, etc., of J. D. Foreman, Vancouver, and to carry on the businesses of general carriers, railway and forwarding agents, warehousemen, bonded and common car men, etc.

The Dry Belt Settlements Utilities Ltd. has been incorporated under the B.C. Companies Act, with a capital of £50,000, to acquire and develop properties in the province, and in connection therewith to build, acquire and operate railways and tramways worked by steam, electricity or other motive power; and telephone and telegraph lines.

High water in the Skeena River has stopped the navigation of Kitselas canyon. The Hudson's Bay Co., has arranged to transport freight to the canyon by boat, and round the canyon by teams, where it will be transhipped to another of the company's vessels. It is anticipated that the waters will subside early in July.

The Canadian Mathews Gravity Carrier Co., Ld., has been incorporated under the B.C. Companies Act, with a capital of $100,000, to acquire patents and to manufacture articles similar to those manufactured by a company of similar name in the U.S.; and to carry on the businesses of ship owners, ship brokers, freight contractors and general carriers by land and sea.

Rear-Admiral Kingsmill, left Victoria, June 10, for Ottawa where, he will, it is said, report to the Government as to the advisability of making Esquimalt the headquarters of the Pacific coast lighthouse and fisheries protection service. He will sail for England shortly in company with the Minister of Marine, to attend the Imperial Conference on naval matters, when the future of Esquimalt harbor, the establishment of a training ship in the Pacific coast, and other matters will be discussed.

The Vancouver Shipmasters' Association at a recent meeting endorsed the proposed new regulations for navigation in Vancouver harbor, and withdrew its suggestions as to the line to mark the limit for a 7-knot speed, which had been drawn from Brockton Point to the Indian Mission church, and to substitute a line from Brockton Point to the incinerator at Heap's Mill. It was also agreed that an investigation be made into the matter of operating launches between upcoast points without certified masters, and that action be taken if deemed necessary.

The Minister of Marine stated in the House of Commons recently that prices were being asked for a lifeboat to replace the one wrecked at Bamfield Creek some time ago. In the meantime, a temporary boat has been placed on that station. He also said that, regarding the wreck of the gasolene surf boat, which cost $25,000, his information was that the boat was left in an exposed condition and the crew was on shore and no one in charge of the boat at all. The men who should have been in charge have been dismissed.

N. Thompson, President Vancouver Drydock and Shipbuilding Co., returned to Vancouver June 5, from Ottawa, and reported that he had succeeded in obtaining the promise of a subsidy of 3% of the total cost of the dock for 20 years. An option is said to have been secured on a site at the east end waterfront. The proposed dock will be a steel pontoon floating structure, 500 ft. long, capable of accommodating vessels of 10,000 tons. The estimated cost is quoted as $1,250,000, and the President proposes to go to England shortly in connection with the financing of the scheme.

The rate war which has been waged between the C.P.R. and the International Steamship Co., on the Victoria, Van-

THE CANADIAN BRIDGE CO., LIMITED

WALKERVILLE, ONTARIO

LOCOMOTIVE TURNTABLES ROOFS STEEL BUILDINGS

Manufacturers of

Railway and Highway

BRIDGES

STRUCTURAL IRON WORK OF ALL DESCRIPTIONS

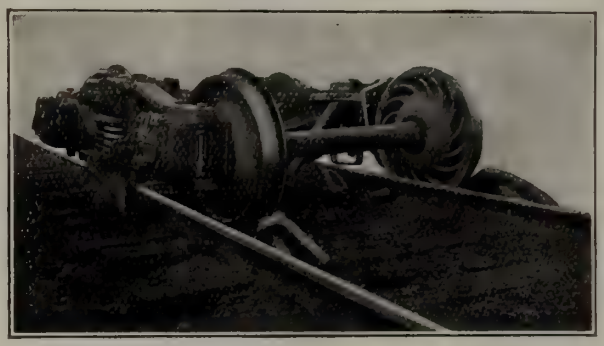
DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.

BRIDGES

TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

The Alexander Car Replacer



60,000 PAIRS IN USE.

Manufactured at

Montreal, Que., and

Scranton, Pa.,

of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY

F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

JAMES THOMSON, Pres. and Mang. Director. J. G. ALLAN, Vice-President. JAMES A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO.

LIMITED

MANUFACTURERS OF

CAST IRON PIPE

3 inches to 60 inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER

HAMILTON, ONT.

OCEAN STEAMSHIP OFFICES

AMERICAN LINE

Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.

Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE

New York—London

Sailing from New York Saturdays.

WHITE STAR—DOMINION LINE

Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Docks
(Bristol and Antwerp)

RED STAR LINE

New York—Antwerp—Paris
Sailing from New York Saturdays.

WHITE STAR LINE

New York—Liverpool—Queenstown
Sailing from New York Saturdays

N.Y.—Plymouth—Cherbourg—Southampton

Sailing from New York Wednesdays.

Boston—Queenstown—Liverpool
Regular Departures.

NEW YORK AND BOSTON MEDITERRANEAN SERVICE

Azores—Gibraltar—Naples—Genoa

Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured.

H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO
41 KING ST. EAST, TORONTO.

couver and Seattle route, has come to an end by the withdrawal by the latter company of its vessel from the service. In announcing the discontinuance of the service the President said: "In withdrawing the Iroquois from the Vancouver route, we realised that it would not be possible for the steamer, under the advanced rates, to show any earnings. Between the Canadian Pacific's fancy steamers, the rail lines, and the Iroquois, business would be so divided that our steamer could not operate at a profit. So she has been temporarily taken off, but next winter she will resume service on this run."

St John, N. B., Shipping Statistics.

The St. John, N.B., Board of Trade has issued a pamphlet giving a record of the shipments from the port during the 1908-09 winter season, and a comparative table of exports for the past 12 years. The summary for the 1908-09 season, is as follows:—

	VALUES
Wheat, 6,806,485 bush.	$8,345,343
Barley, 527,998 bush.	
Oats, 341 bush.	
Peas, 10,893 bush.	
Hay, 12,068 tons	150.338
Flour and meal, 678.754 packages..	2,034,346
Cheese, 90,022 packages	957,084
Butter, 2,551 packages	23.985
Eggs, 1,228 packages	8,924
Meat, 80,327 packages	4,278,117
Cattle, 22,923	1,684,160
Sheep, 149	745
Horses, 63	15,400
Lumber, 21,169 stds.	641,385
Other lumber, 3 583 tons	352,329
Apples, 78.934 barrels	236,927
Lard, 222,554 packages	1,339,239
Manufactures, 285,274 packages.....	2,873,046
Miscellaneous, 84.393 packages	1,023,467
Furs estimated	600,000
	$24,564,840

During the past season, the number of sailings was 108, showing a total registered tonnage of 474,620 tons, against 111 sailings and 473,934 tons for the previous season. In 1895-96, there were 22 sailings from the port with a register tonnage of 50,892, and the increase has been gradual each year since. The record season was that of 1906-07 when there were 116 sailings with a register tonnage of 482,895. It is interesting to notice the average tonnage per vessel, which in the first mentioned season was approximately, 2,315 tons, in 1906-07, the record season, 4,165 tons, and in the 1908-09 season, 4,395 tons. For the season 1897-98 the number of sailings was 58, with a register tonnage of 102,316 tons, and cargo value, $4,848,768; so that the past season shows an increase of approximately 100% in the number of sailings, 365% increase in the register tonnage, and 410% in the cargo value.

Sault Ste Marie Canal Accident.

The lock gates of the Canadian canal at Sault Ste. Marie were wrecked June 9, by the Gilchrist Co.'s s.s. Perry G. Walker. It is stated that through mistaken signals, the vessel rammed the lower gates, while the C.P.R. s.s. Assiniboia was in the lock, and the Pittsburg Steamship Co.'s s.s. Crescent City was entering at the upper end, the upper gates being still open. The consequence was that the upper gates were wrenched from their fastenings by the force of the water, and the Assiniboia and Crescent City swept through the lock to open water, at tremendous speed. The Assiniboia ripped a hole in the Perry G. Walker with her port anchor, and the Crescent City in overtaking the Assiniboia struck her and was similarly damaged. Of the three vessels, the Assiniboia was the one to suffer least damage, and after an examination, it was decided that it was not sufficiently serious to detain the vessel. She therefore proceeded to Owen Sound with her passengers, and later to Collingwood, where she was docked for thorough examination. The Canadian lock, which is 900 ft. long by 60 ft. wide, was completed in 1896. The work of repairing the lock was immediately taken in hand, but considerable difficulty was experienced at the outset, owing to the impossibility of stopping the torrent of water rushing through. The moveable dam was lowered with the exception of one leaf which was badly twisted. The new gates were, however, placed in position, and the canal opened for traffic June 21. The Minister of Railways and Canals visited the canal while the work was proceeding. Enquiries have been held, in camera, on board the Perry G. Walker, as to the causes of the disaster, and it is stated that the cause was a mistake by the engineer of a signal to go full speed astern, he instead going full speed ahead.

A New Toronto Tug.

The steam tug, Erl King, which the Polson Iron Works has built at Toronto for the Frank Simpson Contracting Co., is constructed on a combination of ideas decided on after visits paid to a number of shipbuilding yards on the American continent. The hull is of composite frames 2" by 2" by ¼", spaced 18" centres; sheer plate ⅜" by 18", Keel plate ½" by 14", margin plate, ⅜" by 14"; planking, white oak dressed to 3"; deck plank, 3" B.C. fir; and it is divided into 4 water-tight compartments by steel bulkheads, one between engine and boiler-room, one between boiler-room and crew's quarters, and one between crew's quarters and the forepeak. The vessel has a mean draught of 6' 4" when the forepeak is filled with water. The water bunkers are also constructed of steel, and the stiffening bars are rivetted to the floor plate and house coaming, and extend to the top of the cabin, making the steel frame for the deck house. The shaft is 5", horseshoe thrust bearing; iron stern tube with brass and lignum vitæ bearing 21" long; solid wheel 6 ft. diar.; 9 ft. pitch; boiler pressure 145 lbs., with fires from forward; coal capacity 17 tons. One of the features of the vessel is the solid cast steel stern and stern post, each cast in one piece weighing 800 lbs and 950 lbs. respectively. The rudder frame is also of cast steel. On her recent trial trip with 144 lbs. of steam, she made 12 3-5 miles an hour over a measured course, turning 133 rev. a minute. When under full headway she will come about, when the wheel is put hard up, in 200 ft., with an extreme list of 3½" at the water line. Her dimensions are:—Length, 52 ft.; breadth, 14.5 ft.; depth, 8 ft.; tonnage, 46 gross, 25 register, and she is equipped with engine of 6 n.h.p., drivin a screw. She is being used in connection with the dredging plant in and around Toronto harbor. The work of construction was executed under the direct supervision of W. Newman, Superintendent for the owning company.

Grounding of the s.s. Odland.

Capt. L. A. Demers, F.R.A.S., Chief Examiner of Masters and Mates, assisted by Capt. Bain and Mr. Raymond, Director of the Corporation of Pilots of Quebec, held an investigation at Quebec, June 15, into the circumstances attending the grounding of the s.s. Odland, on a shoal off Point a Pic on the north shore of the River St. Lawrence, whilst in charge of Pilot Alphonse Asselin, branch no. 69. The court found Asselin solely responsible for the grounding, but taking into consideration his former good reputation and also the straightforward and direct manner in which he gave his testimony, therefore inflicted upon him the minimum penalty of $50, to be paid in two instalments.

The facts of the case as adduced are as follows: The Odland, flying the Norwegian flag and in charge of a crew of that nationality, has been plying off and on in the River St. Lawrence chartered by F. Carbray & Son, Quebec. Asselin took charge of the vessel at Quebec and piloted her down to St. Simeon, where she loaded pulp wood destined for Erie, Penn. On May 31 the vessel left St. Simeon, five miles east of Cape Salmon, laden with pulp wood, it being the intention to call at Murray Bay to obtain clearance papers. The pilot claims that he was unfamiliar with the river in the vicinity of Murray Bay and in his endeavor to bring the vessel as close as possible in order to facilitate the work of the crew in pulling ashore and thereby gaining time, thought proper to hug the land as closely as he deemed advisable. At 8 p.m. on May 31 the vessel struck on the shoal extending from Point a Pic, the existence of which is marked by a red buoy. The pilot avers that he knew only through hearsay that the buoy was there, and that he had not previously seen it. It has been proved that although the pilot was unfamiliar with the river in the vicinity of Murray Bay, he did not take any extra precautions to ascertain the position of his vessel from the land which, in the court's opinion, would have been the proper action under the circumstances. Moreover, it has been adduced that no direct courses were given to the wheelsman to steer by, but instead he was merely instructed to keep certain land objects so many points on the starboard side of the vessel, which mode of navigation in the court's opinion is unsatisfactory, indefinite and unsafe. The pilot was also guilty of neglect when, knowing the existence of a buoy marking the shoal which extends from Point a Pic, he failed to advise any of the officers on duty in order that they might keep a keen lookout for it and report to him when sighted. The evidence shows that the weather was clear, calm and no wind, that the sun had just set and that objects were still clearly discernible, and it appears according to testimony that if the buoy had been looked for it could have been seen a mile or a mile and a half distant with the aid of glasses. The pilot's evidence conclusively shows that the man at the wheel, though of limited experience and youthful years, nevertheless steered the vessel to his entire satisfaction, and therefore in the court's opinion no blame can be attributed to the wheelsman, and the crew of the ship being strangers were unaware of the existence of any danger in the course of the vessel. If, however, this court was empowered with

THE INTERNATIONAL MARINE SIGNAL CO.

OTTAWA, CANADA

Manufacturers of

Automatic Acetylene Gas Buoys, Beacons and Fog Signals

Mariners describe our lighted buoys as "floating lighthouses."

Can Ship at Once

Bucyrus 70 ton Steam Shovel, modern (2) @	$7,000
Bucyrus 65 ton Steam Shovel, No. 503	5,900
Marion 70 ton Steam Shovel, Model 60; modern	6,500
Marion 90 ton Steam Shovel, 3½ yard; modern	8,500
Thew No. 1 Full Circle Shovel, 1 yard (Traction)	3,650
Traction Shovel "Little Giant," 1 yard	2,500
Austin "New Era" Grader; new belt; fine	650
50 tons 20 lb. Steel Rail and splices (per ton)	23

We solicit the enquiry of Contractors in the Dominion, assuring them of prompt attention; the released equipment we offer is dependable. We have special bargains in locomotives, dump cars, air compressors, drills, crushers, hoisting engines, concrete mixers, etc., and we issue a printed list of our offerings with prices and location given. Send for it and let us know your requirements in our line.

WILLIS SHAW MACHINERY COMPANY

No. 171 La Salle St., Chicago, Ill.

OUR RAILROAD FENCES

We can furnish Light or Heavy Fencing, Hinge or Straight Stay, to meet all conditions.

We are adding to and improving our plant each year, and our customers can depend on securing something better than we had previously furnished.

We are prepared to furnish all material and labor, and turn out to the Railroad a complete job, as we have a number of experienced fence builders always in our service.

Send us your Specifications and we shall be pleased to furnish prices either by mail or otherwise.

Steel and Wood Frame Gates for Railroads at special prices.

New Brunswick Wire Fence Company, Limited

Moncton, New Brunswick

JAMES T. GARDNER

RAILWAY EQUIPMENT

615 Railway Exchange

CHICAGO, ILL.

Has on hand at all times

First-Class Freight and Passenger Locomotives

Also

Contractors' Locomotives Cars, Rails, Etc.

Specifications with Prices on Application

REAMERS

ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

CARS

NEW and REBUILT

Box, Flat, Gondola and Tank

Steam Shovels, Rails, Locomotives and Contractors' Equipment

Immediate and Prompt Deliveries
Correspondence Solicited

ROBT. M. BURNS & CO.

Railway Exchange

CHICAGO

jurisdiction, it would certainly censure the Captain, who was then on duty, for not familiarizing himself with the dangers and obstacles along the coast, notwithstanding the fact that there was a pilot on board, the court holding that the master is still the responsible man. Under the existing weather conditions, which were most favorable, it is conclusive that the mishap could have been avoided if even the most elementary precautions had been taken by the pilot whilst navigating his ship.

Northern Navigation Co.'s s. s. Hamonic.

The trial trip of the s.s. Hamonic took place June 12 and 13, when, at the invitation of the Northern Navigation Co., and the G.T.R., a number of press representatives from Ontario, Quebec and Michigan, joined the officials of the two companies in a run on the vessel. A G.T.R. special train left Toronto at 8 a.m., June 12, for Collingwood, where the party embarked. A call was made at Owen Sound, and Sarnia was reached about 12.30 p.m. June 13, where, after inspecting the recently erected terminals, the party returned on a special to Toronto.

Prior to arriving at Sarnia, a presentation of silver plate was made to the vessel, for which the press representatives subscribed about $250, and acknowledged by Capt. Foote. Votes of thanks were also extended to the Northern Navigation Co., and the G.T.R., and responded to by C. H. Nicholson, Traffic Manager, Northern Navigation Co., and C. M. Hays, Second Vice President and General Manager, G.T.R.

Among the officials present, representing the G.T.R., were: C. M. Hays, Second Vice President and General Manager; A. E. Beckett, Solicitor; L. C. Stanley, Attorney, Detroit, Mich.; W. E. Davis, Passenger Traffic Manager; G. W. Vaux, General Passenger Agent; J. D. McDonald, District Passenger Agent, Toronto; J. E. Quick, General Baggage Agent; L. L. Grabill, Assistant General Baggage Agent; H. R. Charlton, General Advertising Agent; E. W. Smith, Superintendent Dining and Parlor Car Service; C. A. Hayes, General Freight Agent; R. W. Long, Division Freight Agent, Hamilton; J. W. Kneeshaw, Assistant Stationery Agent, Detroit, Mich.; G. B. Filgiano, Auditor Passenger Accounts; W. G. Brownlee, General Transportation Manager; H. G. Kelley, Chief Engineer; M. S. Blaiklock, Engineer Maintenance of Way; W. D. Robb, Superintendent of Motive Power; J. Coleman, Superintendent Car Department; F. Price, Superintendent Car Service; W. W. Ashald, Superintendent of Telegraphs; H. E. Whittenberger, Superintendent Eastern Division; W. R. Tiffin, Superintendent Northern Division; F. W. Egan, Superintendent Western Division; and representing the Northern Navigation Co.: W. J. Sheppard, President; H. Y. Telfer, Vice-President; H. H. Gildersleeve, Manager; C. H. Nicholson, Traffic Manager; C. A. Macdonald,, Comptroller.

The contract for the construction of the vessel was made in Mar., 1908. H. Calderwood, Toronto, acted as inspecting engineer during construction, with F. Kirby, Detroit, Mich., as consulting naval architect. She is a single screw driven vessel, of 5,264 tons gross, and has dimensions: length, over all, 365 ft.; between perpendiculars, 341 ft; breadth, molded, 50 ft.; depth, molded, to main deck, 18.6 ft.; to spar deck, 24 ft.; to awning deck, 35 ft.; depth water ballast tank in freight holds, 4 ft.; in engine-room, 5.9 ft. The engines are quadruple expansion with cylinders, 24, 35, 52 and 80 ins. diar., by 42 ins. stroke, supplied with steam by 6 Scotch boilers, 12½ by 11 ft., at 250 lbs. to the sq. in., developing about 6,200 h.p. There is accomodation for 400 first-class passengers, 70 second-class passengers, and about 100 of a crew. The dining saloon has a capacity for about 180 passengers. She has been constructed with strict regard to the rules of the Bureau Veritas and the Great Lakes Register, and under the inspection of the last named; her rating is therefore of the highest possible for lake service. In addition to the passenger accommodation named, she has capacity for 3,000 tons of package freight, or 100,000 bush. of grain below the main deck. The estimated cost of the vessel was placed at $500,000. During 1908, the company entered into a 10-year contract with the G.T.R. and G.T.P.R. for the exchange of passengers and freight. At her first short trial towards the end of May, she averaged about 19 miles an hour, while during the trip, June 12, the average was about 15 miles an hour. When the machinery has settled down, it is anticipated that a speed of 21 miles will be attained. The vessel is in charge of Capt. R. D. Foote, formerly of the company's s.s. Huronic, with S. Brisbane as chief en ineer.

A full description of the vessel was given in our Jan. issue, and illustrations in our June and July, 1908, issues.

Grain Shortages in Vessels.

In introducing a bill into the House of Commons, during the recent session, to amend the Manitoba Grain Act, J. A. Currie, M.P., Simcoe, said: This bill is intended to correct a grievance under which the vessel men suffer. Most of the grain from the North-west is shipped by rail to the head of the lakes and then carried by steamers to the terminal elevators on the lakes, or to the seaboard. The law at present provides for the inspection of this grain, and that the certificates should follow it to the seaboard; which is a very wise provision. It provides also that the grain shall be weighed into the terminal elevator on the Great Lakes by special weighmen, and there is no provision in the law which renders it compulsory that the grain shall be weighed into the vessel and out of the vessel again. The result of that has been great loss to the steamship interests on the Great Lakes. The following were the net shortages, in bushels, charged against the different companies named last year:—

Northern Navigation Co.	3,160
Montreal Transportation Co.	10,357
Canadian Northwest Steamship Co.	1,152
Midland Navigation Co.	7,592.06
Farrar Transportation Co.	3,913.30
Canadian Lake and Ocean Navigation Co.	5.557.48
Canadian Lake Transportation Co.	2,819.38
St. Lawrence and Chicago Steam Navigation Co.	6,005
F. E. Hall & Co.	380
S.S. "Seguin"	1,264
Inland Navigation Co.	4,773.68
Collingwood Shipping Co.	785.42
Mathews Steamship Co.	652
Turret Crown	1,028
Net shortage in outturns	50,439.32

There does not seem to be any method by which vessel owners can find out how this grain flies out of the hatches, but at all events it is alleged to disappear somewhere during transport on the lakes. The shortages charged for in the statement I have given are far in excess of what they naturally should be; so much so that it simply meant that these steamship companies were, last year, robbed out of $50,000, when the shortages actually should not have amounted to more than 5,000 bush. all told, allowing for shrinkages and everything else of that kind. The Dominion Marine Association held a meeting here and presented a memorial to the Minister asking that something should be done in this respect. It also adopted a uniform bill of lading which provided that vessel owners would not be responsible for shortages except to the extent of half a bushel for every 1,000 bush. carried. There was a deadlock between the shippers and the carriers, with the result that this arrangement has now been broken, and the steamer interests have to fall back on the same old rules that prevailed before, and there is no doubt that this year they will be unjustly taxed with a shortage of 75,000 bush. There is plenty of money in this business for all concerned; there is no necessity for there being any graft on the part of anybody. The law now provides that the official weighmen at the head of the lakes shall be remunerated out of charges on the grain, and the government is not out one cent on that score. The bill provides for the repeal of sub.-sec. 4, sec. 19 of cap. 83, R.S.C., 1906, and the substitution therefor of a new subsection, as follows: "No grain shall be received into or shipped from a public terminal elevator or an eastern transfer elevator, without being officially weighed, unless both the owner and the carrier, or their duly authorized agents order otherwise."

The bill did not reach its final stages before the session closed.

Dominion Canal Statistics.

In submitting the canal statistics for the year ended Dec. 31, 1908, J. L. Payne, Comptroller of Statistics, states that it has been possible to prepare the report earlier this year on account of the changes in the method of tabulation. The freight carried on the Dominion canals during the year aggregated 17,502,820 tons against 20,543,639 tons in 1907, a decrease of 3,040,819 tons. The traffic for 1908, though below that for 1907, which was the largest on record, was largely in excess of the record for all years prior to 1907. The decrease in traffic in 1908 from the total for 1907 was made up of 2,568,658 tons in east-bound and 472,161 tons in west-bound traffic, and almost wholly related to U.S. business passing through Canadian canals. The following statement shows the tonnage passing through Dominion canals, and also shows that while there was a decrease of 3,129,661 tons in the traffic between U.S. ports, there was an actual increase of 88,842 tons in the business affecting Canadian ports:

	1907. Tons.	1908. Tons.
Canadian to Canadian ports	4,196,891	4,320,668
Canadian to U.S. ports	1,117,830	839 457
U.S. to U.S. ports	13,052,837	9,923,176
U.S. to Canadian ports	2,176,081	2,419,519
	20,543,639	17,502,820

POWER FOR PUMPING

THE

CANADIAN AIRMOTOR

IS THE MOST ECONOMICAL POWER

HALLIDAY TANK FIXTURES
CURTIS PUMPS
OUTLET VALVES

Gasoline Engines ("The Stickney")
Wood and Steel Tanks
Tank Sub-Structures, etc.

ONTARIO WIND ENGINE AND PUMP CO., Limited
TORONTO

E. L. DREWRY

REDWOOD BREWERY
WINNIPEG, MANITOBA

MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE,
EXTRA STOUT AND
REDWOOD LAGER

Also the GOLDEN KEY BRAND
AERATED WATERS

The "DILLON"

is a Hinge-Stay fence made of extra quality wire, either all No. 9, or lighter if required.

"MONARCH"

fence is made of No. 9 Hard wire throughout, and is of the regular straight-stay style

ENQUIRY SOLICITED

The Owen Sound Wire Fence Co. LIMITED
OWEN SOUND, ONTARIO

NOVO SUPERIOR

THE NEWLY-INVENTED
HIGH SPEED STEEL

HARDENS IN
WATER—OIL—AIR BLAST

The Steel accounts of which were so extensively published in the Trade Journals, Periodicals and Papers.

CUTTING Power and Durability many times greater than that of present high speed steels.

Hermann Boker & Co.
332 ST. JAMES ST. - - MONTREAL

CRUCIBLE SAW AND SHEET STEEL

MADE BY
JESSOP STEEL CO.
Washington Pa., U.S.A.

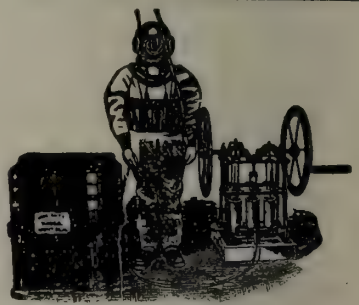
TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools.

Jessop's "Ark" High Speed Air Hardening Steel

is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings.

WILLIAM JESSOP & SONS, Limited, SHEFFIELD, ENG.
CHAS. L. BAILEY, Agent, 80 BAY STREET, TORONTO, ONTARIO



JOHN DATE
MANUFACTURER OF
DIVING APPARATUS
FOR SALE OR HIRE
Brass Founder & Coppersmith
152 Craig St. West, Montreal

SESSIONS-STANDARD
Friction Draft Gear
Simplest and Best

Both Made by
Standard Coupler Co.
2 RECTOR STREET NEW YORK

STANDARD STEEL PLATFORMS
Used by all Canadian Railways

The decrease in traffic tonnage related very largely to iron ore, of which 10,105,016 tons passed through the canals in 1907, and 7,402,672 in 1908. Of wheat, oats and barley, there were considerable increases. There was also an increase of tonnage of Canadian vessels using the canals, of 451,878 tons over the preceding year. The report for 1908 introduces a table showing the origin of cargoes, as follows:

Canal.	Canada. Tons.	U.S. Tons.
Welland	776,245	927,208
St. Lawrence	1,261,651	747,451
Chambly	379,674	123,602
Ottawa	258,527	
Rideau	77,519	12,121
St. Peters	72,015	
Trent Valley	81.690	
Murray	12.595	13.306
Sault Ste. Marie	2,092,231	10,666,985
	5,012,147	12.490,683

The capital expenditure on the Dominion canals, to Mar. 31, 1908, exclusive of the outlay by the Imperial Government on the Carillon and Grenville canal, records of which were destroyed by fire in 1852, are:

St. Peter's	$ 648,547.14
Lachine	11,801,058.03
Beauharnois	1,636,690.26
St. Lawrence River and canals	3,365,317.57
Lake St. Louis	298,176.11
Lake St. Francis	75,906.71
Cornwall	7,234,182.60
Farran's Point, Williamsburg, Galops, Rapide Plat	10,473,624.10
Welland	28,082,629.86
Ste. Anne's	1,170,215.63
Carrillon and Grenville	4,182,092.96
Culbute	382,776.46
Rideau	4,085,889.21
Murray	1,248,820.26
Chambly	637,214.66
St. Our's	121,537.65
Trent	5,773,664.71
Tay	489,599.23
Sault Ste. Marie	4,779,613.84
Soulanges	6,955,317.59
	$93.442,874.58

Marine Insurance Gambling.

The President of the Board of Trade has introduced a bill into the British House of Commons, having for its object the prohibition of gambling in the loss of vessels by maritime perils. The bill provides that, if any person effects a marine insurance without having any bona fide interest in the safe arrival of a ship or in the safety of the subject-matter insured, or a bona fide expectation of such interest, or if any person in the employ of the owner, and not being a part owner of a ship, effects insurance in relation to the ship, and the contract is made "interest or no interest," or "without further proof of interest than the policy itself," or "without benefit of salvage to the insurer," or any other like term, the contract shall be deemed to be a contract by way of gambling on loss by maritime perils, and the person effecting it shall be guilty of an offence, and shall be liable, on summary conviction, to imprisonment for a term not exceeding 6 months or to a fine not exceeding £100, and in either case to forfeit any money he may receive under the contract. Any broker and any insurer through or with whom such contract is effected shall be guilty of an offence and liable on summary conviction to the like penalties if he acted knowing that the contract was within the meaning of this act. Proceedings under this act shall not be instituted without the consent of the Attorney-General, nor against a person (other than a person in the employ of the owner of the ship in relation to which the contract was made) alleged to have effected such contract until an opportunity has been afforded him of showing that the contract was not by way of gambling on loss by maritime perils, and any information given by that person for that purpose shall not be admissible in evidence against him in any prosecution under this act. The bill also provides that the term "owner" as used includes a charterer; and that any person, not being in the employ of the owner of the ship insured, may appeal against conviction.

Vessels Removed from the Register.

The following vessels were removed from the Canadian register during May, for the reasons assigned:—Steam: Kootney, Vancouver, B.C., 5 tons, wrecked; La Reine, Winnipeg, 15 tons, burnt; Lyon C., Montreal, 13 tons, broken up; Minnehaha, Collingwood, 22 tons, foundered. Sailing: Edith, Maitland, N.S., 45 tons, abandoned at sea; Fauna, Windsor, N.S., 120 tons, wrecked; Lakeside, Yarmouth, N.S., 726 tons, stranded; Lost Heir, St. John, N.B., 15 tons, broken up; Marcella Butler, Halifax, N.S., 38 tons, abandoned; Persia, Windsor, N.S., 578 tons, sold to foreigners; Rossignol, Liverpool, N.S., 199 tons, lost; Strathcona, Halifax, N.S., 27 tons, transferred to Newfoundland.

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING MAY, 1909.

Name	No.	Where and When Built	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Aphia	126,360	Tetraultville; Que., 1907	Screw 4 N.H.P.	45 1	9 8	3 9	11	7	Montreal	R. Lucas, Lachine, Que.
Ayuda	126,359	St. Joseph, Mich., 1908	" 2 "	38 9	9 3	6 3	10	7	"	W. Cuthbert, Montreal.
Burwash	126,403	Kippewa, Que., 1909	Paddle 18 "	68 5	15 1	5 8	45	28	Ottawa	McLachlin Bros., Ltd., Arnprior, Ont.
Eileen G.	126,423	Vancouver, B. C., 1908	Screw 1 "	26 0	7 5	3 3	6	4	Vancouver B. C.	J. D. Gamble, Vancouver, B. C.
Erl King	126,270	Toronto, 1909	" 6 "	52 0	14 5	8 0	46	25	Toronto	F. Simpson, Toronto.
F. Paul	126,150	Sorel, Que., 1909	" 12 "	54 1	12 8	6 7	18	13	Sorel, Que.	J. Paul, Sorel, Que.
Jeska	126,128	Kingston, Ont., 1909	" 16 "	108 0	24 4	7 3	189	107	Kingston, Ont	J. H. Davis, Kingston, Ont.
Louiseville	126,149	Notre Dame de Pierreville, Que., 1909	Paddle 37 "	120 2	32 0	6 4	383	224	Sorel, Que	C. Salvas and I. Yargeau, J. O. Pierreville, Que.
Lubricator	126,425	Davis Creek, B. C., 1909	Screw 1 "	39 0	9 2	4 9	10	7	Vancouver, B.C.	W. Lomberg, Vancouver, B. C.
Opeongo	126,402	Arnprior, Ont., 1909	Paddle 54 "	104 5	21 3	6 5	121	77	Ottawa	McLachlin Bros., Ltd., Arnprior, Ont.
Ordonez	126,241	Victoria, 1909	Screw 3 "	35 5	9 0	4 6	10	4	Victoria	D. H. Bale, Victoria, B. C.
Orvil	126,404	Carleton Place, Ont., 1909	" 6 "	34 6	8 0	4 0	7	5	Ottawa	J. Cunningham, Gaudette, Que.
*Racey	100,630	Buffalo, N.Y., 1903	" 4 "	55 0	14 7	7 6	25	17	Port Dover, Ont.	H. W. Ansley, M. O., Port Dover, Ont.
Ray C.	126,363	Cornwall, Ont., 1908	" 6 "	59 4	13 8	4 2	29	14	Montreal	L Cohen, Montreal, Que.
Sooke	126,240	Unknown	" 2 "	29 3	8 3	3 0	8	4	Victoria	S. M. Maysmith, Victoria.
Truant	126,242	Victoria, B. C., 1908	" 1 "	28 4	10 0	4 8	7	4	"	W. E. Adams, Victoria.
Tussler	126,239	Olympia, Wash., 1899	" 6 "	45 8	12 8	4 6	19	11	"	A. C. Gardner, Victoria.
Whiteley	126,224	Sombra, Ont., 1909	" ½ "	22 4	6 5	2 9	3	2	Sarnia, Ont.	T. W. Whiteley, Sombra, Ont.
Wren	104,200	Hull, Eng., 1895	" 45 "	94 0	20 7	10 4	135	44	Canso, N. S.	Pioneer Steam Trawling Co., Ltd., Halifax, N. S.

*Formerly Planet.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING MAY, 1909.

Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
Bruiser	126,139	U. S. A	Dredge.	100 0	39 6	8 7	509	Halifax, N.S.	Canada Construction & Dredging Co., Toronto.
Bruiser No. 1	126,140	"	Scow	105 0	31 0	11 0	308	"	" " " "
Bruiser No. 2	126,371	"	"	105 0	31 0	11 0	308	"	" " " "
Bruiser No. 3	126,372	Dartmouth, N. S., 1908	"	44 0	11 6	5 3	14	"	Cape Breton Dredging Co., Toronto.
Burnett C	126,393	La Have, N. S., 1909	Schr	94 6	25 3	10 4	105	Lunenburg, N. S.	A. V. Conrad, M.O., La Have, N.S.
Eva C	125,969	Port Greville, N.S., 1909	"	126 5	31 0	10 6	250	Parrsboro, N.S.	G. M. Cochrane, M.O., Fox River, N.S.
Evelyn	112,005	Granville, N S., 1907	"	142 6	30 9	11 5	287	"	W. Pickels, M.O., Annapolis Royal, N.S.
G. H. Millen	126,407	Hull, Que., 1909	Scow	108 0	22 9	7 2	448	Ottawa	Ottawa Transportation Co., Ottawa.
Harry Dixon	116,688	Richibucto, N. B., 1909.	Sloop	32 8	11 8	5 0	10	Richibucto, N. B.	W. E. Forbes, Richibucto, N.B.
Hawanee	126,392	Lunenburg, N. S., 1909	Schr	101 2	25 8	10 8	99	Lunenburg, N. S.	W. C. Smith, M.O., Lunenburg, N.S.
Kittimouse	126,424	Vancouver, B.C., 1909	Cat	21 7	9 4	3 2	3	Vancouver, B.C.	S. Busby, Vancouver, B.C
Lanark	126,362	Cornwall, Ont., 1907	Dredge.	79 4	22 8	5 3	132	Montreal	L. Cohen, Montreal.
M. S. Kenny	126,343	Shelburne, N.S., 1909	Schr	72 0	21 6	8 2	66	Barrington, N.S.	W. H. Kenney, M.O., Clarke's Harbor, N.S.
P.B. & Co., No. 1.	126,382	St. Thomas, Que., 1908	Barge	130 0	30 0	7 3	245	Quebec, Que.	Price Brothers & Co., Quebec.
P.B. & Co., No. 2.	126,383	"	"	130 0	30 0	7 3	245	"	" "
P. J. McLaughlin	125,968	Parrsboro, N.S., 1909	Schr	96 9	28 0	8 8	147	Parrsboro, N.S.	P. J. McLaughlin, M.O., Parrsboro, N.S.
Quinte Chief	126,129	Trenton, Ont., 1908	Dredge.	89 6	30 0	6 4	210	Kingston, Ont.	R. Weddell, Trenton, Ont.
Ready Now	122,596	Boston, Mass, 1859	Schr	50 5	15 8	5 8	18	St. Andrews, N.B	S. Brown, Campobello, N.B.
Tomasco	126,361	Coteau du Lac, Que., 1893	Dredge.	75 1	26 2	5 8	128	Montreal	T. Gauthier, Montreal.
W. H. Rowley	126,406	Hull, Que., 1909	Barge	113 0	24 2	7 8	179	Ottawa	Ottawa Transportation Co., Ottawa.
Waegwoltic	126,394	Bridgewater, N.S., 1909	Scks	108 5	29 0	10 6	174	Lunenburg, N.S.	A. H. Zwicker, M.O., Lunenburg, N. S.

Government Harbors and Piers.

The Dominion Parliament at its recent session passed an amendment to the Government Harbors and Piers Act deleting sub-section 1 of section 1 of the act, and substituting the following therefor:

16. If the minister deems it desirable to lease to any provincial government, municipal council, harbour commission, shipping company, or railway company any wharf, pier or breakwater under the control of the minister, tenders by public advertisement for such lease shall be invited by the minister for a term not exceeding three years, and the Governor in Council may thereupon lease such wharf, pier or breakwater upon such terms and conditions as are agreed on: Provided that nothing in this section shall interfere with the public use of such wharf, pier or breakwater; and provided further that the lessee of such wharf, pier or breakwater shall not charge wharfage tolls or dues in excess of the tolls and dues established under the authority of this act by the regulations for the government of breakwaters, piers or wharfs in Canada as approved from time to time by the Governor in Council.

Sub-section 3 was also amended by the addition of the following:

The minister shall submit within one month after the meeting of parliament a statement of the leases and the conditions thereof made under the provisions of this act.

Ocean Steamship Subsidies.

The following clause has been added to the Ocean Steamships Subsidies Act:—"The Governor in Council may enter into contract or contracts for a term or terms not exceeding in all 10 years with any individual or company, for the performance of a steamship service between a port or ports in Canada and a French port or ports, on such terms and conditions as the Governor in Council deems expedient, and may grant therefor a subsidy not exceeding $200,000 a year, based upon a minimum service of 15 round voyages a year, and a subsidy therefor not exceeding $100,000, and so in proportion for a more frequent service. The amount required for the payment of this subsidy shall be paid out of the Consolidated Revenue Fund of Canada."

The object of this amendment is to

JOHN S. METCALF CO.

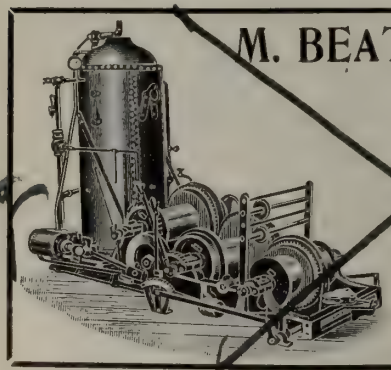
ENGINEERS AND CONTRACTORS FOR

GRAIN ELEVATORS ONLY

CONCRETE—STEEL—WOOD

Plans and Specifications our Specialty

MIDLAND, ONTARIO CHICAGO, ILL.



M. BEATTY & SONS, LIMITED WELLAND ONTARIO

Dredges, Ditchers, Steam Shovels, Derricks, Steel Dump and Deck Scows

SUBMARINE ROCK DRILLING MACHINERY

Hoisting Engines, Centrifugal Pumps, Clam Buckets, Steel Skips, Coal and Concrete Tubs and other Contractors' Machinery.

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited

MONTREAL, CANADA

BARE AND INSULATED ELECTRIC WIRE

Electric Light Line Wire, Incandescent and Flexible Cords,

RAILWAY FEEDER AND TROLLEY WIRE

Americanite, Magnet, Office and Annunciator Wires,

Cables for Aerial and Underground Use.

Schools of the Sisters of the Church

(ANGLICAN)

36 Walmer Road, Toronto
330 Kent St., Ottawa

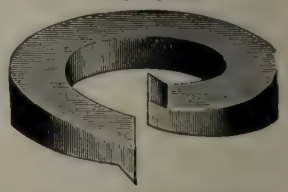
VISITORS: The Lord Bishop of Toronto and the Lord Bishop of Ottawa.

Boarding and Day School for Girls. Kindergarten, Primary, Secondary and Collegiate Departments. Preparation for Matriculation. Next School year will begin Thursday Sept. 9th. Apply to

Sister in Charge.

THE **POSITIVE LOCK WASHER**

Is the BEST Nut LOCK for all purposes



We also make plain coils and tail nut locks.

The Positive Lock Washer Co.

Sole Mfrs., Newark, N.J.

F.H. HOPKINS & CO., Agts., Montreal

RAILWAY AND STEAMSHIP PRINTING

SOUTHAM PRESS TORONTO

SUCCESSORS TO

THE MAIL JOB PRINTING CO.

STEEL, PEECH & TOZER

Limited,

SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada

Sole Agents:

James Hutton & Co., Montreal

The Parry Sound Lumber Co.

Limited

..13-15 Traders Bank Bldg., Toronto..

Manufacturers of

PINE, HEMLOCK, LUMBER, BRIDGE TIMBER, RAILWAY TIES, TELEGRAPH POLES, LATH, SHINGLES, BOX SHOOKS.

diminish by three the number of voyages required to earn the minimum subsidy of $100,000, previously granted. Under the clause which the present one replaces, the number of voyages required was 18, at a stipulated average speed of 10 knots an hour, and under the new clause, while the number of voyages is decreased by 3, the average speed is raised to 12 knots an hour. It is announced that a contract for such service for one year has been made with the Allan Line.

The Giving and Accepting of Commissions.

The Minister of Marine and Fisheries recently dismissed a number of the Department's employes as the result of the report of Mr. Justice Cassels, upon his investigation. If not the main ground for the dismissal of these officials, one of the grounds was that they had accepted commissions from the firms from whom supplies were purchased for the Government lighthouses, vessels, etc. That the practice has been carried on for years in the service, and that it is the almost universal custom in the mercantile marine, and prevails to a very great extent in nearly every branch of commercial life, is no answer to the charge that the acceptance of such commissions is immoral, if not dishonest. No man can conscientiously give the best of service to his employer, if at the same time he is receiving a commission from merchants from whom he is making purchases for such employer. Men who are scrupulously honest in every respect pay and receive these commissions without giving the slightest thought to whether they are doing right or wrong, merely because it is an established custom. When an established custom is found to be a bad one, it should be abandoned. In abandoning such a custom, whether by a moral awakening among those who follow it, or by the force of a judicial enquiry, some men must suffer. It is true that those most guilty may not suffer, but the lesson has to be learned. The custom of commission paying, and commission taking is a bad one, from an economical as well as from a moral standpoint, and the sooner this is recognized the better it will be for those placed in positions of responsibilty, as well as for the entire community.

Reciprocating Engines and Turbines.

In a discussion at the last meeting of the Institution of Naval Architects in England of the best method of combining the reciprocating engine and the steam turbine in the propulsion of steamships, the proposition was made that the best results would be obtained if the reciprocating engine were of the compound type. A member of the Institution claims that the consumption of 100 lbs. of steam per hour at an initial pressure of 10 lbs. to the square inch would give 2.4 horse-power in a reciprocating engine, and 4.18 h.p. in a turbine. The wide difference between 2.4 and 4.18 h.p. can, of course, be secured only when the steam is of low pressure. The impossibility of carrying the expansion in a reciprocating engine down to the low point that is possible in a turbine, is due to the fact that the low-pressure piston would have to be of such enormous size and weight, that the additional power secured by the increased expansion of the steam would be used up in overcoming the increased friction due to the heavy moving weights. In tramp steamers, and all steamships with a full model at the stern, it is advisable to use a large propeller running at a low rate of revolution. In a triple-screw vessel of this class, it is suggested that the best arrangement would be to use a compound reciprocating engine for the centre propeller, and propellers running at a high speed of revolution driven by two turbines in the wings. It is stated that in the new White Star liners Olympic and Titanic, which, however, are vessels of fine form, the wing propellers will be driven by reciprocating engine, and the centre propeller by a low-pressure steam turbine.

Dominion Ex. Co's Appointments.

W. Walsh, heretofore Assistant to the General Manager and who has also acted as Superintendent of the Southern Division, has been appointed General Superintendent, Lines east of Port Arthur, Ont., office, Toronto. The position of Assistant to the General Manager has been abolished.

D. J. McFeggan, heretofore Chief Clerk, office of Assistant to the General Manager, has been appointed Superintendent Southern Division, office, Toronto.

G. Ford, heretofore Superintendent Western Division, has been appointed General Superintendent, Lines west of, and including Port Arthur, Ont. Office, Winnipeg.

W. M. Gordon, heretofore General Agent, Winnipeg, has been appointed Superintendent Western Division. Office, Winnipeg.

J. Blackhall, heretofore in charge of Money Order Department, has been appointed Superintendent Money Order Department. Office, Toronto.

W. H. Plant, heretofore in charge of Traffic Auditing, has been appointed Auditor Traffic. Office, Toronto.

H. C. Anderson, heretofore in charge of Money Order Accounts Auditing, has been appointed Auditor Money Order Accounts. Office, Toronto.

J. Richardson, has been appointed Line Auditor.

Among the Express Companies.

W. W. Williamson, General Auditor Canadian Ex. Co., Montreal, sailed from Quebec in the s.s. Canada, in June, on a visit to England.

The Maritime Ex. Co. has been granted an extension of the time to Dec. 1 within which it is permitted to use its present forms of freight and money receipts.

The Dominion Ex. Co., has removed its office at New Liskeard, Ont., from the station to the town proper, with L. J. Boland, formerly of North Bay, in charge.

The Board of Railway Commissioners has temporarily approved, until Dec. 1, the forms of contracts issued by the Canadian, Dominion, National and American Ex. Cos.

The Canadian Northern Ex. Co. has opened an office at Lavenham, Man., and has reopened its offices at Sparrow Lake, Lake Joseph and Footes Bay, Ont., for the summer season.

The Board of Railway Commissioners has extended until Dec. 1 the time within which the United States and the Great Northern Ex. Cos. may continue to use contracts, by-laws, regulations, declarations and notices as provided in sec. 353 of the Railway Act.

The claim of the Dominion Ex. Co., to recover $1,300 from John Maughan & Son, was dismissed at Toronto, recently. The claim was for money orders issued by the firm as agents of the company, but it was shown that the orders were signed by H. Maughan, who is not a partner in the firm, and who has since left the country.

At the annual convention of the Associated Boards of Trade of Western Canada, held at Saskatoon, Sask. June 15 to 17, among the subjects discussed were, express charges over the Alberta Ry. and Irrigation Co.'s line, and the question as to the advisability of compelling express companies to deliver goods to all parts of cities and towns.

The Dominion Ex. Co.'s appeal against the judgment of the Court of Revision which upheld an assessment of $450 made on the company's agency at Alliston, Ont., was successful at Toronto, June 10. The town claimed $12.52 taxes and seized a wagon and scale valued at $100 for non-payment. The assessment has been disallowed, and an injunction granted against the proposed sale of the property seized.

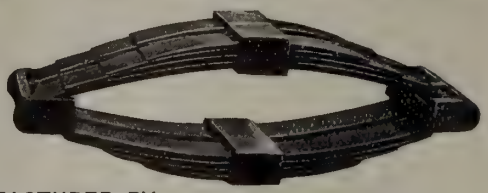
SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie Canals in May :

ARTICLES.			CANADIAN CANAL	U. S. CANAL	TOTAL
Copper	Eastbound	Net tons	210	21,403	21,613
Grain	"	Bushels	4,129,851	2,548,094	6,677,945
Building stone	"	Net tons	.....	450	450
Flour	"	Barrels	449,113	447,470	896,583
Iron ore	"	Net tons	962,949	2,055,580	3,018,529
Pig iron	"	"	.....	3,808	3,808
Lumber	"	M. ft. B.M.	4,667	57,897	62,564
Wheat	"	Bushels	8,103,946	5,104,484	13,208,430
General merchandise	"	Net tons	17,056	11,955	29,011
Passengers	"	Number	736	73	809
Coal, hard	Westbound	Net tons	38,178	203,367	241,545
Coal, soft	"	"	251,295	476,536	727,831
Flour	"	Barrels	860	.....	860
Grain	"	Bushels	.....	.....	.....
Manufactured iron	"	Net tons	14,590	34,217	48,807
Iron ore	"	"	.....	.....	.....
Salt	"	Barrels	31,613	115,655	147,268
General merchandise	"	Net tons	60,289	66,543	126,832
Passengers	"	Number	814	62	876
Vessel passages		Number	662	1,276	1,938
Registered tonnage		Net	1,346,984	2,734,962	4,081,946
Freight—Eastbound		Net tons	1,354,537	2,441,849	3,796,386
" —Westbound		"	368,955	798,010	1,166,965
Total Freight		"	1,723,492	3,239,859	4,963,351

RAILWAY SPRINGS

ELLIPTIC
SEMI-ELLIPTIC
AND SPIRAL SPRINGS
OF EVERY DESCRIPTION



MANUFACTURED BY
B. J. Coghlin & Co., 432 St. Paul St., Montreal, Can.

WIRE ROPE

GREENING

All Kinds and Sizes and for All Purposes.
Standard and Lang's Patent Lay.
Rope Fittings.
Rope Grease.
PRICES RIGHT.
PROMPT SHIPMENTS.

THE B. GREENING WIRE CO., Limited
HAMILTON, ONT. MONTREAL, QUE.

HEADLIGHTS-WE MAKE THEM

For OIL, for Pyle ELECTRIC equipment or SPECIAL to Blue Print, and carry a large stock of standard headlight reflectors, burners, burner parts, felt wicks and chimneys.

The HIRAM L. PIPER CO., Limited
17 to 23 Normand Street, Montreal.
Get our No. 30 Catalogue. (Between St. Peter and McGill Sts.)

MALLEABLE IRON CASTINGS
of Superior Quality
GALT MALLEABLE IRON CO., LIMITED, - GALT, ONT.

NICKEL
THE CANADIAN COPPER COMPANY
NICKEL FOR NICKEL STEEL
THE ORFORD COPPER COMPANY
WRITE US FOR PARTICULARS AND PRICES
General Offices: 43 Exchange Place, NEW YORK

THE CANADIAN BRONZE COMPANY, LTD.
Brass Wearing Parts for Locomotives.
Journal Bearings for Freight and Passenger Service.
BABBITTS. Miscellaneous Brass Castings for Railroads.
Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

DUNER CAR CLOSET
ENAMELED IRON WET OR DRY CLOSET
DUNER CO. 116 SO. CLINTON ST., CHICAGO

FOR STREET PAVING MATERIAL
SCORIA BLOCKS are the cleanest, most noiseless and, durability considered, the cheapest yet discovered. And the supply is unlimited.

FOR ALL INFORMATION ADDRESS
W. H. KNOWLTON
Aberdeen Building, Toronto,
or Merchants Bank Building, Montreal

IMPERIAL BANK
OF CANADA
Capital Authorized - - $10,000,000.00
Capital Paid Up - - - 5,000,000.00
Rest - - - - - - - 5,000,000.00
HEAD OFFICE - - - TORONTO
AGENTS——London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.
Sterling exchange bought and sold. Letters of credit issued available in any part of the world.
SAVINGS DEPARTMENT—Interest allowed on deposits at current rate from date of deposit.
A general Banking business transacted. Branches throughout the Dominion of Canada.

LEHIGH VALLEY RAILROAD
BEST LINE FROM TORONTO AND ONTARIO POINTS
— TO —
NEW YORK, PHILADELPHIA AND SOUTH
For particulars, write to or call on
MR. ROBERT S. LEWIS
Canadian Passenger Agent
54 King St. East - - - - Toronto

FOR TICKET CASES AND COMMERCIAL FURNITURE
of all descriptions to stock or special design, apply to
The Canadian Office & School Furniture Co. Limited
Preston Ontario

WOOD PATTERNS
—ALL KINDS—
High Grade. Right Prices. Prompt Delivery.
THE HAMILTON PATTERN WORKS
HAMILTON, ONT.

Standard Paint & Varnish Co. Limited
Makers of High Grade Varnishes, Japans, Paints, Colors & Enamels.
Windsor Ont.

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS MACHINERY, address
THE ROBERTSON MACHINERY CO.
WELLAND, ONT. Limited

Carriage of Acetylene by Express.

In re the application of the Commercial Acetylene Co., of New York, for an order directing express companies operating in Canada and subject to the Board's jurisdiction to classify for transportation of acetylene gas when shipped under the so-called safety storage system, and in the matter of the Board's jurisdiction to make order 6167 of Feb. 4, 1909, directing express companies to carry acetylene gas under rules and regulations prescribed in Official Classification 15, the Board of Railway Commissioners issued order 7087, May 18, rescinding orders 6167 and 6366 of Feb. 4 and 22.

Chief Commissioner Mabee gave the following judgment:—The applicants ask for an order compelling the express companies operating in Canada to accept and carry a commodity manufactured by them, consisting of gas absorbed in asbestos encased in copper or metal tanks. The companies have refused to carry these tanks upon the ground that they are dangerous, or liable to explode, but in the view we take of the matter it is not necessary to deal with the validity of these objections or with the nature of the contracts between the express companies and the railway companies. The fundamental question is whether the Board has power to require express companies to carry any class of commodity they object to or refuse to accept. The group of clauses from sec. 348 to 354 of the Railway Act are, with sec. 317, sub-sec. 6 and sec. 2, sub-sec. 9, the provisions relating to express companies, and show the control that Parliament has conferred upon the Board over them. Is there anything in these sections that empowers the Board to require these companies to grant the applicants' request? The main group of clauses is headed "Express Tolls" and generally speaking they refer chiefly to tariffs and conditions and contracts limiting liability for carriage, and as to these matters all the provisions of the Act relating to freight tolls and tariffs, so far as applicable, are to apply to express companies. Sec. 352 provides that the Board may by regulation, or in any particular case, prescribe what is carriage or transportation of goods by express. Sec. 353, sub-sec. 3 (b) provides that the Board may in any case or by regulation "prescribe the terms and conditions under which goods may be collected, received, cared for or handled for the purpose of sending, carrying, or transporting them by express, or under which goods may be sent, carried, transported or delivered by express by any such company, person or corporation," and it was upon this section that the principal argument was based in support of the Board's jurisdiction. It does not seem to us that this can fairly be read to mean more than that when an express company decided to carry any particular class of goods, the Board may prescribe the terms and conditions under which the collection, receipt, care for and handling of the same shall take place, and this view is strengthened when this clause is found among a group of sections that do not seem to be dealing with anything except tariffs, tolls, and contracts or conditions limiting liability. The "terms and conditions" governing the collection, receipt and handling of goods that the Board might deem proper to impose under this sub-section, relate to the extent to which liability may be impaired, restricted or limited under sub-sec. 3 (a). The Act does not confer upon the Board as wide jurisdiction over express companies as it does over railway companies, and of course jurisdiction is limited to such matters that the Act plainly and clearly covers. There should be no straining after jurisdiction, and as we read this clause it is limited as above indicated. It was also argued that sec. 353 (1) gave jurisdiction, but we think this relates only to contracts "limiting liability" after a company has decided to accept or collect for carriage any particular commodity. Whether it was the intention of Parliament to limit the control of express companies to tariffs, tolls, conditions and contracts or not, it seems to us the above is the only fair reading of the Act, and we are of opinion that express companies are at liberty to exercise their own discretion in refusing to carry by express any particular commodity. This judgment was concurred in by Assistant Chief Commissioner Scott and Commissioner McLean.

Telegraph and Cable Matters.

The Government wireless telegraph station on the Tarte pier in Montreal harbor was opened for business June 25.

The C.P.R. telegraph department is reported to have made a survey for the erection of a telegraph line to Gowganda, Ont.

J. Kent, Manager C.P.R. Telegraphs, left Montreal June 3 on his annual inspection trip through the maritime provinces.

The C.P.R. Telegraph Department has opened offices at International Pier, N.S.; Hemlo, Hurkett, Naughton, Rockcliffe (night only), Ont.; Winnipeg Beach, Man.; Bulyea and Froude, Sask.; and has closed its offices at Stinson, Ont.; Pearce and Shepherd, Alta.

An Ottawa dispatch says, the Civil Service Commissioners have appointed C. P. Edwards of Montreal to be Superintendent of Government wireless telegraph stations under the Department of Marine.

The C.P.R. telegraph staff at Saskatoon, Sask., has recently been moved to larger quarters in Second Ave. Saskatoon is now the repeating station for the territory extending from the main line northerly as far as the wires extend, and westerly to Lacombe, Alta.

A proposal has been submitted to the Pacific Cable Board for the introduction of a reduced rate on the deferred delivery system for cable messages which are not urgent. Such messages would not be delivered until 24 hrs. after being handed in, and the rate proposed is one shilling a word.

In response to a question in the British House of Commons recently, the Postmaster General said that it had been reported to him that damage to one of the trans-Atlantic cables had occurred in the vicinity of Ireland, which had been attributed by the cable company to trawlers. He said he appreciated the seriousness of the interruptions, and he hoped that the steps it was proposed to take to inspect trawlers, with the view of minimizing such danger would prove effective.

The telegraph operators' union has recently reorganized its methods of management. The C.P.R. system has been classed as System Division 1, under one management and one treasury. It has been divided into districts as follows:—Pacific, Western, Central, Lake Superior, Ontario, Eastern and Atlantic, each with separate officers and committee, which, with the President and Secretary, comprise the central executive. C. E. Hill, Toronto, is President, and D. Warner, Winnipeg, Secretary-Treasurer, for the current year.

E. H. Millington, Superintendent, M. C. Rd. Telegraphs, Detroit, Mich., died at St. Thomas, Ont., June 22, following a paralytic seizure June 8, while addressing a Y.M.C.A. meeting there. He was born in Guelph, Ont., in 1860, was educated at St. Thomas, and learned telegraphy in the G.N.W. Telegraph Co.'s employ at London, Hamilton and Montreal. He held the position of Superintendent since 1902, with headquarters at Detroit, Mich. In addition to taking an active part in Y.M.C.A. work, he was connected with the Detroit West Railroad Association and the Detroit Trans-

The Purchasing Agents' Guide

To the Manufacturers of and Dealers in Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph Telephone and Contractors' Supplies, &c.

Aerated Waters
E. L. Drewry ..... Winnipeg.

Air Brakes and Fittings
Canadian Westinghouse Co. Hamilton, Ont.

Ales
E. L. Drewry.. .....Winnipeg.

Anchors, Ground
Ground Anchor Co. .....Montreal.

Angle Bars
Hamilton Steel & Iron Co...Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.

Anti Rail Creepers
The Holden Co., Ltd.....Montreal.

Automobiles
Polson Iron Works, Ltd.....Toronto

Axes
Hamilton Steel & Iron Co..Hamilton, Ont.
James Smart Mfg. Co.....Brockville, Ont.

Axles
James Hutton & Co.....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Beacons
International Marine Signal Co....Ottawa.

Bearings, Side
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co...Montreal.
Union Draft Gear Co. .....Chicago, Ill.

Blankets and Bedding
The Hudson Bay Co.....

Boilers
Babcock & Wilcox, Ltd.....Montreal.
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Boilers, Portable
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co, Ltd..Amherst, N.S.

Boilers, Stationary and Marine
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd..Amherst, N. S.

Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

Boilers, Steam
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.

Boilers, Water Tube
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.

Bolsters
Dominion Car and Foundry Co..Montreal.

Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.

Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Books
Engineering News Book Dept...New York.
Renouf Publishing Co.....Montreal.

Braces, Cross Arm
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Brake Beams
Chicago Railway Equipment Co...Chicago.
Dominion Car and Founary Co..Montreal.

Brake Shoes
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.
The Holden Co., Ltd.....Montreal.

Brake Shoes, Electric Ry.
Am. Brake Shoe & F'dry Co..Mahwah, N.J.

Brake Shoes, Locomotive Driver
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.

Brass and Copper Cloth
The B. Greening Wire Co..Hamilton, Ont.

Bridge Numbers
Acton Burrows, Limited .....Toronto.

Bridges
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Buckets, Coal, Ore and Concrete
Brown Hoisting Machinery Co. Cleveland.

Buildings, Steel
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Bumping Posts
The Holden Co., Ltd..... .....Montreal.
McCord & Co. .....Chicago, Ill.

Buoy Lighting
Safety Car Heat. & Light. Co..New York.

Buoys
International Marine Signal Co....Ottawa.

Cables Electric and Feeder
E. F. Phillips Electrical Works....Montreal.
The Wire and Cable Co.....Montreal.

Car Loaders, Box
Mussens, Ltd. .....Montreal.

Car Movers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Cars
American Car & Equipment Co....Chicago.
R. M. Burns & Co.....Chicago, Ill.
Canada Car Co., Ltd.....Montreal.
Crossen Car Mig. Co.....Cobourg, Ont.
Dominion Car and Foundry Co....Montreal.
J. T. Gardner.....Chricago, Ill.
Hart-Otis Car Co., Ltd.....Montreal.
Hicks Locomotive and Car Works. Chicago.
Ottawa Car Co. Ltd.....Ottawa.
Preston Car and Coach Co., Ltd..Preston.
Rhodes, Curry & Co.....Amherst, N.S.
Silliker Car Co., Ltd.....Halifax, N.S.

Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
Standard Steel Works Co..Philadelphia, Pa.

Castings, Brass
Canadian Bronze Co.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.
Tallman Brass & Metal Co., Ltd.Hamilton.

Castings, Car
American Brake Shoe & Fdry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.

Castings, Iron
Canada Car Co., Ltd.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Castings, Iron and Steel
American Brake Shoe & F'dry Co.Mahwah.

Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.

Castings, Manganese Steel
Montreal Steel Works, Ltd.....Montreal.

Castings, Steel
Canada Iron Corporation, Ltd....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Chains
B. J. Coghlin & Co.....Montreal.

Closets, Car
Duner Co.....Chicago, Ill.

Compressors, Air
Canadian Rand Co.....Montreal.

Concrete Mixers and Rock Crushers
F. H. Hopkins & Co.....Montral.
Mussens Limited.....Montreal
Toronto Pressed Steel Co..... .Toronto

Contractors' Supplies
F. H. Hopkins & Co.....Montreal
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Conveyors, Coal and Ash
Babcock & Wilcox, Ltd.....Montreal.

Copying Presses
James Smart Mfg. Co.....Brockville, Ont.

Couplers, Car and Locomotive
Dominion Car and Foundry Co..Montreal.
McConway & Torley Co....Pittsburgh, Pa.
National Malleable Castings Co..Cleveland
Taylor & Arnold.....Montreal.

Cranes
Brown Hoisting Machinery Co..Cleveland.

Cranes, Electric
Babcock & Wilcox.....Montreal.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.

Cranes, Locomotive
American Hoist and Derrick Co..St. Paul.

Cranes, Wrecking
Mussens Limited.....Montreal.

Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Curtains and Fixtures, Car
The Holden Co., Ltd.....Montreal.

Cuts
Acton Burrows, Limited.....Toronto.

Derailing Devices
Hayes Track Appliance Co..Geneva, N.Y.

Derricks
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Mussens Limited.....Montreal.

Dies
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.

Doors, Steel Rolling
Mussens Limited.....Montreal.

Door Signs
Acton Burrows Limited.....Toronto.

Draft Gear
Farlow Draft Gear Co.....Baltimore, Md.
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.
Union Draft Gear Co. .....Chicago, Ill.
Waugh Draft Gear Co.....Chicago, Ill.

Draughtsmen's Supplies
John A. Hart & Co.....Winnipeg.

Dredges
M. Beatty & Sons.....Welland, Ont.

Drills, Air
Canadian Rand Co.....Montreal.

Dry Goods
The Hudson's Bay Co.....

Dump Cars (Contractors')
Canadian Road Machine Co. Ltd.Hamilton.
F. H. Hopkins & Co.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Dump Cars, Hand
Meaford Wheelbarrow Co., Ltd..Meaford.

Dust Guards
Harrison Dust Guard Co.....Toledo, O.

Dynamos
Northern Electric & Mfg. Co., Ld.Montreal.

Dynamo and Electric Castings
American Brake Shoe & F'dry Co.Mahwah.

Economizers
Babcock & Wilcox (Ltd.).....Montreal.

Electric Car Route Signs
Acton Burrows Limited.....Toronto.

Electric Apparatus
Northern Electric & Mfg. Co., Ld.Montreal.

Elevators, Grain
John S. Metcalfe Co.....Chicago, Ill.

Enameled Iron Signs
Acton Burrows Limited.....Toronto.

Engines, Automatic
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Corliss
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Gasoline
Ontario Wind Engine & Pump Co.Toronto.

Engines, Hoisting
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Robertson Mfg. Co. .....Welland, Ont.

Engines, Stationary and Marine
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Steam Steering, for Tugs
Sheriffs Mfg. Co.....Milwaukee, Wis.

Explosives
Standard Explosives Limited....Montreal.

Express Office Signs
Acton Burrows Limited.....Toronto.

Fencing
McGregor Banwell Fence Co..Walkerville.
New Brunswick Wire Fence Co..Moncton.
Owen Sound Wire Fence Co..Owen Sound.
Page Wire Fence Co.....Walkerville, Ont.

Fire Brick
Mussens Limited.....Montreal.

Flags
The Hudson's Bay Co.....

Flour
The Hudson's Bay Co.....

Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co..Cleveland.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton.
Standard Steel Works Co.Philadelphia, Pa.

Foundry Appliances
Goldschmidt Thermit Co.....Toronto.

Frogs
Canadian Ramapo Iron Wks.Niagara Falls.

Furnaces, Corrugated
Continental Iron Works....Brooklyn, N.Y.

Fuse Batteries
Standard Explosives Limited....Montreal.

Fuse Detonators
Standard Explosives Limited....Montreal.

Fuses, Electric
Standard Explosives Limited....Montreal.

Gaskets
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Gates
McGregor Banwell Fence Co..Walkerville.
New Brunswick Wire Fence Co..Moncton.
Page Wire Fence Co.....Walkerville, Ont.
Owen Sound Wire Fence Co..Owen Sound.

Gates, Crossing
General Railway Signal Co. Rochester, N.Y.
The N. L. Piper Ry. Supply Co..Toronto.

Gauges, Locomotive
Taylor & Arnold.....Montreal.

Generators, Electric
Northern Electric & Mfg. Co., Ld.Montreal.

Grates, Shaking
Babcock & Wilcox, Ltd.....Montreal.

Groceries
The Hudson's Bay Company.....

Hammers, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.
James Smart Mfg. Co....Brockville, Ont.

Handcars
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Hardware
The Hudson's Bay Co.....
Rice Lewis & Son.....Toronto.

Headlights
The N. L. Piper Ry. Supply Co..Toronto.
Pyle National Elec. Headlight Co..Chicago.

Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.

Heaters, Feedwater
Robb Engineering Co., Ltd..Amherst, N.S.

Heating, Car
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car Heating & L'ting Co.New York.

Hoists, Electric
American Hoist & Derrick Co....St. Paul.

Hoists (Pneumatic)
Taylor & Arnold.....Montreal.

Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co.Cuyahoga Falls.

Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.

Hydrants
Kerr Engine Co.....Walkerville, Ont.

Illustrations
Acton Burrows Limited.....Toronto.

portation Club, and was also a Royal Arch Mason, Knight Templar, and member of the Railroad City Tent Knights of the Maccabees.

The Telegraph Age has prepared statistical information, showing the various railways on the American continent which have adopted telephones for train despatching, with the mileage on which it is adopted. The results show a total mileage of all the important railways of 213,552 miles, of which 6,681 miles of single track and 4,951 miles of double track, are operated by telephone. Of the Canadian railways reporting, the C.N.R. shows a total mileage of 3,355 miles, 443 miles of single track being operated by telephones; C.P.R., total mileage, 10,396 miles, with 96 miles single track and 18 miles double track operated by telephone; G.T.R., total mileage, 4,644 miles, over none of which the telephone system of train despatching has been adopted. The C.N.R. and C.P.R. contemplate extensions of the system, and the G.T.R. proposes to adopt telephone despatching over portions of its line in the near future.

The 28th annual convention of the Association of Railway Telegraph Superintendents, was held at Detroit, Mich., June 23 to 25, under the presidency of W. J. Camp, Superintendent C.P.R. Telegraphs, Montreal. The association was formed in 1882. W. W. Ashald, Superintendent G.T.R. Telegraphs, Montreal, and W. Marshall, C.P.R. Telegraphs, Toronto, were on the committee in charge of the entertainment of visiting superintendents. On June 25, a trip to Port Huron was arranged at the invitation of the G.T.R., where opportunity was afforded of inspecting the St. Clair Tunnel, recently electrified by the G.T.R., after which the party returned to Detroit by boat. Among the papers read were those on the Necessity for Censoring Railroad Telegrams; the Difference between the Trouble Shooter and the Division Lineman; the Advantages or Disadvantages of using Cable in bringing Telephone and Telegraph Wires into Local Offices; Efficient Office Organization; Telephone Construction; Benefits of Standards in Telegraph and Telephone Construction; Dry Batteries; Wireless Telegraphy; Wire Testing and Care of Wires, and Pole Preservation.

Telegraph Rates for Press Messages.

The Board of Railway Commissioners passed order 7085, May 25, as follows: Re the application of the Times Publishing Co., of London, Eng., with Canadian head office in Ottawa, under the Railway Act and the Act, chap. 61, 7-8 Edward VII., amending the Railway Act, for an order directing the C.P.R. Co.'s Telegraphs, the Great North Western Telegraph Co. of Canada, and the Western Union Telegraph Co. to transmit press messages to the Marconi Wireless station at Glace Bay, N.S., at the same rate as charged to other points along the Atlantic coast of Canada, upon hearing the application in the presence of counsel for applicant and the telegraph companies, the evidence adduced, and what was alleged, it is ordered that the application be dismissed.

Chief Commissioner Mabee gave the following judgment:—We have come to the conclusion that there is not sufficient information before the Board upon which we would be justified in granting the order asked for by the applicants. They desire an order that the C.P.R. Co.'s Telegraphs, the G.N.W. Telegraph Co., and the W.U. Telegraph Co. transmit press messages to the Marconi wireless station at Glace Bay at the same rate as is charged to other points along the Atlantic coast of Canada. They allege that while the usual rate on press messages from Ottawa to Canadian Atlantic coast points is 35c. per 100 words at night, and 50c. per 100 words in the day time, the telegraph companies charge private message rate on all press messages to Glace Bay intended for transmission by Marconi wireless, and that these charges are excessive and discriminatory. It appears from what took place in the discussion that there is in fact as between the cable companies on the one hand and the Marconi system on the other discrimination in favor of the former or against the latter. On the other hand it seems that under the present existing rates as charged, that the sender of a message via Glace Bay over the Marconi system, as a matter of fact pays some 20c. or 30c. less to the land line for delivering at Glace Bay to the Marconi system than the same sender would pay to the cable company, as the share that the cable company under its existing contract with the land line would pay to the land line for the delivery of a message of the like number of words to the cable company at the coast, so that, in so far as the existing charges being discriminatory, and in favor of the cable companies as against the Marconi system, the facts are otherwise. As to the larger system of discrimination that was discussed by counsel as to the system now in operation being alleged to be discriminatory in favor of the American press as against the press of Great Britain or the Transatlantic press, it is not necessary at present to deal with that question. The counsel who appeared in the case suggested that when the larger question of communication generally and the rates as applicable thereto was considered by the Board, and in view of there being no sufficient information before us to deal intelligently with this application, we think that is perhaps the better disposition to make of that matter in the meantime. The attempt here is really to extend the existing system which was voluntarily established by the telegraph companies as to press rates. They have an extremely low rate apparently throughout Canada, and with their connecting lines throughout the United States for press purposes. These rates are applicable or intended to be applicable in so far as Canada is concerned to that class of business that is addressed to newspapers, for publication in the various towns and cities and villages in the Dominion. There is a press rate to Glace Bay. It is said there is a newspaper there, and so I presume that from other parts of Canada the press rates would apply to the publisher of that newspaper at Glace Bay. The attempt here is to have the Board extend, against the will of the telegraph companies, this system of reduced rates for press purposes, in this particular instance, to the London Times published in London, Eng. Now, we have no information whatever as to the reasons that moved the telegraph companies to establish these low press rates. We have no information whatever as to the profit of the telegraph companies, as to whether these rates are fairly remunerative or not, and we have no information as to the volume of business of that class. All of these would be most material to enable the Board to say whether or not it was a fair thing to require the telegraph companies to give to newspapers published on the other side of the Atlantic rates upon a like basis. It was said that press rates could not apply reasonably to cable messages by reason of their being so condensed and so on, and that there was in some instances greater expense imposed upon the telegraph companies by reason of their having to have operators in the cable offices. All of these matters would have to be inquired into carefully before we could deal intelligently with the case, and say whether or not transatlantic press rates should be upon the same basis as domestic press rates. This may be a matter that will be developed when the telegraph rates are looked into as they probably will have to be before very long. All that I have said is, of course, quite apart from the question of jurisdiction that counsel raised, as to which in the meantime it will not be necessary for us to say anything. That feature of it may be deferred for consideration when the balance of the complaint is more fully developed, so that we can dispose of it in a manner that we are unable to at present.

Proposed "All Red" Cable.

At the conference of press representatives of the British Empire held in London, Eng., the following resolution was moved: "That this conference regards it as of paramount importance that telegraphic facilities with various parts of the Empire should be cheapened and improved, so as to insure fuller intercommunication than exists at present, and appoints a committee to report to the conference, at its reassembling on June 25, as to the best means to attain this object."

In moving an amendment, P. D. Ross, Ottawa, advocated an "all red" cable route by Government cable to Canada, and Government control of wires across Canada. He said he had no objection to the original motion, but sent in his notice of amendment in the hope of accomplishing something practical that morning.

He said they should discuss lines of communication, method and press organization separately, and declared that Canada was almost unanimous in favor of bringing in the State to improve the cable service with Britain. The Canadian Postmaster General and the Chambers of Commerce of the Empire favored it. Meetings in Canada had been practically unanimous in favor of it. He believed the Canadian Government had information to the effect that with a State cable the cost of commercial messages could be reduced without loss to the service. There was no reason why the British and Canadian Governments should not go into the matter.

The Earl of Crewe, Secretary of State, for the Colonies, said that on the question of cable development the Government is thoroughly sympathetic, and they would look forward to the business discussions at the conference in the hope of finding a solution of the question. The great development of wireless telegraphy must be borne in mind. The Government was constantly receiving suggestions with regard to wireless developments, the latest being one in relation to the Western Pacific.

Inspections
R. W. Hunt & Co. .....Montreal
Insurance, Accident
Canadian Ry. Accident Ins. Co....Ottawa.
Imperial Guarantee & Ac. Ins. Co.Toronto.
Insurance, Boiler
Canadian Casualty & Boil. Ins. Co.Toronto.
Interlocking Plant and Signals
General Railway Signal Co. Rochester, N.Y.
Montreal Steel Works.....Montreal.
Saxby and Farmer, Ltd.....Montreal.
Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton.
Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton.
Iron Signs
Acton Burrows Limited.....Toronto.
Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.
Jacks
H and E Lifting Jack Co..Waterville, Que.
F. H. Hopkins & Co, Ltd.....Montreal.
Montreal Steel Works, Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.
A. R. Williams Mchy. Co., Ltd....Toronto.
Japans
The Dougal Varnish Co. Ltd....Montreal.
Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.
Journal Boxes
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Journal Jacks
A. R. Williams Mchy. Co., Ltd....Toronto.
Lager Beer, &c.
E. L. Drewry..... .....Winnipeg.
Lagging and Covering, Locomotive
Taylor & Arnold.....Montreal.
Lamps, Arc
Northern Electric & Mfg. Co, Ltd.Montreal.
Lamps, Incandescent
Canadian Westinghouse Co..Hamilton, Ont.
Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Lamps, Switch
The N. L. Piper Ry. Supply Co..Toronto.
Launches
Polson Iron Works, Ltd.....Toronto.
Lighting, Car
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car H't'g & L't'g Co..New York.
Lights, Contractors' and Wrecking
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Locomotives (Compressed Air)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co...Kingston, Ont.
Montreal Locomotive W'ks (Ltd.).Montreal.
Locomotives (Electric)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Locomotive W'ks (Ltd.).Montreal.
Locomotives (Logging)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.
Locomotives (Rack)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.
Montreal Locomotive Works.....Montreal.
Locomotives (Steam)
American Car & Equip. Co....Chicago, Ill.
Burnham, Williams & Co. Philadelphia, Pa.
R. M. Burns & Co.....Chicago, Ill.
Canadian Locomotive Co....Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hicks Locomotive & Car Works..Chicago.
Montreal Locomotive W'ks. .....Montreal.
Vulcan Iron Works.....Wilkesbarre, Pa.
Lorries, Tracklaying
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
Lubricators
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.
Lumber
Parry Sound Lumber Co.....Toronto.
Machinery, Cement
Jas. W. Pyke & Co.....Montreal.
Machinery and Plant, Contractors'
American Hoist & Derrick Co....St. Paul.
M. Beatty & Sons.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
J. T. Gardner.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Willis Shaw Mchy. Co.....Chicago, Ill.
Toronto Pressed Steel Co.....Toronto.
Machinery, Hoisting
American Hoist & Derrick Co....St. Paul.
Brown Hoisting Machinery Co..Cleveland.
Machinery, Marine
Sheriffs Mfg. Co.....Milwaukee, Wis.
Machinery, Tracklaying
F. H. Hopkins & Co.....Montreal.
Manhole Frames and Covers
American Brake Shoe & F'dry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.
Marine Repairs
Goldschmidt Thermit Co.....Toronto.
Marine Supplies
Rice Lewis & Son.....Toronto.
Metal, Anti-friction
W. Abbott.....Montreal.
Metal, Babbit
Tallman Brass & Metal Mfg. Co. Hamilton.
Metals
Goldschmidt Thermit Co.....Toronto.
Metal Work, Structural
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Montreal Locomotive W'ks (Ltd.).Montreal.
Jas. W. Pyke & Co.....Montreal.
Milepost Numbers
Acton Burrows Limited.....Toronto.
Motors
McCord & Co.....Chicago, Ill.
Motors, Electric
Northern Electric & Mfg. Co. Ld.Montreal.
Motors, Turntable
Taylor & Arnold.....Montreal.
Nickel
The Orford Copper Co.....New York.
Nickel for Nickel Steel
The Orford Copper Co.....New York.
Numbers
Acton Burrows Limited.....Toronto.
Nut Locks
Positive Lock Washer Co....Newark, N.J.
Nuts, Clevis
Cleveland City Forge & Iron Co..Cleveland.
Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
Oakum
The Hudson's Bay Company.....
Office Fittings
Can. Office & Sch'l Furniture Co..Preston.
Office Signs
Acton Burrows Limited.....Toronto.
Oils
Galena Signal Oil Co..Franklin & Toronto.
Packing
The N. L. Piper Ry. Supply Co..Toronto.
Paints
Standard Paint & Varnish Co., Ltd. ....
.....Windsor, Ont.
Patterns
Hamilton Pattern Works....Hamilton, Ont.
Pile Drivers, Railway
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Pinch Bars
The N. L. Piper Ry. Supply Co..Toronto.
Pipe, Culvert (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.
Pipe, Gas (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.
Pipe, Sewer (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.
Pipe Stocks
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Pipe, Water (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.
Platforms, Steel
Standard Coupler Co.....New York City.
Ploughs, Contractors'
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.
Ploughs, Grading
Meaford Wheelbarrow Co., Ltd...Meaford.
Porter
E. L. Drewry.....Winnipeg.
Powder, Blasting
Standard Explosives Limited.....Montreal.
Printing
Southam Press.....Toronto.
Propeller Wheels
Sheriffs Mfg. Co.....Milwaukee, Wis.
Pumps
S. F. Bowser & Co., Limited.....Toronto.
Ontario Wind Engine & Pump Co..Toronto.
James Smart Mfg. Co.....Brockville, Ont.
Pumps (Centrifugal)
M. Beatty & Sons .....Welland, Ont.
Rail Benders, Roller
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

BABCOCK & WILCOX
LIMITED

Patent Water-Tube Boilers
(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes = MONTREAL
BRANCH—TRADERS BANK BUILDING, TORONTO

The Purchasing Agents' Guide—Continued.

Rail Drilling Machines
A. B. Jardine & Co.....Hespeler, Ont.

Rails (new)
Dominion Iron & Steel Co....Sydney, N.S.
Drummond, McCall & Co. .....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co.....Montreal.

Rails (for relaying)
F. H. Hopkins & Co.....Montreal.
J. J. Gartshore.....Toronto.
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.

Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada....Montreal.
Williams Boltless Rail J'nt Mg. Co.Chicago.

Railway Supplies
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Rice Lewis & Son.....Toronto.

Ranges
Stearnes Steel Range Co.....Chicago, Ill.

Reamers
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Replacers, Car and Locomotive
Alexander Car Replacer Mfg. Co..Scranton.
The Holden Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.

Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Roofing, Car
Drake & Wiers Co.....Cleveland, O.

Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Company.....

Ropes, Coal Haulage
The B. Greening Wire Co..Hamilton, Ont.

Ropes, Derrick
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.

Ropes, Switch
The B. Greening Wire Co..Hamilton, Ont.
F. H. Hopkins & Co.....Montreal.

Scoria Blocks
W. H. Knowlton.....Toronto.

Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Screw Plates
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Screws, Coach and Lag
Montreal Rolling Mills Co.....Montreal
Toronto Bolt and Forging Co.....Toronto.

Seats, Station
James Smart Mfg. Co....Brockville, Ont.

Semaphore Arms
Acton Burrows Limited.....Toronto.

Semaphores
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer Ltd.....Montreal.

Shafting, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Ships
Polson Iron Works.....Toronto.

Shops
The Hudson's Bay Co.....

Signal House Numbers
Acton Burrows Limited.....Toronto.

Signals
General Railway Signal Co. Rochester, N.Y.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer, Limited.....Montreal.

Signals, Fog
International Marine Signal Co....Ottawa.

Signs
Acton Burrows Limited.....Toronto.

Skylights
A. Edgcumbe Rendle.....Montreal.

Slack Adjusters
Chicago Railway Equipment Co..Chicago.

Sledges
James Smart Mfg. Co.....Brockville, Ont.

Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.
Rhodes, Curry & Co.....Amherst, N.S.

Solder
Tallman Brass & Metal Mfg. Co. Hamilton.

Spikes, Railway, Ship or Pressed
Hamilton Steel & Iron Co., Ltd..Hamilton.
F. H. Hopkins & Co.....Montreal.
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Spreader Cars
F. H. Hopkins & Co.....Montreal.

Spring Dampeners
McCord & Co.....Chicago, Ill.

Springs
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Station Name Signs
Acton Burrows Limited.....Toronto.

Staybolt Bars, Charcoal Iron
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolt Iron
Taylor & Arnold.....Montreal.

Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolts, Flexible
Flannery Bolt Co.....Pittsburg, Pa.

Staybolts, Locomotive
Falls Hollow Staybolt Co..Cuyahoga Falls.
Flannery Bolt Co.....Pittsburg, Pa.

Staybolt Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Steam Couplers
Safety Car H't'g & L't'g Co....New York.

Steam Shovels
M. Beatty & Son.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Steamships
Polson Iron Works.....Toronto.

Steamship Signs
Acton Burrows Limited.....Toronto.

Steel
W. Abbott.....Montreal.
Hermann Boker & Sons.....Sheffield, Eng.
Wm. Jessop & Sons.....Sheffield, Eng.

Steel, Fire Box
Taylor & Arnold.....Montreal.

Steel for Axes
Montreal Steel Works.....Montreal.

Steel for Saws
Montreal Steel Works.....Montreal.

Steel for Springs
James Hutton & Co.....Montreal.

Steel, Speedicut High Speed
Montreal Steel Works.....Montreal.

Steel, Nickel, for Nickel
The Orford Copper Co.....New York.

Steel Plates
Jas. W. Pyke & Co.....Montreal.

Steel, Tool
W. Jessop & Sons.....Sheffield, Eng.
Montreal Steel Works.....Montreal.

Stokers, Mechanical
Babcock & Wilcox (Ltd.).....Montreal.

Stoves
James Smart Mfg. Co.....Brockville, Ont.

Superheaters
Babcock & Wilcox (Ltd.).....Montreal.

Switches
Canadian Ramapo Iron W's Ld.Niagara Fs.
Hayes Track Appliance Co....Geneva, N.Y.
Montreal Steel Works.....Montreal.

Switch Boxes
General Railway Signal Co. Rochester, N.Y.

Switch Stands
Canadian Ramapo Iron W's, Ld.Niagara Fs
Hayes Track Appliance Co....Geneva, N.Y.

Switch Targets
Acton Burrows Limited.....Toronto.

Tanks and Tank Fixtures
Ontario Wind Engine & Pump Co..Toronto.

Tanks, Oil
S. F. Bowser & Co., Limited.....Toronto.

Tapes, Measuring
Lufkin Rule Co.....Saginaw, Mich.

Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Telegraph and Telephone Apparatus
Northern Elec. & Mfg. Co., Ltd.Montreal.

Telegraph and Telephone Office Signs
Acton Burrows Limited.....Toronto.

Thermit
Goldschmidt Thermit Co.....Toronto

Ticket Cases
Can. Office & School Furniture Co.Preston.

Tie Plates
B. J. Coghlin & Co.....Montreal.
Hamilton Steel & Iron Co..Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.

Ties
Parry Sound Lumber Co.....Toronto.

Tires, Steel
James Hutton & Co.....Montreal
Jas. W. Pyke & Co.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Tools and Supplies
James Smart Mfg. Co.....Brockville, Ont.
A. B. Jardine & Co.....Hespeler, Ont.

Tools, Track
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Mussens Limited.....Montreal.

Tools, Pneumatic
The Holden Co., Ltd.....Montreal.

Tools, Cast Steel Track
American Brake Shoe & F'dry Co.Mahwah.

Track Equipment
Canadian Ramapo Iron W's Ld.Niagara Fs.

Tramway Equipment
J. J. Gartshore.....Toronto.

Trolley Wheels
Tallman Brass & Metal Co., Ltd.Hamilton.

Trucks
James Smart Mfg. Co.....Brockville, Ont.

Trucks (Electric Car)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Steel Works.....Montreal.

Trucks (Railroad and Warehouse)
Toronto Pressed Steel Co.....Toronto.

Trusses, Roof
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Tubes, Boiler
Jas. W. Pyke & Co.....Montreal.

Turnbuckles
Cleveland City Forge & Iron Co.Cleveland.
Montreal Steel Works.....Montreal.

Turntables
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Typewriters
United Typewriter Co.....Toronto.

Valves, Brass Gate
Kerr Engine Co.....Walkerville, Ont.

Valves, Brass Globe
Kerr Engine Co.....Walkerville, Ont.

Valves, Iron Gate
Kerr Engine Co.....Walkerville, Ont.

Valves, Locomotive Pop
Taylor & Arnold.....Montreal.

Varnishes
The Dougal Varnish Co., Ltd....Montreal.
Standard Paint & Varnish Co., Ltd. .... Windsor, Ont.

Vessels
Polson Iron Works.....Toronto.

Washers
Montreal Rolling Mills Co.....Montreal.

Waste
B. J. Coghlin & Co.....Montreal.
N.L. Piper Railway Supply Co....Toronto.

Water Softeners
Babcock & Wilcox, Ltd.....Montreal.

Welding
Goldschmidt Thermit Co.....Toronto.

Wheelbarrows
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Toronto Pressed Steel Co.....Toronto.

Wheels, Car
Canada Car Co., Limited.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.
Standard Steel Works Co..Philadelphia, Pa.

Wheels, Locomotive
Canada Iron Corporation, Ltd....Montreal.

Wheels, Rolled, solid forged
Standard Steel Works Co..Philadelphia, Pa.

Wheels, Steel tired
Standard Steel Works Co..Philadelphia, Pa.

Windmills
Ontario Wind Engine & Pump Co..Toronto.

Windows, Fireproof
A. Edgcumbe Rendle.....Montreal.

Wire and Wire Rope
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.
Mussens Limited.....Montreal.
The Wire and Cable Co.....Montreal.

Wire Cloth
The B. Greening Wire Co..Hamilton, Ont.

Wire, Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Electric
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Insulated Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire Rope Clips
American Hoist & Derrick Co.....St. Paul.

Wire, Telegraph and Telephone
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Transmission and Trolley
The Wire and Cable Co.....Montreal.

Wrenches, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.

Yachts
Polson Iron Works, Ltd.....Toronto.

DOMINION CAR & FOUNDRY CO.
LIMITED

FREIGHT CARS

(ALL-STEEL AND COMPOSITE)

CAR TRUCKS **STEEL UNDERFRAMES**

FORGINGS OF ALL KINDS

SIMPLEX

Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works---MONTREAL WEST

P. O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.

The Railway and Marine WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 220. New Series, No. 138. TORONTO, CANADA, AUGUST, 1909. For Subscription Rates, See Page 589.

WIRES AND CABLES

FOR TELEPHONE, TELEGRAPH, ELECTRIC RAILWAY AND POWER PURPOSES

THE WIRE AND CABLE CO., MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL.

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

RENDLE'S GLAZING IMPROVED SKYLIGHT CONSTRUCTION

"Paradigm," "Duxbac" Brands. "Diablo" Asbestos Windows.

A. Edgcumbe Rendle, 260 St. James Street, Montreal. Works: LONDON, ONTARIO

MUSSENS LIMITED

Railway, Mining and Contractors' Supplies

See Advt. Page 554.

LUFKIN MEASURING TAPES

MADE IN CANADA AND THE BEST IN THE WORLD

SEND FOR CATALOG.

THE LUFKIN RULE CO. OF CANADA, LTD. WINDSOR, ONT.

WILLIAM ABBOTT

CHISHOLM & MOORE'S Chain Hoists and Trolleys

334 St. James St., - Montreal

THE HOLLENDEN

CLEVELAND

EUROPEAN PLAN

600 Rooms $1.50 to $5.00

The Canadian Casualty and Boiler Insurance Company

Head Office - TORONTO

ACCIDENT, SICKNESS AND BOILER CONTRACTS

Full particulars on application

THE WAUGH DRAFT GEAR

FRICTION SPRING CUSHION

200,000 lbs.—600,000 lbs. Capacity

MADE IN CANADA

Send for Catalog and Particulars

Waugh Draft Gear Co., Chicago, Ill.

STEARNES STEEL RANGE COMPANY

Our specialties are Dining, Private and Cafe Car Ranges and General Cooking Apparatus.

Fifth Ave. and Lake St., Chicago, Ill.

FOR DRAUGHTING SUPPLIES AND INSTRUMENTS

JOHN A. HART COMPANY

WINNIPEG

Enamelled Iron Signs

For Steam and Electric Railways, Express, Telegraph, Telephone and other Purposes.

ACTON BURROWS LIMITED

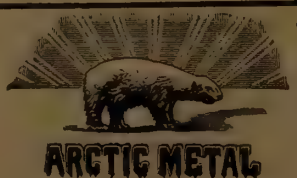
157 Bay Street, Toronto

THE OTTAWA CAR CO.

BUILDERS OF Limited

Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.

Office and Works: Slater St., OTTAWA



TALLMAN

Brass and Metal Co.

Hamilton

Canada

Additional safety and economy in

TRACK MAINTENANCE

has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen years' service, having a record of over 50,000 miles in use—the extent of which is evidence of their excellence.

THE RAIL JOINT CO. OF CANADA

See Page 568.

The Dougall Varnish Co., Ltd.

Successors to McCASKILL, DOUGALL & COMPANY

Railway Varnishes, Japans and Enamels

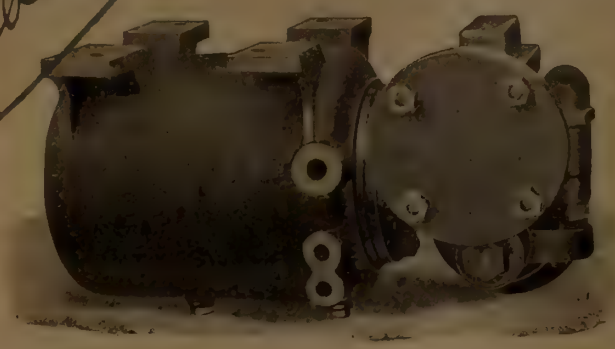
MONTREAL.

Medals Awarded.

Westinghouse

"ET" Brake Equipment

For Engine and Tender



Distributing Valve and Double-Chamber Reservoir.
An Important Part of the Equipment.

Easier to install, to operate and to maintain than any other locomotive brake.

It has fewer parts, is simpler and gives better results. Any type of locomotive, no matter in what service, can be equipped with the "ET" brake, without changing or modifying any parts. It can be used in conjunction with, or independently of the train-brakes. Two entirely separate and distinct means of application and of release are always instantly available—one straight air, the other automatic. This allows the brakes to be graduated on or off with either the automatic or independent brake valve, facilitating the smooth handling of trains without shock or danger of parting.

Full particulars in Instruction Book 5025.

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO
439 Pender Street
VANCOUVER

For particulars address nearest office
HAMILTON
922-923 Union Bank Bldg.
WINNIPEG

252 St. James St.,
MONTREAL
134 Granville Street
HALIFAX

"AMERICAN"

Locomotive Cranes

With or without Magnet for Storekeeper's yard.

Built for discriminating buyers.

Photographs of machines in operation furnished on application.

We also manufacure the "AMERICAN" Railroad Ditcher.

AMERICAN HOIST & DERRICK CO.

ST. PAUL, U.S.A.

CHICAGO NEW YORK PITTSBURG NEW ORLEANS

See Purchasing Agents' Guide on page 625 :: :: :: ::

See Alphabetical Index to Advertisements on page 589

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 220.
New Series, No. 138.

TORONTO, CANADA, AUGUST, 1909.

For Subscription Rates, See page 589.

MASTER MECHANICS' ASSOCIATION.

Address of President H. H. Vaughan.

At the annual meeting of the American Railway Master Mechanics' Association, at Atlantic City, N.J., recently, the President, H. H. Vaughan, Assistant to the Vice President C.P.R., read the following address:—

In 1868 six master mechanics attending the Master Car Builders' convention at Dayton, decided to call a general meeting at Cleveland to organize an association of the master mechanics of the U.S. and Canada. At that meeting, which was held later on in the same year, 50 were present, representing many of the most important lines of railways in the country, and a constitution was adopted with the following preamble: "We, the undersigned railway master mechanics, believe that the interests of the companies by whom we are employed may be advanced by the organization of an association which shall enable us to exchange information upon the many important questions connected with our business." These words outlined the object with which the new society began its career, adopting as its purpose the discussion of the best methods of construction and operation of the locomotive at a time when it had just emerged from the experimental stage and was assuming a permanent and fairly uniform design. It has already taken its place in the world as the most powerful and economical engine of transportation, but few even who were connected with it in those days could have foreseen the development it was to undergo, or to the extent to which it would render possible the cheapening and extension of the transportation facilities of the world, the chief factor in the wonderful change that has taken place in the relation of nations, the distribution of food supplies and the growth of manufactures, cities and continents. The association so quietly started was well founded. It had chosen for its aim a work that was needed, and as the railways of the country grew, it grew with them, until now, 41 years later, we have a membership of 961, representing every railway in the U.S. and Canada, and a large number of those in foreign countries. It has been unique in its devotion to the locomotive and its problems alone, but its object has proved worthy of its attention, and we are to-day confronted with problems just as important as those which our predecessors considered, none the less vital to us because they are broader in scope and because financial considerations are now more closely connected with those which are purely technical.

I have always been deeply interested in the history of this association; I have been a great admirer of the work that it has done, and I am going to take this opportunity to speak to you of the success it has obtained, the methods it has used, and the opportunities that lie before it for the future. It is impossible to review in detail the work which has been accomplished; the mass of information contained in our proceedings is too great for individual reference. To even touch on the more important subjects would necessarily result in a mere catalogue. Figures are but a poor way of illustrating results, but in the 41 years of our proceedings, 351 reports of committees, 60 individual papers and 115 topical subjects have been presented and discussed. Of these reports and discussions it may be stated that 126 contain information of special interest at the present time, while 283 are of specific value, either in whole or in part. While this classification is to a certain extent a matter of opinion, it shows most decidedly the general excellence of the work which this association has done. It has investigated almost every conceivable subject connected with the locomotive, its construction, operation and maintenance, developing, criticising and discussing it as it progressed from the little 16-in. eight-wheeler of the sixties to the magnificent freight and passenger equipment of the present day. To say that the wonderful development that has taken place is entirely owing to the work of our associations would be an exaggeration. Apart, however, from the facts determined in our report, the improvements they have suggested, and the practice they have introduced, our meetings have, year by year, been attended by the men engaged in carrying on and advancing this work. They have presented their own views in our discussions, they have heard the views of others, and, whether speakers or listeners, have returned home from our conventions with their opinions modified, new ideas conceived and their experience broadened. With that renewed energy and interest in their work which invariably results from communication with other workers in the same field, they have put into practice suggestions which have been advanced and by their daily work have together built up that mass of knowledge and experience that has resulted in the production of the American locomotive of to-day. In such ways, as well as by the exchange of information, our association has succeeded in its object in being of benefit to the railways by whom our members are employed.

P190

C. E. CARTWRIGHT
Division Engineer C.P.R., Vancouver, B.C.

Our work has not been limited, however, to the exchange of information, but from the very beginning our committees have done far more than obtain and report existing facts or give the opinion they have formed as a result of their inquiries. This has been an important and valuable portion of their work, and our history shows that in the large majority of cases it has been done well. The answers received to the letters of inquiry have frequently indicated a great divergence of opinion or a lack of proper knowledge, while our later experience has justified the committee's decision. Their reports have presented carefully thought out and correct conclusions, which have, through investigation and the standing of the members of the committees, been widely accepted and of valuable assist-

New York Central and Hudson River R. R., Buffalo, N.Y. Three fast plants

THE BROWN HOISTING MACHINERY CO.

Engineers, designers and builders of hoisting machinery of all descriptions. Write us stating your requirements and ask for catalogues.

Main Office and Works:
CLEVELAND, OHIO

Branch Offices:
PITTSBURG AND NEW YORK

ance in establishing advanced practice. A development of their work to which I wish to call your attention has not, I believe, been generally awarded the credit it deserved, yet it has been the source of the greatest influence exerted by our association, and of the importance of its service to the railways. I refer to the investigation of the scientific principles underlying the questions assigned to our committees, the tests and experiments they have carried out when necessary to determine additional data, and the correct and practical conclusions they have deduced. As a result their work stands to-day as the basis of most of our scientific knowledge of the locomotive, the engineering principles on which it is designed, and the reasons for the methods by which it is operated. I do not mean that we have to look to our committee for all the knowledge that is available on the theoretical mechanics of the locomotive, or for such researches as those on the properties of steam, the strength of materials, or the chemistry of combustion. That has been the work of the mathematician or physicist, and its value in solving the practical problems of engineering is limited by the vast number of factors which enter into actual working conditions. Our work on the other hand, has been the observation and interpretation of results in a scientific manner, and through being carried on by practical men, who have established the relation between the facts they ascertained, and the theoretical principles underlying them, has been sound in its basis, and rendered general in its application.

Probably the best example is the series of experiments on exhaust nozzles, stacks and steam passages. This began with the road tests which were carefully carried out in 1879, the experiments carried out in 1890, which were independent of road conditions, the first record of that kind in our proceedings, and in 1891 tests of a high degree of scientific excellence which indicated the benefits obtained by lowering the nozzle. It was then intended to continue the experiments at Purdue, but when that laboratory was destroyed by fire a locomotive testing plant was constructed by the chairman of the committee which was, with the exception of that at Purdue, the first in existence. The experiments made upon it were the first careful and thorough investigations of the action of the blast and the result of variations in design of nozzles and stacks that had been carried out on an actual locomotive on a testing plant on which uniform working conditions could be maintained. The results were given in the report of 1894 and the great report of 1896, which will be remembered as the best report up to that time presented to this or any other society on a subject connected with locomotive engineering. Supplemented by the more recent work, this subject stands as one of the most scientifically and carefully investigated details of the locomotive, and its history is one of which our association should be proud.

The test of compound locomotives presented in 1892 marked an important advance through recording the first complete and properly conducted road test, using the dynamometer car, indicators, accurate measurement of coal and feed water, the quality of the steam, and the measurement of various losses. These methods, although previously applied along similar lines on stationary plants, yet marked a decided advance in locomotive work, and supplemented by the report on the standard method of conducting locomotive tests have assisted materially in defining conditions that should be observed if accurate results are desired.

The subject of locomotive capacity has always been well handled and our recommendations in this respect have exerted a considerable influence and have been widely used. One report is of special interest, that of 1897, in which was presented the first comprehensive study of the characteristics of the locomotive, since made familiar to us by the work at Purdue University and the St. Louis testing plant. Then, however, the subject was broadly new and such a method of treatment almost unknown, but it marked the important discovery of the locomotive as a machine with definable properties, although of wide variations, as opposed to the indefinite views on its capacity and economy which were previously held.

Other notable reports of a general character were those on high steam pressures in 1898, the loss of power from friction in the machinery of a locomotive in 1906, and the results obtained from briquetted coal in 1908. There have been many others of more detailed nature, but which indicate the valuable character of our experimental work. Among the more important are those on driving wheel tire wear, in which the forces acting were carefully analyzed and compared with the wear actually found, showing distinctly the cause of the trouble; the report on engine truck swing hangers in which indicating apparatus was used to determine the action of an engine with different types of suspension; the report on slide valves, in which the dynamometer was used in the valve stem, and the forces shown compared with those determined by elaborate calculations of the various stresses; the reports on counterbalancing which have established the allowable disturbing weight, and the specifications for materials in which laboratory tests have been compared with an enormous number of service results. Add to these reports others, which by their high degree of merit have had a far reaching effect on our railway work, such as those on ton-mile statistics, repair shops, and the education of apprentices, and the whole forms a series of progressive and leading contributions to the science of locomotive design and operation which has produced a permanent effect and has demonstrated correct principles to the entire locomotive world. For years past locomotive practice in America has been based on scientific knowledge, and such questions as the proportions of heating surface and cylinder capacity, and the designs of front ends have been decided by the analyzed experience of the entire country, or carefully conducted experiments. In foreign countries where no such association as ours has existed, these matters have been left to the judgment of the individual or what are practically rule of thumb methods. Few realize what this work has done for the railroads of the country, but the result is seen in the general success of our locomotive practice.

That our association has done its self-assigned work energetically and efficiently, there is no question. Its history is practically that of the modern locomotive in America, and from the years when lengthy discussions on iron versus steel for fire-box plates, the cause of boiler explosions, and the proper thickness for the shell of a boiler were the live issues at our meetings, through the periods of air brakes, injectors, high-pressure boilers, compound locomotives, and testing plants, to our present times with Mallet engines and superheated steam, the association has been untiring in its interest in each new subject that has been introduced and its members individually have shown their interest by their attendance and the large amount of time they have devoted to the work. In no other country has there been any similar society organized to consider the problems of locomotive construction and maintenance exclusively, and we may justly feel that the predominating excellence of American practice is in no small degree due to our efforts. Our work has been well done. We have formed an immense machine for the interchange of information and have added to that our expressed intention, by having also carried out o large amount of experimental investigation.

What further can we do to increase our usefulness and develop into still more important fields of work? I feel that in making suggestions I am recording my own sins of omission, and yet when a man endeavors to seriously consider such a question, ideas occur to him that previously lay dormant or unthought of, and this must be my excuse for recommending now what I have not done. Our opportunities are somewhat different from those of our great sister society, the Master Car Builders' Association. We have no such business relationships to regulate between one road and another as those involved in the interchange of equipment. The possibilities of establishing additional standards that would be extensively used are few, and indeed it is very doubtful whether standards are of much value for the locomotives of an entire country. We must consequently ask ourselves whether we are obtaining all classes of information that are of possible value, and whether our committee reports, individual papers and topical discussions could be advantageously supplemented by any other activities.

We are face to face with several changes in the development of our motive power and the department having charge of it. The steam locomotive, that has been supreme for so many years, is finding its superiority questioned by a new invention, the electric locomotive. The small railway with its individual methods is being absorbed into large systems, and superintending and recording the work under the charge of our members is becoming more difficult. The growth of the large mechanical departments has made it impossible and in fact undesirable for their heads to retain the same touch with minor mechanical and operating details that they formerly had to, and has increased the importance of the financial and business questions they should control as compared to those of a mere technical nature. Unless this association and its members concern themselves seriously with these new and larger problems, there is danger of their work being undertaken by others in place of by ourselves.

The articulated locomotive has in-

LOCOMOTIVES FOR ALL CLASSES OF SERVICE

Consolidation Type Freight Locomotive, Built for Eastern British Columbia Railway.

Total weight of engine in working order, 186,310 pounds. Weight on driving wheels, 166,100 pounds. Diameter of driving wheels, 51 inches. Boiler pressure, 210 pounds. Cylinders, 20 x 28 inches. Maximum tractive power, 39,200 pounds.

ATLANTIC STEAM SHOVEL

Direct wire rope hoist with but one sheave, instead of chain hoist with from five to seven sheaves, reduces delays and loss of time due to breakdowns, increases the efficiency of the engines, and reduces repair bills as well as fuel consumption.

Finished, interchangeable spare parts always on hand at works.

MONTREAL LOCOMOTIVE WORKS, LIMITED

BANK OF OTTAWA BUILDING, MONTREAL, CANADA

creased the field of the steam locomotive and enabled it to compete on more favorable terms with its younger and more powerful rival. We should be informed of every development in this line, the results and the experiences that are being obtained and the reduction in the cost of transportation that is being realized. We should also, I feel, know more of electric operation, so that as motive power officers we may be better informed as to its advantages and disadvantages, and may be in position to assist in deciding on the proper system to employ. The advice of men experienced in motive power matters is needed by the railways in making decisions on this question. To be of value it must be based on a thorough understanding of the subject and a familiarity with its difficulties. I would urge your giving earnest attention to this important subject, which thus far has received too little consideration by the men who best understand railway motive power conditions.

Systems of organization are changing with the changes in our railways and new methods are being introduced for watching results. We should compare experience as to the efficiency of various types of organization, obtain more information as to the best forms of records, statements that are actually found useful and successful in practical service; comparisons that can be made on a reasonable basis and are interchangeable. I believe we should endeavor to pay more attention to the commercial side of our work than we have done in the past. Excellent as our work has been, it has with few exceptions investigated the technical rather than the business problems of the locomotive. We certainly do not want to decrease our attention to technical matters, but could we not with advantage to our members and to the railways take more interest in, and exchange information with each other more fully on factors connected with the cost of operation? It is true that some years ago a standard postcard performance sheet was adopted and for a time was extensively exchanged, but it fell into disuse, and yet a properly prepared performance sheet, giving figures useful and possible of comparison, would, I feel sure, be of considerable value and interest to us all. The benefits of a membership in this association would be increased by information as to each other's cost of engine house expenses and supplies, of repairs and fuel consumption, the percentage of power in shops and out of service, and a number of other figures that have to be continually watched. Knowledge of the results obtained by others would assist us all in gauging our own performance, in more easily locating the branches in which we are deficient, and in encouraging all to a higher uniformity of accomplishment. In short, without in any way reducing the interest we have in locomotive engineering, we must take up in a far more business like and serious way the financial problems connected with the operation of the locomotive department, the form of organization that will give the best results, the commercial aspects of the work of a motive power official in conducting his department as though he were manager of a large business enterprise.

Take as an instance of comparing costs the operation of our repair shops. We manage the largest collection of factories in the world devoted to one substantially uniform product, the repairing of locomotives, and our total expenditure for this item alone amounts to about $80,000,000 a year. Each and all have the keenest interest in knowing whether our methods are the best and our costs among the lowest. A few years ago comparisons would have elicited little, but some statements of performances which were exceptionally worthy of imitation; to-day, with the progress that has been made in shop engineering, there is no reason why properly trained observers should not record time studies containing the necessary data to prepare intelligent and valuable statements about one operation after another that is performed on substantially the same parts in hundreds of shops from the Atlantic to the Pacific. Such work is possible and it has already been performed in several shops by experienced engineers. If carried on by a properly organized bureau under our auspices, it should be of the greatest value not only to the railways of this country as a whole, but to our members individually. By comparing operation by operation their results with those of other roads, and by analyzing their methods and available machinery, they would be enabled to improve the one or justify their expenditure for additions to the other. This is but one of many questions connected with the operation of our mechanical department which will occur to you, on which some systematic interchange of information would be of material assistance. What I wish most strongly to impress on you is that while still carrying on the technical work that has been so splendidly successful, we should pay more attention to the business problems under our control in which we can be of such mutual service.

Our methods of obtaining information might also, I consider, be supplemented to advantage by effecting closer relations with the various railway clubs. The circular letter has been a practical failure in obtaining general information, and I feel sure that the railway clubs would welcome reference to them of certain subjects for their opinion, especially those on which the experience of the men actually in touch with the work is required. They have a large membership, representing every section of the country and every class of men engaged in locomotive work. On many subjects their views would be of far greater value than those obtained in answer to circular letters, especially on questions similar to those suggested for topical discussion.

A valuable practice which obtained in the past, but which has been discontinued in recent years, was the appointment of a committee to report on the advancement in locomotive practice during the year. There are numerous small improvements devised in railway shops which would be collected by a committee gaining its information from the railway clubs. These improvements, while not of sufficient importance in themselves to justify a report or paper, are of considerable value in our successful operation, and presented by a commitee would have sufficient indorsement to insure their being carefully considered. Co-operation with the railway clubs would also relieve the association of the discussion of details of minor importance which have occupied so much time in the past. Such discussion is necessary, and, in fact, of the greatest value, but it more properly belongs to local societies where local conditions are understood and where it can be carried on just as efficiently and satisfactorily as when occupying the time of a national association.

Our association could, I believe, also be of considerable value with reference to the various legal questions that are arising in connection with locomotive construction and operation, by co-operation with the American Railway Association. We could provide a systematized organization for obtaining the opinions of the railways with the proper representation for each section of the country and a meeting at which important questions could be discussed. Any development in this direction must, however, come at their request, and we can simply indicate our willingness to undertake any work in which we can be of use.

The present system of holding the conventions of the Master Mechanics' and Master Car Builders' associations in two separate weeks prevents many from attending one or the other. The consequence is, the attendance is largely divided, and unfortunately so, as the majority of the members of either association are equally interested in the other. There are two remedies: the first, to hold the two conventions in one week; the second, to unite the two associations. When this was last proposed by Mr. Pulaski Leed in 1898, our executive committee was instructed to confer with that of the Master Car Builders' Association, but, although a report was made to the succeeding convention, suggesting that both conventions should be held during the same week, nothing was done. It is a reflection on the business ability of our mechanical departments to continue an arrangement that necessitates a man being away from his work for practically two weeks at the meetings of important associations, which he should, for his own sake, and that of the railway employing him, attend and take part in. There is to-day no valid reason for maintaining two separate mechanical railway associations. All the officers and members of the executive committee of the Master Car Builders' Association, with the exception of two, 75% of the members of the standing committees, and 70% of the members of the special committees, hold joint department titles.

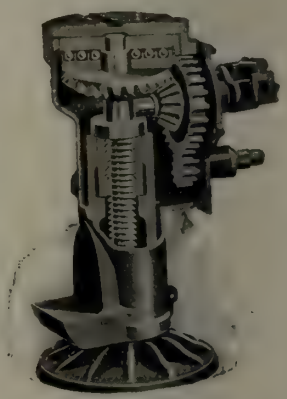
These figures demonstrate most clearly the amalgamation that has taken place between the car and locomotive departments on our railways. They justify the statement that the time has arrived not for the absorption of one of our associations by the other, but for their uniting into one society, call it, if you please, the American Railway Mechanical Association, which would consider both car and locomotive matters. Such a step is demanded by the spirit of the times, to conserve the forces of our railway officers and economize their time. It is one of the most important questions we have to deal with, and I would impress on you the necessity for action being taken to remedy the present conditions.

The help of our association has been requested by the National Conservation Commission, and it has been informed that our resources would be at their command either for purposes of investigation or to ascertain the recommendations of our members in any respects in

Wheel Scrapers Pressed or Square Bowl, with Sandproof Wood or Iron Hubs, also Drag Scrapers of all sizes and weights.

Diving Apparatus. Complete Outfits and Accessories in stock.

Sterling Roller Bearing Barrows and Concrete Carts.



Norton Ball Bearing Jacks. Also Cone Bearing and Ratchet.

Railroad Ploughs for Heavy Service

Write for Catalogue and Prices

MUSSENS LIMITED

Head Office,
MONTREAL

Branches { ***Toronto, 73 Victoria St.***
Cobalt, Hunter Block
Winnipeg, 259-261 Stanley St.
Vancouver, 614 Hastings St., W.

which we could be of service to them. A committee was also appointed which could co-operate with them if required, or with any of their committees, but so far this has proven unnecessary, and our position has simply been that of exhibiting our willingness to perform any work that might assist this important movement. We have, however, our own share to carry of the duty of the nation to posterity. The railways are one of the largest consumers of coal, and in most cases peculiarly indifferent to the economy with which it is used. About 200,000,000 of tons are annually burned in locomotives alone, and we do not therefore need to ask in what direction we can be of service in assisting this commission. Our work is before us. We should individually, and as an association, use every means in our power to impress on our railways the importance of this expenditure, one of the largest we are responsible for. The reduction in the present rate of consumption that it is our duty to make will not only lead to an immense saving in expense, but will assist materially in the conservation of the natural resources of the country.

At our last convention several of our members were asked by members of the American Railway Association to introduce an alteration in our constitution whereby subjects involving legal, transportation, permanent way or traffic questions or for any other reason requiring such action may be submitted as recommendations to the American Railway Association. In response to this suggestion, a committee was appointed who have recommended the change which they consider advisable, which will be submitted to you at this convention. Your executive committee has carefully considered the amendment and indorse it as a progressive step in the orderly grouping of the important associations which are all working toward the development and advancement of American railway work, associations of which our own is one of the largest and oldest. An innovation, however, this amendment certainly is, and it has led me to speak to you of the work this association has done for the railways, its history, its achievements and its problems.

Canadian Pacific Safety League.—In February last at the solicitation of S. Jackson, some half dozen C.P.R. employes met at West Toronto, and as a result a second meeting was held, at which the Canadian Pacific Safety League was organized for the mutual benefit of employes by lessons gained from daily experience on the road, in the shops, etc., so as to insure strict observance of rules and the exercise of caution in handling trains, etc. The league has held 13 meetings and has 63 members enrolled, while from 200 to 300 employes have attended some of the meetings. Upwards of 30 rules and other practical topics have been discussed, and a number of rules have been obtained from the company's Rules Instructor. The league held a smoking concert recently, which was also attended by the General Superintendent, Superintendents, Assistant Superintendents, Master Mechanic, Superintendent of Shops, District Master Mechanics and other officials, General Superintendent Oborne speaking at some length. A league has also been established at Havelock, Ont.

August Birthdays.

Many happy returns of the day to—

W. E. Bishop, Manager Hamilton Steamboat Co., Hamilton, Ont., born at Brantford, Ont., Aug. 10, 1868.

J. F. Chapman, General Freight and Passenger Agent, Bay of Quinte Ry., Thousand Islands Ry., Oshawa Ry., and Deseronto Navigation Co., Deseronto, Ont., born at Frankford, Hastings Co., Ont., Aug. 25, 1863.

F. Barlow Cumberland, Vice-President Niagara Navigation Co., Port Hope, Ont., born at Portsmouth, Eng., Aug. 5, 1846.

G. H. Ham, head office staff C.P.R., Montreal, born at Trenton, Ont., Aug. 23, 1847.

W. P. Hinton, General Passenger Agent, G.T.P.R., Winnipeg, born at Hintonburg, Ont., Aug. 30, 1871.

R. Kerr, Passenger Traffic Manager C.P.R., Montreal, born at Toronto, Aug., 1845.

J. D. McDonald, District Passenger Agent, G.T.R., Toronto, born there Aug. 27, 1855.

T. McHattie, Superintendent of Motive Power and Car Department, Central Vermont Ry., St. Albans, Vt., born at Dufftown, Banffshire, Scotland, Aug. 8, 1854.

C. Montgomery, Assistant Master Mechanic Pere Marquette Rd., St. Thomas, Ont., born near London, Ont., Aug. 29, 1860.

W. E. Mullins, General Manager Costa Rica Rd., and Northern Rd. of Costa Rica, San Jose, born at Stratford, Ont., Aug. 13, 1870.

F. H. Phippen, General Counsel C.N.R., Toronto, born at Belleville, Ont., Aug. 26, 1862.

W. M. Porteous, Freight Agent C.P.R., St. Louis, Mo., born at Edinburgh, Scotland, Aug. 3, 1857.

J. F. Richardson, Superintendent Eastern Division C.P.R. Telegraphs, Montreal, born at Granby, Que., Aug. 23, 1861.

W. LeB. Ross, Local Treasurer G.T. Pacific Ry., Winnipeg, born at Ottawa, Ont., Aug. 9, 1868.

F. C. Salter, European Traffic Manager G.T.R., and Canadian Ex. Co., Liverpool, Eng., born at Sarnia, Ont., Aug. 31, 1863.

C. R. Scoles, General Manager Atlantic and Lake Superior Ry., New Carlisle, Que., born at Grantham, Lincoln, Eng., Aug. 27, 1856.

W. Stitt, General Passenger Agent C.P.R. Eastern Lines, Montreal, born in Kircudbrightshire, Scotland, Aug. 3, 1855.

W. F. Taylor, General Storekeeper I.C.R., Moncton, N.B., born at Hillsboro, N.B., Aug. 20, 1855.

W. B. Way, Assistant Superintendent C.P.R., White River, Ont., born at Bowmanville, Ont., Aug. 22, 1867.

Railway Lands Patented.—The following railway lands, situated in Manitoba, Saskatchewan, Alberta and British Columbia, were patented during Apr.:—

	Acres.
Canadian Northern Ry.	121,842.20
Canadian Pacific Ry.	329.12
Grand Trunk Pacific Ry.	986.36
	123,157.68

A. Z. Mullins, Commercial Agent, Grand Trunk Ry., in writing from Grand Rapids, Mich., July 7, said: "I have looked over with much pleasure the copy of the Railway & Marine World sent me a few days ago, and as it contains a lot of useful information, I take pleasure in enclosing my first year's subscription to same."

Victorian Suburban Traffic.

We are indebted to T. Tait, Chairman Victorian Railway Commission, Australia, for the following interesting particulars of the vast suburban traffic handled on the state lines. A tally was taken of the number of people passing through the barriers at the Flinders St. and Prince's Bridge stations, Melbourne, for three days, April 20, 21 and 22, as indicative of the number of passengers arriving and leaving each of these stations. While these stations have different names the platforms and tracks are connected and they are only separated by an overhead bridge, and they may therefore be regarded as practically one station. The tally shows the approximate average number of pasengers arriving and leaving this terminal to be 149,548 passengers a day. In this tally, however, account has not been taken of passengers travelling from one train to another at the station nor travelling through the station in the same train, which would no doubt appreciably increase the total number of passengers arriving and leaving the station as ascertained by the barrier tally. However, apart from these passengers who are not, as stated, included in the tally, the average of practically 150,000 passengers a day makes the Flinders St.-Prince's Bridge terminal one of the largest of the kind in the world.

In addition to this terminal the Victorian railways have two other stations which are practically terminal or city stations in Melbourne, viz., Spencer St. and Richmond, at which a very large passenger traffic is conducted. The U.S. fleet arrived in Hobson's Bay on Aug. 29, 1908, and sailed again on Sept. 5, and the number of passengers arriving and departing from the two central terminals, viz., Flinders St.-Prince's Bridge and Spencer St. stations, was as follows:—Aug. 29, 361,145,; Aug. 30, 183,958; Aug. 31, 507,870; Sept. 1, 229,164; Sept. 2, 320,902; Sept. 3, 526,283; Sept. 4, 427,812; a total of 2,557,134 for the seven days. This traffic is exclusive of the usually large inter-suburban traffic that is between stations other than to or from the two central stations named, and of a very heavy traffic to and from the stations throughout the State outside the suburban area. There were probably at least 100,000 people who came to Melbourne from outside the suburban area during the visit of the fleet.

McGillivray Creek Coal and Coke Co.—By an act passed at the recent session of the Alberta Legislature this company is given power to construct an aerial wire rope tramway from its property on sec. 17, tp. 8, range 4, west of the 5th meridian, to connect its colleries with the C.P.R. in sec. 7 in the said township and range, the tramway to be used for the carriage of freight only. For the purpose of constructing the tramway the company is given the right to expropriate certain lands, altogether not more than 5.69 acres. (April, pg. 247.)

The Interstate Commerce Commission in the matter of through passenger routes via Portland, Oregon, has ordered the Northern Pacific Ry. Co., the Union Pacific Lines, and the Chicago and Northwestern Ry. to join in the sale of through passenger tickets between Seattle and other points in the northwest and eastern destinations, via Portland, and to accord through facilities, like the checking of baggage, over this route.

HART CONVERTIBLE CARS

are being used extensively by

Railroads and Large Contractors

The following illustrations show some of our "Hart" Cars in actual service throughout Canada.

"Hart" Cars are specially adapted for Ballast and Construction work

Built in steel or wood — 40 or 50 ton Capacity.

The Cars which are building the new Railroads of Canada.

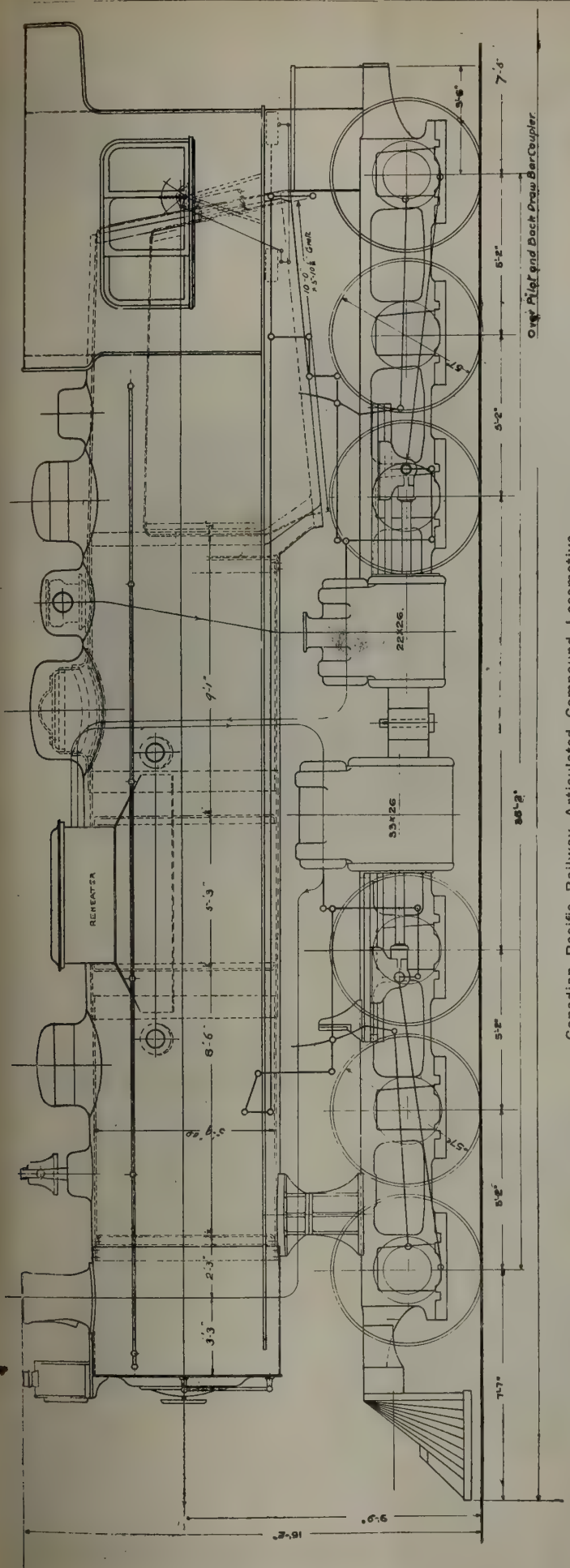
The Cars which are maintaining the old Railroads of Canada.

THE HART-OTIS CAR CO., LIMITED

SUCCESSORS TO

DOMINION DUMP CAR CO., LIMITED

MONTREAL



Canadian Pacific Railway Articulated Compound Locomotive.

C. P. R. Articulated Compound Locomotive.

The sample locomotive of the type shown by the outline drawing on this page, and by the cuts on pgs. 559 and 561, has been constructed by the C.P.R. at its Angus shops, Montreal, for service on the Pacific Division on a 2.4% gradient. This locomotive is not quite as heavy as some recently constructed for United States roads, but presents some very interesting features, such as a reheater, to accommodate which the boiler has been cut in two sections, which makes it practically a feed water heater in the front and a steam generator in the rear section. The arrangement of the cylinders is also novel. They are located at the centre of the locomotive, one immediately forward and the other back at the point of articulation. This arrangement of cylinders has a distinct advantage in two ways, first, that it shortens the front end or overhang of the pilot forward of the smokebox, and most important of all, simplifies the receiver or low pressure steam pipe and exhaust pipes to such an extent that but one packed joint is required and the use of expansion sleeves has been dispensed with entirely. The only packed joint on the locomotive is located directly over the pin connecting the front truck or front section of the locomotive with the back, and the only movement on this joint is a swivel one. The extension and contraction have been entirely done away with. The principal details of the locomotive are as follows:

Working pressure, 200 lbs. per sq. in.
Cylinders, 22″ and 32½″ x 26″.
Driving wheels, diameter, 57″.
Firebox, length, 120″.
Firebox, width, 69⅞″.
Grate area, 58 sq. ft.
First ring of boiler, inside diameter, 67½″.
Distance between tube sheets, front section, 102″.
Number of tubes, front section, 385 2″ O. D.
Heating surface, front section, 1722.5 sq. ft.
Distance between tube sheets, back section, 109″.
Number of tubes, back section, 289 2″ O. D.
Firebox heating surface, 180 sq. ft.
Total heating surface, 3288 sq. ft.
Heating surface, back section, 1385.5 sq. ft.
Reheating surface, 420 sq. ft.
Reheater tubes, outside diameter, 1¼″.
Reheater tubes, inside diameter, 15-16″.
Live steam pipes, inside diameter, 5″.
Receiver pipes, inside diameter, 7″.
Exhaust pipe, inside diameter, 9″.
H. P. valve, inside admission, 11″ diameter.
L. P. valve, outside admission, 12″ diameter.
Lap, H. P., 1″; L. P., 1″.
Lead, H. P., ¼″; L. P., ¼″.
Exhaust clearance, H. P., ⅛″; L. P., ¼″.
Light weight of tender, 59,000 lbs.
Loaded weight of tender, 134,000 lbs.
Coal capacity, 12 tons.
Water capacity, 5,000 Imperial gallons.
Weight of engine, working order, 276,000 lbs.
Weight of engine and tender, working order, 410,000 lbs.
Rigid wheel base, 10′ 4″.
Total engine wheel base, 35′ 2″.
Wheel base, engine and tender, 60′ 7″.
Tractive effort, 57,400 lbs.
Weight on drivers ÷ tractive effort = 4.81.
Tractive effort × diam. drivers ÷ heating surface = 995.
Total heating surface ÷ grate area = 56.69.
Firebox heating surface ÷ total heating surface = 5.48.
Weight on drivers ÷ total heating surface = 83.94.

As previously mentioned the boiler consists of a feed water heater, reheater and steam generator, there being four flue sheets, the flues in the rear section being 109 ins. long and 102 ins. in the front section, the reheating compartment being 63 ins. long. The two sections are connected by two equalizing pipes, one of which is below the normal water level, and serves to maintain equal levels in the front and back sections. The other is located above the water line and allows the steam which may form in the feed water heating section to pass to the back section. The injectors discharge into a check valve, which is located underneath the bell stand on the top of the boiler and connects with the front section.

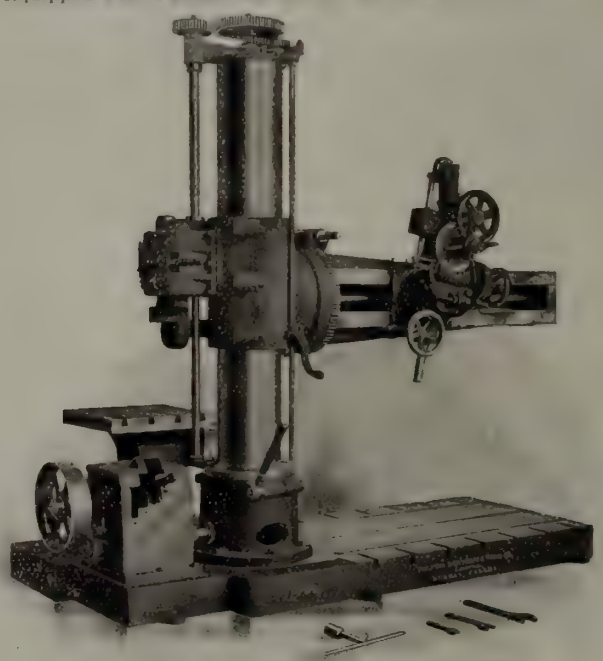
The cylinders are of the crossover compound type, the high pressure being located on the rear engine and the low pressure on the front truck. Live steam is taken from a cast iron throttle secured to the top of the boiler by studs and a ball ring, which makes it perfectly accessible at all times for inspection. This cylinder is of the inside admission type and the steam exhausts from the end of the valve chamber through a steam pipe connected to the saturated header of the reheater. The steam to the low pressure cylinder is supplied by the receiver pipe from the reheater and is admitted to the end of the low pressure steam chest, the low pressure cylinder being, therefore, end admission and central exhaust.

The reheater consists of two cast-iron headers known as saturated and superheated, which are connected together

Bertram Driving Wheel Lathes

BERTRAM NEW DESIGN 104-INCH SWING DRIVING WHEEL LATHE
Equipped with Patent Tool Holder and Teas Patent Drivers.

We manufacture a complete line of Standard and Special Machine Tools for Railway Shop work.



RAILWAY TOOLS FOR IMMEDIATE DELIVERY

- Arch Bar Drills
- Horizontal Boring Machines
- Car Wheel Borers
- Double Car Axle Lathes
- Tire Wheel Lathes
- Punches and Shears
- Slotting Machines
- Radial Drills

72-INCH FULL UNIVERSAL RADIAL DRILLING MACHINE
Photographs and full particulars sent on request.

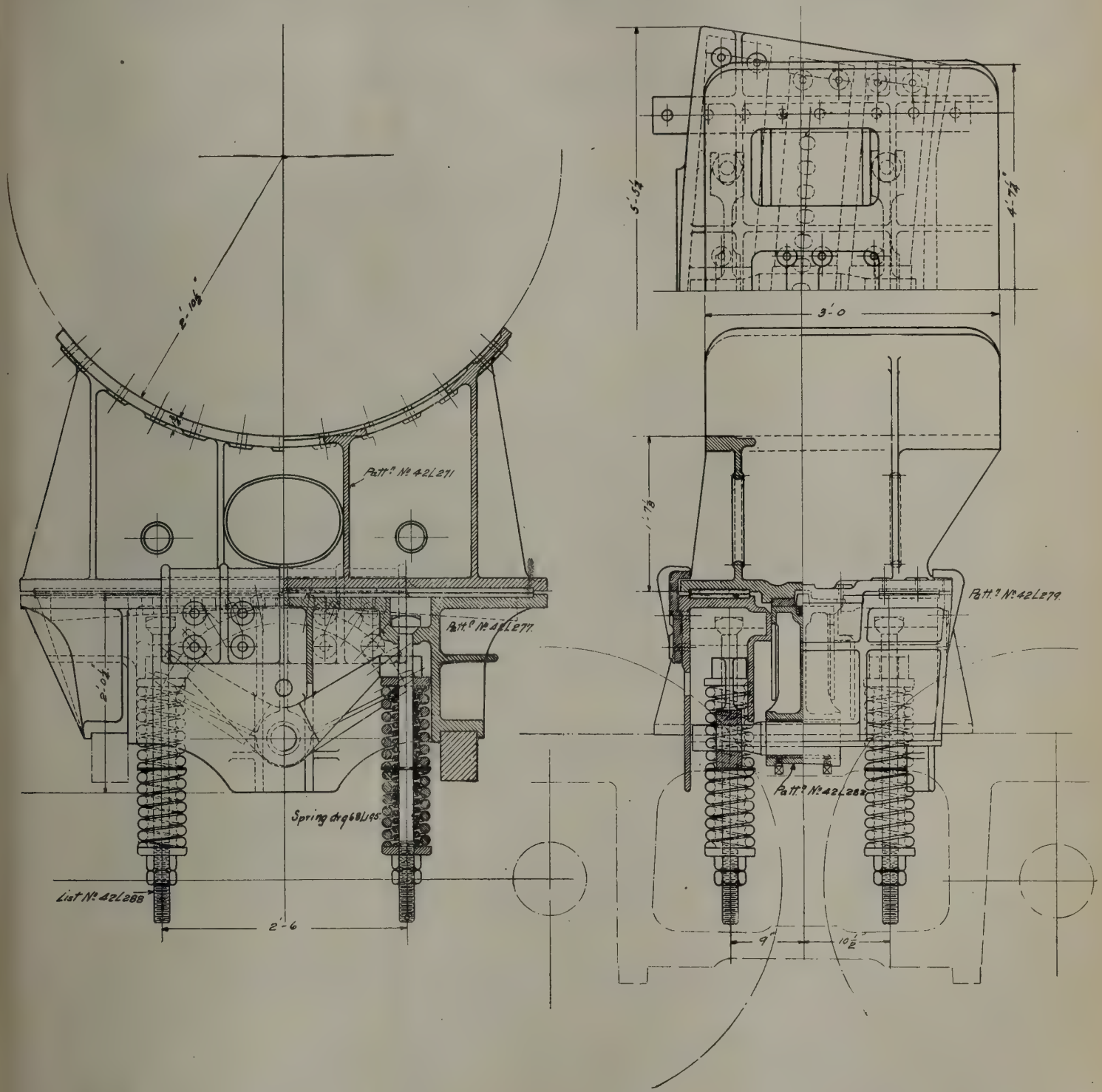
THE JOHN BERTRAM & SONS CO. LIMITED - Dundas, Ontario, Canada

SALES AGENTS: THE CANADIAN FAIRBANKS COMPANY LIMITED
Montreal, Toronto, Winnipeg, Vancouver, Calgary, St. John.

by a series of vertical pipes which extend down into the reheating compartment directly in the path of the hot gases carried from the firebox by the boiler flues. The high pressure exhaust enters the saturated header, passes through these superheated pipes and returns to the superheated header from which it passes to the low pressure cylinder. On tests already made on this locomotive, an increase of temperature between the saturated and superheated headers of 90 to 100 degrees has been obtained, and no indication whatever of cinders lying in this compartment has been observed.

The valve motion is of the Walschaert type, and is similar to that applied to other C.P.R. locomotives. The reversing and linking up of the motion is controlled by a steam cylinder operated from a handle in the cab. This gear is positive in its action, and consists of a steam cylinder 6 ins. in diameter, which furnishes sufficient power to reverse the engine under all conditions. To insure smoothness of action, an oil cylinder or dash pot of the same size as the steam cylinder has been set opposite to and in the same line. By the closing of the valve on the oil cylinder the motion is retarded gradually and brings the steam cylinder piston to rest without shock. An additional lock in the form of a latch has been provided which insures of the radius bar being carried in the desired position. The operating handle in the cab by which the gear is controlled, has three distinct movements, as follows:—1, to lift the latch clear; 2, to turn on the steam to the desired end of the operating cylinder; 3, to open the passage in the oil cylinder or dash pot. By this arrangement the latch will first be lifted and the steam cannot be turned on until it is clear. The oil cylinder in the meantime prevents any movement until it has been opened. To stop the movement of the reverse arm the operation is reversed, that is, the first movement of the handle closes the oil valve, bringing the parts to rest gradually, shuts off the steam and finally closes the latch.

The means by which this locomotive is



Canadian Pacific Railway Articulated Compound Locomotive, frame details, main boiler bearing arrangement. See page 557.

Galena-Signal Oil Company

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY

Galena Railway Safety Oil

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

Please write to home office for further particulars.

CHARLES MILLER,

PRESIDENT

made to take the sharp curves over which it will have to operate, is very interesting and novel. The locomotive when running ahead is guided on to the curve by the front engine which itself is a truck and moves sidewise against the resistance of the sliding bearing plates and inclined surfaces of the roller centreing attachment. The arrangement of this is shown very clearly in the line drawing which is reproduced herewith. The total resistance to lateral movement at the front support is 3,990 lbs., which is composed of 1,300 lbs. frictional resistance, and 2,690 lbs. furnished by the inclined surfaces. When backing on to a curve the front truck of the tender is designed to swing the front end of the boiler outward across its support on the front truck by means of the radius bar which is connected rigidly in a horizontal direction to the frame of the rear engine. A force of 12,000 lbs. is exerted on the end of this radius bar which relieves the pressure on the flanges of the back engine and prevents any possibility of derailment.

The tender is of the standard steel construction, the outside sills of which are 10 in. and the inside 13 in. channels. The tank is of the C.P.R. standard freight design, having semi-water bottom and inclined surface to deliver the coal conveniently for the fireman. Its capacity is 5,000 Imperial gallons of water and 12 tons of coal.

We are indebted to G. I. Evans, chief draughtsman C.P.R. locomotive department, Montreal, for the foregoing very interesting description of the C.P.R.'s latest achievement in locomotive building, which there is every reason to believe will be followed by the building of a number of similar locomotives of the same type.

Canadian Pacific Railway Articulated Compound Locomotive.

The Dominion Government paid bonuses for iron and steel production in Canada for the year ended Mar. 31, 1909, $2,467,306, against $2,797,861 for the year ended Mar. 31, 1908.

During May, 23 employes were killed in the course of their work on Canadian railways, and 19 injured. Of the fatalities, 9 were due to being run over, 5 to explosions of dynamite, 3 each to drowning and to falling material, 2 to falls, and one each to being struck by a passing object and to tools. Of the other accidents, 6 were due to falls, 5 to falling material, 3 to collisions, and one each to being caught between cars, to being struck by a passing object, to derailment, to an explosion of steam, and to machinery.

National Transcontinental Ry. Shops.

On page 563 is an isometric view of the N.T.R. shops to be erected near Winnipeg, and for which a contract was let recently. The numbers given below refer to similar numbers on the view.

No. 2.—THE LOCOMOTIVE SHOP comprises a tank shop 95′ x 184′ 9″, a boiler shop 110′ x 184′ 9″, and a machine and erecting shop 174′ 9″ x 615′ 7″, the size of the entire building being approximately 823′ x 174′. The shop has a self-supporting steel frame resting on concrete foundations, brick superstructure walls, wood sheathing roof, with skylights and copper ventilators. Main floor of 3″ pine. The building has 26 engine pits and two transfer tracks running through the machine and erecting shop, and one track through the boiler and tank shop. The shop is heated by hot air, forced through underground concrete ducts by engine fans. The saw-tooth roofs shewn on the drawing have been changed to two rows of skylights running longitudinally over the machine shop portion.

No. 3.—THE STORE HOUSE comprises a storehouse 62′ 6″ x 262′, surrounded by a platform 10′, 11′ and 25′ wide. The platform is of reinforced concrete, while the storehouse has a reinforced concrete floor and roof, reinforced concrete wall columns and brick walls. The ceiling is of sufficient strength to serve as a floor for a future story.

No. 4.—THE FORGE SHOP is 104′ 9″ x 264′ 9″, with a lean-to 22′ x 21′, two stories high for toilet rooms. The shop has a self-supporting steel frame resting on concrete foundations, brick superstructure walls, wood sheathing roof, with a monitor running the full length. The main floor is of cinders, and the lavatory floors are of concrete..

No. 5.—THE OIL HOUSE comprises an oil house 30′ x 40′, surrounded by platforms 10′, 12′ and 20′ wide. The platform is of reinforced concrete, while the oil house has reinforced concrete main floor, cellar floor plain concrete, reinforced concrete wall columns and roof, with brick walls. In the cellar are storage tanks for lubricating and illuminating oils.

No. 6.—THE POWER HOUSE is 154′ 9″ x 110′, having a brick wall separating the boiler room from the engine room. The steel frame of the building is self-supporting, resting on concrete foundations, brick superstructure walls, wood sheathing roof, skylights and copper ventilators, concrete floor in boiler room, oiled maple floor in engine room. The power required in the different shops will be generated in this building, and steam for all the indirect heating apparatus and direct radiating systems will be supplied from the boilers through underground mains.

No. 7.—THE LOCOMOTIVE CARPENTER Shop, Pattern Shop and Pattern Storage is a two-story building 104′ 9″ x 74′ 9″, having self-supporting steel frame resting on concrete foundations, brick superstructure walls, reinforced concrete roof and first floor, ground floor of wood. The upper story is of fireproof construction throughout. The shop is heated by steam, direct radiation.

No. 8.—THE STEEL WATER TANK has a capacity of 100,000 gallons, the base of tank is 125′ above ground. All water for fire mains and shop use will be taken from this tank, which is supplied from the Red River.

No. 9.—THE CHIMNEY is 200′ high, average inside diameter 11′.

No. 10.—THE GREY IRON FOUNDRY comprises a main foundry room 204′ 9″ x 134′ 9″, with a brass foundry partitioned off from it, a cleaning room 64′ 9″ x 82′ 4½″. On the west side of the foundry are the sand bin sheds of wood construction, while the coke and scrap bins, also of wood construction, are on the east side adjoining the cupola room. The main building has a self-supporting steel frame resting on concrete foundations, brick superstructure walls, wood sheathing roof with ventilators. Main floor, moulding room and brass foundry are of moulding sand. Cleaning room has a cinder floor. The heating system is similar to that of the locomotive shop, hot air blast.

No. 11.—THE CRUDE OIL STORAGE is 25′ x 62′, walls and floors of plain concrete, roof of reinforced concrete, with copper ventilators. In this building are four storage tanks for the fuel oil for the forges in the forge shop.

No. 12.—THE FROG AND TRACK SHOP is 64′ 9″ x 104′ 9″, with a self-supporting steel frame resting on concrete foundations, brick superstructure walls, wood sheathing roof, with copper ventilators and skylights. Main floor of 3″ pine, lavatory floor, concrete. The shop is heated by steam, direct radiation.

No. 13.—THE STORES PLATFORM is 56′ x 180′, of reinforced concrete construction, with a light steel frame superstructure 58′ x 151′. The superstructure is covered with wood sheathing roof, galvanized corrugated iron on ends and sides. The platform is designed to carry a load of 300 lbs. per sq. ft.

No. 14.—THE FORGE STORES AND SCRAP

N. CURRY, President
N. A. RHODES, Vice-President

CAPITAL $1,000,000

J. M. CURRY, Sec.-Treas.

RHODES, CURRY & CO.

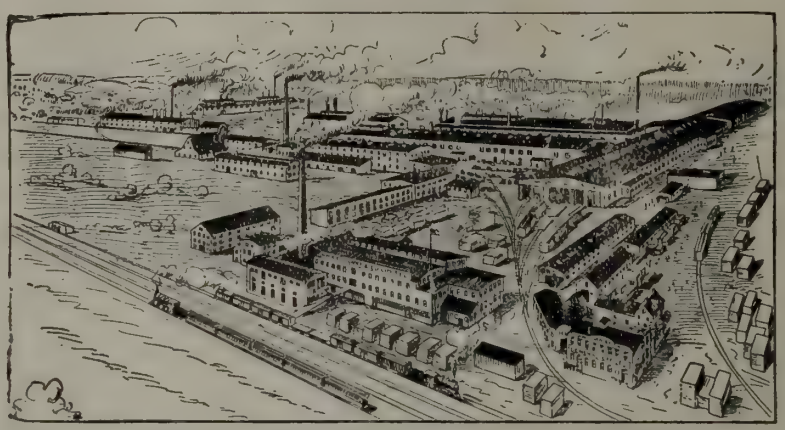
AMHERST, NOVA SCOTIA LIMITED

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels



Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

POLSON IRON WORKS

LIMITED

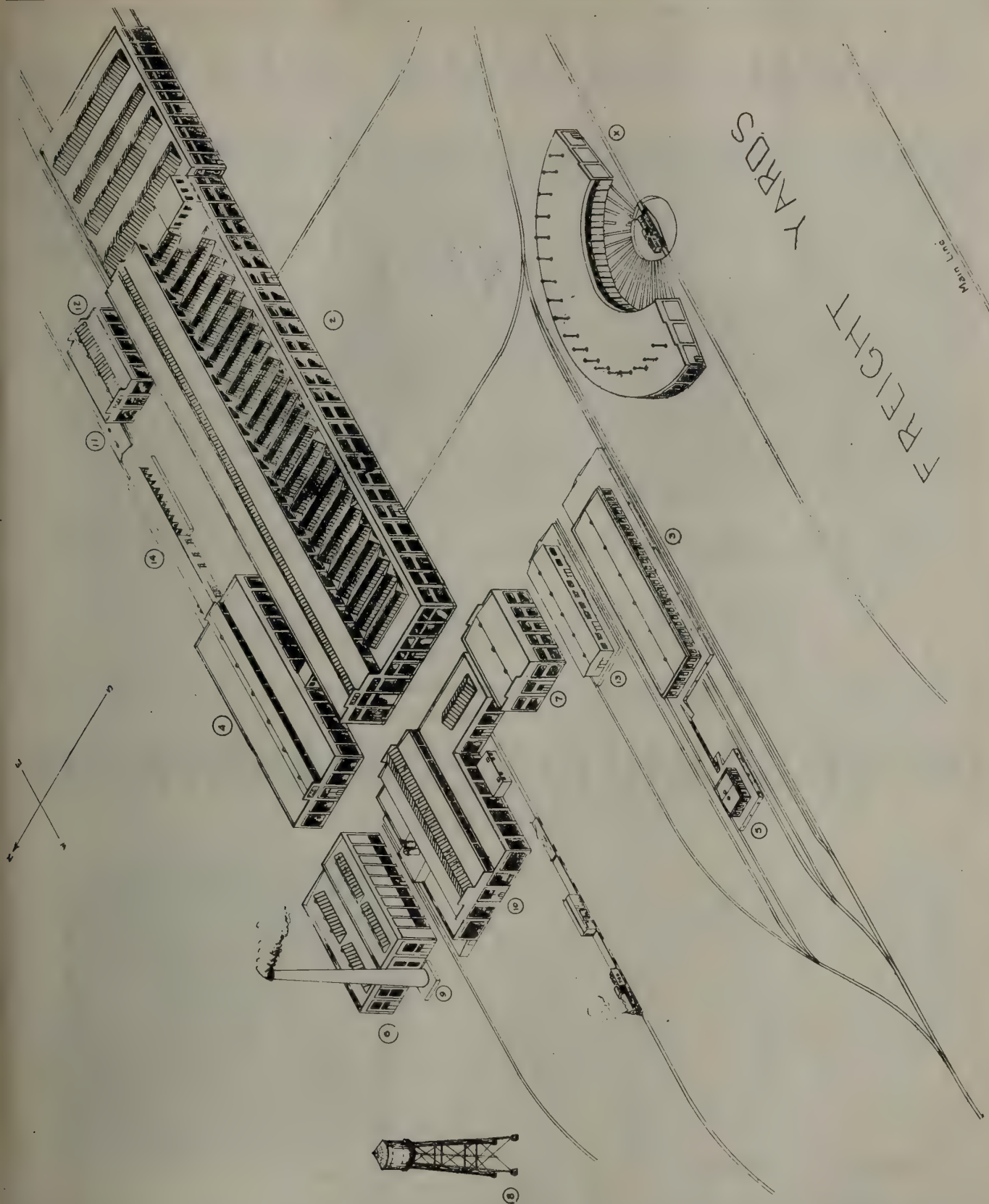
TORONTO, CANADA

Steel Shipbuilders, Engineers and Boilermakers

Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers. . . . .

OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO



National Transcontinental Railway Shops, in course of erection near Winnipeg. See page 555.

Bins comprise an iron storage bin 30′ x 60′, coal storage bin 30′ x 30′, coke storage bins 30′ x 20′, scrap bins 30′ x 100′, with platforms 5′ and 10′ wide. The size of the entire building is 30′ x 210′. The stores portion is a wooden structure resting on concrete foundations; the scrap bin portion is of wood construction throughout.

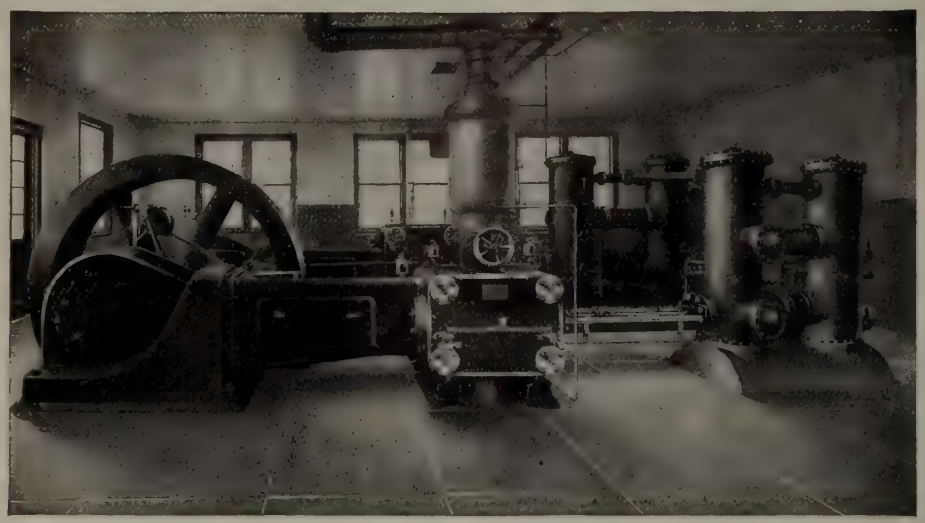
No. X.—THE ROUND HOUSE has a concrete foundation supporting brick walls, wood sheathing roof. There are brick fire walls every sixth stall. It is heated by a hot air blast system similar to the locomotive shop. As shown on the drawing, it has a capacity for 18 locomotives, but it was subsequently decided to enlarge it, so as to accommodate 24 locomotives.

The Engineers Club of Toronto held its annual excursion July 16 and 17. The party left Toronto by the C.P.R. for Bobcaygeon, from whence they sailed through the Kawartha Lakes and the canal to Lake Simcoe, returning to Toronto by the Toronto and York Radial Ry.

"Well, Uncle Zeb," said his neighbor, "'your boy's come back from college, and I reckon he's got a good ejjication."

"No," groaned Uncle Zeb. "Them four years is plumb wasted. I tried 'im on a railroad guide the other day, an' he couldn't make head nor tail of it, any more'n the rest of us could!"

Robb Power Plants



ENGINES

Corliss, Slide Valve
Horizontal, Vertical

BOILERS

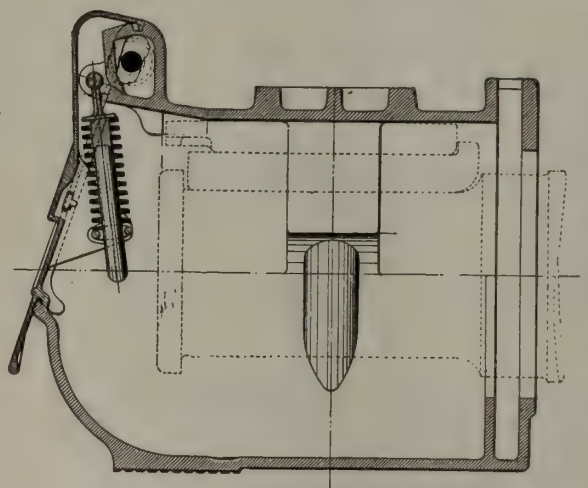
Return Tubular
Water Tube
internally Fired
Portable

ROBB ENGINEERING CO., LIMITED, AMHERST, N.S.

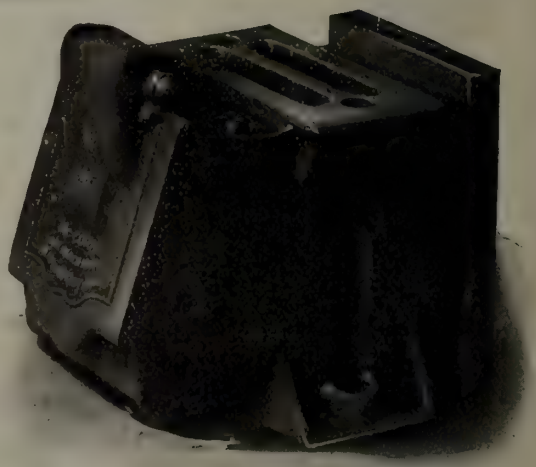
DISTRICT OFFICES:
709 Power Building, MONTREAL, Watson Jack, Manager.
Traders Bank Building, TORONTO, Wm. McKay, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.
Calgary Block, Calgary, J. F. Porter, Manager.

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



The Strongest, Lightest, Tightest Box Made



The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCORD Force Feed Lubricator

McCORD & COMPANY
Old Colony Building, Chicago

THE HOLDEN CO., Limited
302 St. James Street, Montreal

Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this.

The dates given of orders, immediately following the numbers, are those on which the hearings took place and not those on which the orders were issued. In many cases orders are not issued for a considerable time after the date assigned to them.

7279. June 1.—Authorizing Essex Terminal Ry. Co. to take additional lands for altering line at Windsor Fair Ground and Driving Association, Windsor, Ont.

7280. June 18.—Ordering C.P.R. early each spring, and before water commences to run, to clear away ice and snow underneath bridge over Buffalo Lake, Man.

7281. June 18.—Directing Canada Atlantic Ry. (G.T.R.) to provide crossing where the railway abuts T. Wilson's land in Carleton county, Ont.

7282. June 18.—Approving Salisbury & Harvey Ry. by-law authorizing A. Sherwood, General Manager, for Receiver, to prepare and issue tariffs of traffic tolls.

7283. June 18.—Extending for one year from June 30, 1909, the time for the use by the Vancouver, Victoria & Eastern Ry. of the crossing at rail level, of its railway by the B. C. Electric Ry. at Park Ave., Vancouver.

7284. June 8.—Authorizing C.P.R. to construct spur at Mile End, on Hyde & Webster's premises, St. Louis, Montreal.

7285. June 8.—Dismissing application of J. Ethier, Montreal, to amend order of Jan. 23, 1905, authorizing G.T.R. to take certain lands, then the property of City of Ste. Cunegonde, Que.

7286. June 18.—Approving deviation in C.P.R. main line near Steel siding, Thunder Bay district, Ont.

7287. June 18.—Authorizing Vancouver & Lulu Island Ry. to construct its Westminster & Eburne branch across the Trapp and Byrne roads in Burnaby district, B.C.

7288 to 7290. June 18.—Authorizing Toronto Suburban Ry. to erect electric wires across C.P.R. and G.T.R. in York tsp., Ont.

7291 to 7293. June 9.—Authorizing City of Edmonton, Alta., to cross at level, with its lines, the G.T.P.R. and C.N.R., and to erect power wires across the G.T.P.R. and C.N.R.

7294. June 17.—Reporting to Governor in Council for sanction Bay of Quinte Ry. by-law re spitting in cars or on railway premises.

7295. June 14.—Approving additions and changes in proposed Supplement no. 1 to Canadian Freight Classification 14; with one or two exceptions.

7296. June 19.—Approving proposed station layout of C.N.R. at Saskatoon, Sask.

7297. June 19.—Directing Grand Valley Ry. to fence certain portions of its line within 60 days.

7298. June 19.—Dismissing application of C.P.R. for order directing G.T.R. to receive passenger and baggage cars of C.P.R. and deliver same to C.P.R. at junction of Ottawa Northern and Western Ry. with Can. Atlantic Ry. near Sappers Bridge, Ottawa.

7299. June 16.—Directing Western Counties Electric Co. to erect wires across G.T. railway track and telegraph wires at Elgin St. subway, Brantford, Ont., before July 1, 1909.

7300, 7301. June 17.—Authorizing Boggy Creek Rural Telephone Co. to erect wires across C.N.R. in Saskatchewan.

7302, 7303. June 21.—Authorizing Alberta Government to erect wires across C.P.R. in centre of Bow Island; and just west of Grassy Lake, Alta.

7304. June 19.—Authorizing Bell Telephone Co. to erect wires across P.M. Rd. at St. Thomas, Ont.

7305. June 17.—Authorizing Village of Streetsville, Ont., to erect electric light wires across C.P.R.

A Practical Man's Opinion

W. E. Fowler, who recently resigned his position as Master Car Builder, Canadian Pacific Railway, in order to take a much needed rest, has a continental reputation. The splendid work he has done for the C.P.R. is evidenced by its car equipment, and his commanding position in the Master Car Builders' Association, in which he rose to the Presidency, has made him well known to the entire railway mechanical community. In response to a request for an opinion on our paper, Mr. Fowler wrote our Managing Director recently, as follows:

"The Railway and Marine World has always appealed to me, in the first place as being distinctively Canadian and patriotic, which should be a strong recommendation to every man, whether born in the Dominion or who has cast his lot with this great growing country.

"I would also state positively that there is no railroad journal with which I am acquainted which has such a comprehensive report of everything connected with railway and marine interests as does your paper, and the wealth of detail given every month is such, that for Canadian railway news there is no occasion to go farther, everything being found in your paper.

"A very special feature of your paper is the space which is devoted to personal matters connected with railway and marine men, and I am sure that every subscriber feels as I do, that this is one of the most interesting parts of your paper, touching as it does on the lives and personal affairs of every railway man of importance in the Dominion.

"I have no doubt that a very large part of the success of your paper is due to the great amount of work you put into it yourself, feeling, I suppose, that if a thing is required to be well done, there is nothing like personal execution."

Letters, such as the one above reproduced, are among the pleasant experiences of business life, and are a distinct encouragement to even better work for the future.

7306. June 18.—Authorizing G.T.R. to construct branch line on certain streets in Sarnia, Ont.

7307. June 18.—Authorizing C.P.R. to construct spur line to the Manitoba Government's premises, Gonor, Man.

7308. June 18.—Authorizing Shawinigan Water & Power Co. to erect transmission wires across Q.M. & S.R. near St. Gregoire, Que.

7309. June 19.—Authorizing C.P.R. to construct branch line at Kamloops, B.C.

7310. June 18.—Authorizing C.P.R. to construct bridge over Yamaska River, on its Eastern Division.

7311. June 21.—Approving location of the C.N.O.R. through Hisworth and Nipissing tsps., Parry Sound district, Ont.

7312, 7313. June 21.—Approving location and plans of C.P.R. station at Moffat and Mountain, Ont.

7314. June 21.—Authorizing G.T.R. to connect its track with Owen Sound Portland Cement Co. sidings, Owen Sound, Ont.

7315. June 21.—Approving change in location of E. & N.R. line from mileage 100 to 127, Alberni branch, B.C.

7316. June 21.—Authorizing London Tp. Telephone Co. to erect wires across G.T.R. two miles north of Denfield station, Ont.

7317. June 19.—Rescinding order 6520, of Mar. 15, approving plans of crossing of C.P.R. by London St. Ry. at Richmond St., London, Ont.; and directing C.P.R. to serve forthwith upon London St. Ry. plans of interlocker proposed to be installed.

7318. June 19.—Dismissing application of Village of Coteau Station for order directing G.T.R. to cease wilfully permitting its engines and cars to stand at level crossing for longer than five minutes at one time; and in shunting to obstruct public traffic on highway for longer than five minutes at one time.

7319. June 17.—Directing G.T.R. to install automatic electric bell with cut-out opposite Morrisburg station, Ont.

7320. June 19.—Approving plans of C.N.R. location through Saskatoon, Sask., also proposed subway in that city.

7321. June 21.—Authorizing U. Archambault to erect electric light wires across G.T.R. in Ste. Martine, Que.

7322. June 19.—Directing C.N.R. to install interlocking plant where its line crosses C.P.R. at Gladstone, Man.

7323. June 22.—Approving revised location of portion of C.P.R. New Westminster branch in New Westminster, B.C.

7324. June 22.—Authorizing G.T.R. to reconstruct 14 bridges on its Eastern division.

7325. June 22.—Amending order 3258, of July 6, 1907, by striking out clause "h."

7326. June 19.—Dismissing complaint of G. B. Janes & Co. of Orillia, Ont., that rates charged by railway companies on cheese box veneers are excessive.

7327. June 22.—Approving plan of proposed iron bridge, to replace wooden bridge carrying Avondale Ave., Stratford, Ont., across G.T.R.

7328. June 22.—Directing C.P.R. to install gates at crossing of Columbia Ave. leading to Evans, Coleman & Evans wharf, Vancouver, B.C.

7329. June 23.—Authorizing C.P.R. to open for traffic the portion of its second track, Ignace section, Ont., from mileage 115.0 to 119.8, and from mileage 120.0 to 127.8.

7330. June 23.—Approving Grand Valley Ry. Standard Passenger Tariff, C.R.C. 3.

7331. June 8.—Directing C.P.R. to construct a subway under its tracks at Iberville St., Montreal.

7332. June 22.—Authorizing G.T.R. to construct spur line to the Frost Wire Fence Co.'s premises, Hamilton, Ont.

7333. June 22.—Authorizing C.P.R. to reconstruct bridges 42.55 on its Lake Superior division and 0.3 on its Eastern division.

7334. June 22.—Authorizing Western Counties Electric Co. to erect wires across T.H. & B.R. on Oak St., Brantford, Ont.

7335. June 23.—Authorizing C.P.R. to

TRACK TOOLS! TRACK TOOLS!

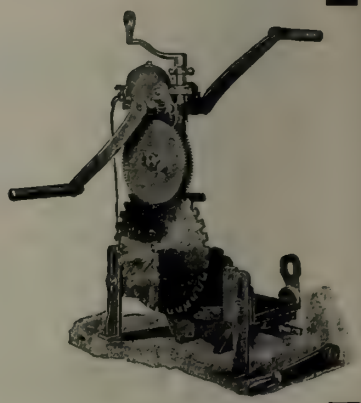
We carry a very large stock of

TRACK TOOLS

Of Every Description

Spike Mauls - Chisels - Hammers
Track Drills - Rail Saws - Forks
Gauges - Levels - Wrenches Etc.

Let us quote on your requirements.



F·H·Hopkins & Co

Successors late James Cooper

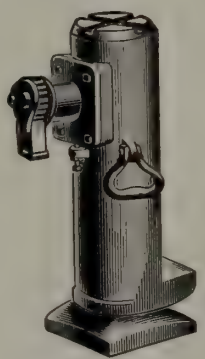
Montreal

NORTON JACKS

Are Made in Canada and Save You Delay and Duty on American Made Jacks.

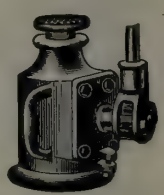
50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY

Sectional View


Foot Lift Jack

15 Ton Track Jack

Traversing Jack


Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

construct spur line for Asquith Milling Co., Asquith, Sask.

7336. June 23.—Rescinding order 7299, of June 16, 1909, directing Western Counties Electric Co. to maintain its electric wires across G.T.R. at Elgin St. subway, Brantford, Ont.

7337. June 22.—Amending order 7023, of May 10, 1909, approving supplement 1 to Canadian Classification 14 by striking out clause 2 of order.

7338. June 21.—Dismissing application of C.P.R. for order rescinding or varying order of committee Privy Council, dated May 13, 1898, ordering C.P.R. to leave opening in trestle bridge carrying branch line of its railway to Dixon's Mills, Peterboro, Ont., across the channel of the Otonabee River, by permitting C.P.R. to fill said opening and substitute for the trestle a solid embankment.

7339. May 4.—Ordering G.T.R. and C.P.R. to protect crossing at College St., Lennoxville, Que., by folding gates, to be installed within four months.

7340. June 23.—Authorizing C.P.R. to construct its railway across highways in Medonte tsp., Ont., at mileage 12.96, 0.07 and 0.13, on Y of Georgian Bay & Seaboard Ry.

7341. June 24.—Authorizing C.P.R. to construct additional tracks near Murray station, McKim tsp., Ont.

7342. June 24.—Authorizing C.P.R. to construct additional track across Orr St., Calgary, Alta.

7343. June 23.—Dismissing four complaints of Produce Merchants Ass'n of Montreal, also ordering absorption of wharfage and port warden's fee on cheese subsequently exported from Montreal. This order is given in full on another page.

7344. June 25.—Authorizing C.P.R. to reconstruct bridges, 20.2, Blagdon Brook, Atlantic division, and 3.4, near St. Sabine, Eastern division.

7345.—June 24.—Authorizing Miniota municipality to erect wires across C.P.R. at Arrow River, Man.

7346. June 24.—Authorizing Riverside Telephone Co. to erect wires across C.P.R. in Saskatchewan.

7347. June 23.—Authorizing Warman Village, Sask., to erect wires across C.N.R.

7348. June 24.—Authorizing Bell Telephone Co. to erect wires across M.C.R., near Welland, Ont.

7349. June 25.—Reporting to Governor in council for sanction of C.P.R. by-law 94, re spitting in cars and on railway premises.

7350. June 23.—Amending order 5102, of July 29, 1908, authorizing G.T.R. to install interlocking plant at crossing of C.P.R. east of Weston Rd., West Toronto, by providing that work of installing interlocker be performed by C.P.R.

7351. June 25.—Approving plans of Ottawa and New York Ry. drawbridge over Cornwall Canal.

7352. June 25.—Amending order 7076, of May 26, authorizing G.T.P.R. to construct railway, at grade, across a certain highway in Northern Alberta by striking out the last clause.

7353, 7354. June 25. — Authorizing C.P.R. to construct industrial spurs for Consolidated Mining & Smelting Co., Kootenay district, B.C., and George and Robinson, Macleod, Alta.

7355. June 25.—Authorizing G. Coultis & Son to erect wires across G.T.R. at King St., Thedford, Ont.

7356. June 25.—Authorizing T.H. & B.R. to construct spur to G. Ritchie's premises, Hamilton, Ont.

7357. June 25.—Authorizing C.P.R. to construct spur in Lethbridge, Alta.

7358. June 25.—Authorizing C.N.O.R. to take, for purpose of avoiding a sinkhole, part of lot 12, con. F, Medora tp., Ont.

7359. June 3.—Approving plan of crossings of Dufferin, Dunn, Jamieson, Dowling, Sunnyside, and Howard Aves. and Indian Rd., Toronto, by G.T.R. and C.P.R., and also several streets in Etobicoke tp., Ont.

7360. June 26.—Extending for 60 days from July 1, time within which work is to be done in connection with Richmond Rd. crossing, Ottawa.

7361. June 3.—Ordering G.T.R. to provide better protection at Sunnyside crossing, Toronto.

7362. June 29.—Recommending to Governor in council for approval, Niagara, St. Catharines & Toronto Ry. rules and regulations.

7363. June 29.—Approving location of C.P.R. Manitou Lake branch from mileage 0 to 51.33.

7364. June 29.—Approving location of C.P.R. Langdon north branch from mileage 45 to 60.

7365. June 29.—Authorizing Georgian Bay & Seaboard Ry. (C.P.R.) to open for traffic the portion of its line between Coldwater Jct. and to Maple Island on Hog Bay, near Victoria Harbor, Ont., 13 miles.

7366. June 29.—Approving location of C.P.R. Langdon branch, from Langdon, Alta., north-easterly from mileage 0 to 45.

7367. June 25.—Dismissing application of Transportation Bureau Montreal Board of Trade, for order directing reduction from second class rate on ingot tin, in Canadian Classification, to third class, as in Official Classification.

7368. June 28.—Amending order 7284, of June 8, authorizing C.P.R. to construct spur at Mile End, St. Louis, Montreal, across Sanguinet St., by adding the word "indemnified" in the first line of the second clause.

7369. June 29.—Authorizing Esquimalt & Nanaimo Ry. to construct railway across highways at mileages 96.9, 91.92 and 95.93 of its Wellington and Alberni branch, B.C.

7370. June 29.—Authorizing C.P.R. to open for traffic portion of second track Kenora section, from mileage 13.8 to 16.0.

7371 to 7373. June 29.—Authorizing Alberta Government to erect wires across C.P.R. at Erskine and near Medicine Hat, Alta.

7374. June 29.—Authorizing Creston Power, Light & Telephone Co. to cross C.P.R. at Creston, B.C.

7375, 7376. June 29.—Authorizing Malahide & Bayham Telephone Association to erect wires across C.P.R. at Griffins and east of Tillsonburg, Ont.

7377 to 7386. June 29.—Authorizing Alberta Government to erect telephone wires across C.P.R. at 10 points.

7387. June 21.—Authorizing Bell Telephone Co. to erect wires across T.H. & B.R., near Cainsville, Ont.

7388. June 30.—Rescinding order 7338, of June 28, dismissing C.P.R. application for order rescinding or varying order of Railway Committee of Privy Council, of May 13, 1898, under which C.P.R. was ordered to leave opening in trestle bridge carrying branch to Dixon's Mills, Peterboro, Ont., as order 7338 dismissing application was issued by mistake.

7389. June 29.—Authorizing G.T.P.R. to construct 5 bridges in British Columbia.

7390. June 29.—Authorizing C.P.R. to construct spur for Lethbridge Brewing & Malting Co., Lethbridge, Alta.

7391. June 29.—Authorizing C.P.R. to reconstruct bridges 23.53 on its Atlantic division, and 101.5 on its Pacific division.

7392. June 29.—Authorizing North American Telegraph Co. to erect wires across Brockville, Westport and North-Western Ry. at Soperton, Ont.

7393. June 21.—Dismissing application of Red Mountain Ry. for amendment to order 2115 (making applicable the general interswitching order) prescribing the rates to be charged for interswitching between Red Mountain Ry. and Columbia and Western Ry. at Rossland, B.C., amending previous order of Feb. 14, 1906.

7394. June 28.—Authorizing G.T.R. to expropriate lands additional to those it now occupies between Wyndham St., Market St., and its right of way, at Guelph, Ont.

7395. July 2.—Authorizing Hamilton Grimsby & Beamsville Elec. Ry. to construct spur through lands owned by A. McKay, of Saltfleet tsp., Ont., to connect the H.G. & B.E.R. with the G.T.R.

7396. July 3.—Authorizing M.C.R. to construct interchange track with G.T.R. on Bathurst St., London, Ont.

7397. July 3.—Authorizing G.T.P. Ry. to construct its railway across three highways in Alberta.

7398. July 3.—Authorizing C.P.R. to construct crossing over its main line in Coleridge, Alta.

7399. July 5.—Authorizing C.P.R. to reconstruct bridge 105.6 over Victoria road, Pembroke, Ont.

7400 to 7411, June 30.—Authorizing Alberta Government to erect telephone wires across C.N.R. at 11 points, and over C.P.R. at one point.

7412 to 7423, July 2.—Authorizing Bell Telephone Co. to erect wires across C.P.R. at 5 points in Ontario, and 1 in Quebec; across the G.T.R. at 5 points in Ontario, and across the Pere Marquette Rd. at 1 point in Ontario.

7424. June 30. — Authorizing Alberta Government to erect telephone wires across the C.N.R. about a mile west of Mundare, Alta.

7425. July 5.—Authorizing Caradoc & Ekfrid Telephone Co. to erect wires across G.T.R. on town line between Caradoc and Ekfrid tps., Ont.

7426. July 5. — Authorizing Perth & Christies Lake Telephone Association to erect wires across C.P.R. at third line of Bathurst tsp., Lanark county, Ont.

7427, 7428. July 5.—Authorizing Miniota Municipality, Man., to erect wires across G.T.P. Ry. 3½ miles east and two miles northwest of Quadra.

7429. June 30.—Authorizing J. P. Ernst, New Hamburg, Ont., to erect wires across G.T.R. about 1 mile east of Baden station, Ont.

7430, 7431. July 5.—Authorizing Alberta Government to erect wires across C.P.R. ¾ mile east of Taber, Alta., and at Deveber Ave., Taber.

7432, July 5.—Authorizing Morris & Kemp to erect telephone wires across C.P.R. 1.8 miles north of Chaudiere Jct., Que.

7433. July 3.—Authorizing P. Sylvester, of St. Cuthbert, Que., to lay water main under C.P.R. one mile east of station.

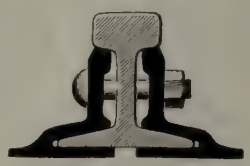
7434. July 5.—Authorizing C.P.R. to

ADDITIONAL SAFETY AND ECONOMY IN

TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence.

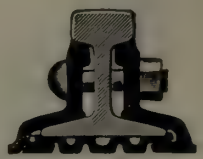
HIGHEST AWARDS
Paris, 1900;
Buffalo, 1901; St. Louis, 1904


Continuous Joint

Over 50,000 miles in use

Weber Joint

Rolled from Best Quality Steel


Wolhaupter Joint

Catalogues at Agencies

Baltimore, Md. Boston, Mass. Chicago, Ill. Denver, Colo. Pittsburg, Pa.
San Francisco, Cal. Seattle, Wash. St. Paul, Minn. St. Louis, Mo. Troy, N.Y.
London, E. C., Eng. New York City.

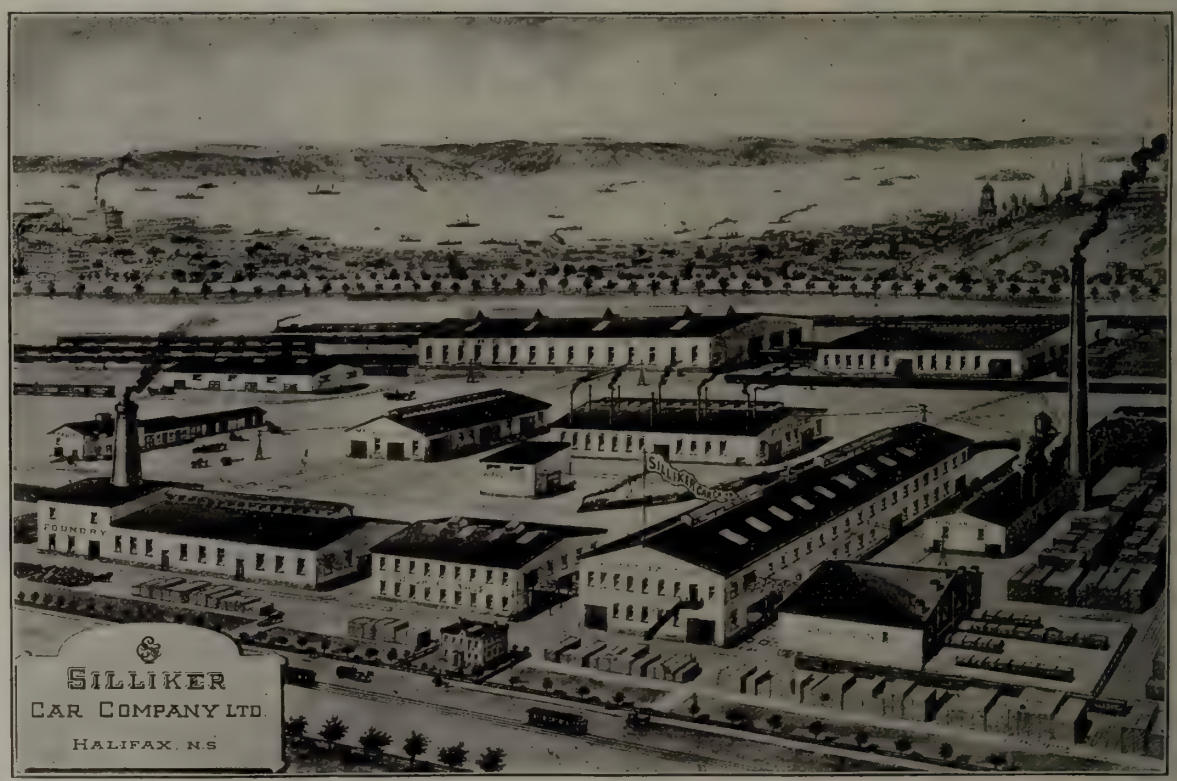
THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES: BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, Frog and Switch, and Insulating Rail Joints, protected by Patents.

SILLIKER CAR COMPANY, LIMITED, HALIFAX, N. S., CANADA

STREET RAILWAY CARS



HEAVY FORGINGS AND CASTINGS

RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

construct its railway across highway, at mileage 13.52, Glenelg tsp., Ont.

7435. July 5.—Approving proposed deviation Manitoulin & North Shore Ry. between stations 739 and 1140, between Sudbury and Little Current, Ont.

7436. July 5.—Approving location and plans of Central Ontario Ry. station and freight shed at Bloomfield, Ont.

7437. July 6.—Authorizing Alberta Government to erect wires across C.P.R. 2½ miles west of Rosenroll.

7438. July 6.—Authorizing T.H. & B.R. to reconstruct or alter bridge 45.83 in Ancaster tsp., Ont.

7439. July 6.—Authorizing Quebec city to lay water and drainage pipes under C.P.R. in St. Malo ward, Valier, Que.

7440. July 6.—Authorizing G.T.R. and C.P.R. to appeal from order dated June 9, 1909, to the Supreme Court of Canada, upon all questions of law involved, in re application of City of Toronto for order directing G.T.R. and C.P.R. to carry York and certain other streets under said companies' tracks.

7441. June 30.—Reporting to Governor in Council for sanction V.V. & E. Ry. & Nav. Co. by law re spitting in cars and on premises.

7442. July 7.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at Duke and Durham Streets, Lindsay, Ont.

7443. July 6.—Authorizing British Columbia Telephone Co. to erect wires across E. & N. R. at east end of railway bridge, at Victoria, B.C.

7444. July 7.—Authorizing J. M. Bergstrom to erect telephone wires across C.P.R. at Wauchope, Sask.

7445 to 7454, July 7.—Authorizing Alberta Government to erect telephone wires across C.P.R. at different points.

7455 to 7458. July 7.—Authorizing city of Saskatoon, Sask., to lay water and drain pipes under C.N.R. and C.P.R. at four points.

7459. July 7.—Authorizing town of Chesley, Ont., to lay water main under G.T.R. at four streets.

7460. July 8.—Approving by-law of Atlantic & Lake Superior Ry. authorizing C. R. Scoles, general manager, to prepare and issue tariffs of traffic tolls.

7461. July 8.—Authorizing Hull Electric Co. to operate its cars over C.P.R. tracks in Hull, Que.

7462. July 7.—Authorizing C.P.R. to construct bridge 15.83 over Bremner River, on its Schreiber sec., Lake Superior division.

7463, 7464, July 6.—Approving plans of G.T.R. combination passenger and freight station at South Indian, and Corinth, Ont.

7465. July 8.—Authorizing city of Lachine, Que., to cross, by a subway, for pedestrians only, the G.T.R. between 15th and 16th Streets.

7466. July 8.—Authorizing C. R. Coutlee, engineer in charge of Georgian Bay Ship Canal, to construct highway crossing over C.P.R. at Temiskaming village, Que.

7467. July 6. — Authorizing Sandwich East municipality, Ont., to construct public crossing across P.M.R. at Edna Street.

7468. July 8.—Authorizing C.P.R. to construct spur line to Waterloo Mfg. Co.'s premises, Portage la Prairie, Man.

7469. July 6.—Authorizing Malahide & Bayham Telephone Co. to erect wires over M.C.R. about a mile east of Tillsonburg station, Ont.

7470. July 7.—Approving location of C.P.R.'s Moose Jaw north-westerly branch, from mileage 148.76 to 190.63.

7471. July 7.—Reporting to Governor in Council for sanction British Yukon Ry. Co. by-law re spitting in cars and on premises.

7472. July 8.—Directing railway companies to file with the Board returns of all accidents at highway crossings. This order is given in full on another page.

7473. May 4.—Respecting fences, gates for crossings and cattle guards. This order is given in full on another page.

7474. July 6.—Dismissing complaint of residents of Watford, Ont., alleging poor and unsatisfactory train service on G.T.R.

7475. July 6.—Authorizing Ottawa Terminals Ry. Co. to take lands at Ottawa for accommodation of traffic at central passenger station.

7476. July 6.—Authorizing Canada Southern Ry. to construct subway at Tecumseh road, to divert Tecumseh drain and locate water pipe along Wellington Ave, in Sandwich West tsp., Ont.

7477. July 6.—Dismissing application of Brunette Saw Mill Co. for order changing location of V.V. & E. Ry. & Nav. Co.'s railway in New Westminster, B.C.

7478. July 6.—Approving proposed deviation of V.V. & E. Ry. & Nav. Co.'s railway from Sapperton to Fraser River Lumber Co.'s Mills, at New Westminster, B.C.

7479. July 6.—Authorizing G.T.R., C.P.R., and other railway companies concerned, to appeal from order of the Board made re complaint of British Oil Company, Toronto, May 19, to Supreme Court of Canada. This order is given in full on another page.

7480. July 6.—Directing that St. Phillipe, St. Ferdinand, and Metcalfe, Sts., St. Henri, Montreal, be protected between 6 a.m. and 7 p.m. by watchmen to be appointed by the G.T.R.

7481. July 6.—Directing C.P.R. to construct highway crossing at Gainsboro Ave., Nepean tsp., Ont.

7482. July 7.—Dismissing complaint of Dominion Millers' Assn., respecting C.P.R. charges for elevating and storage of grain at Fort William, Ont. This order is given in full on another page.

7483. July 6.—Dismissing application of Town of Campbellford, Ont., for order directing G.T.R. to provide better passenger and train service connections between Campbellford and Toronto.

7484, 7485. July 9.—Authorizing C.N.Q.R. to construct its lines and tracks across public roads in St. Stanislas, Parish, Que., mileages 69.77 and 69.30, west of Quebec bridge.

7486. July 6.—Dismissing complaint of J. B. Grenier, of St. Tite, Que., alleging inefficient and unsatisfactory train service of C.N.Q.R., between Quebec and Montreal, and of lack of station accommodation at Heronville, Garneau, and St. Tite, Que.

7487. July 10.—Authorizing C.P.R. to construct bridge at mileage 97.8, Windsor section, Ontario Division, and rescinding order 5796, April 8, in so far as it authorized construction of the said bridge.

7488. July 9.—Directing G.T.R. to provide night watchman at Wellington St. crossing, Hamilton, Ont.

7489. July 9.—Authorizing switching connections between Bay of Quinte Ry. and Kingston & Pembroke Ry., at Harrowsmith, Ont.; Bay of Quinte Ry. to install and maintain semaphores at its own expense on each line of railway.

7490. July 6.—Authorizing C.N.O.R. Co. to cross and connect with Ottawa & Prescott Ry., at mileage 56.6, west of Hawkesbury, Ont.; interlocking plant to be installed.

7491. July 9.—Approving C.N.O.R. freight tariff, C.R.C. 74, for use on its line east of and including Toronto and Sudbury.

7492. July 6.—Refusing application of Rochester tsp. for order varying order 6981, May 10, authorizing construction by C.P.R. of bridge 92.1, Windsor section, Ontario Division.

7493. July 10.—Authorizing C.N.O.R. to open for traffic its line from South Nation River to Rockland, 12 miles.

7494. July 7.—Disallowing Canadian Ex. Co.'s notice of cancellation of rate of 30c. per 100 lbs. on freight shipments from Queenston, Ont., to Toronto, which was made effective by the company June 14.

7495. June 25:—Directing G.T.R. and Bay of Quinte Ry. to file a joint rate on bituminous coal from Black Rock, New York, and Suspension Bridge, N.Y., to Marlbank, Ont. This order is given in full on another page.

7496. July 6.—Authorizing Town of Prescott, Ont., to lay sewer outlet pipe across C.P.R. tracks.

7497. July 10.—Approving Atlantic, Quebec & Western Ry. Co.'s by-law authorizing A. Lemieux, General Manager, to issue traffic tariffs.

7498. July 6.—Dismissing application of Herbert Bingham, of Chrysler, Ont., and others, for order directing Ottawa & New York Ry., to rebuild its station at Chrysler, Ont., about 1,657 ft. north-westerly from its previous station site.

7499. July 6.—Dismissing application of Montreal Park and Island Ry., for authority to extend its railway along St. Denis St., Montreal.

7500. July 7.—Dismissing application of Manitoba Grain Growers' Assn., for order directing C.P.R., C.N.R., and G.T.R., to reduce charges for elevating and storage of grain at Fort William and Port Arthur, Ont. This order is given in full on another page.

7501. July 13.—Authorizing C.P.R. to construct its railway across highways in Tay tsp., Ont.

7502. July 8.—Approving location of C.P.R. and C.N.R. Union Station at Maryfield, Sask.

7503. July 9.—Authorizing C.N.O.R. to construct steel bridge over Rideau River, near Ottawa, mileage 56.9 west of Hawkesbury, Ont.

7504. July 9.—Authorizing C.P.R. to construct bridge 40.8, near branch of Elk River. Cranbrook section.

7505. July 12.—Authorizing C.P.R. to construct station at mileage 25.7, Ekfrid tsp., Ont.

7506. July 10.—Authorizing V.V. & E. Ry. & Nav. Co. to divert portions of certain streets, and to build its railway on certain streets in Princeton, B.C.

7507. July 9.—Authorizing G.T.R. to construct two additional tracks along and across Geddes St., Clifford, Ont.

7508. July 9.—Authorizing Town of Midland, Ont., to lay drain pipe under G.T.R.

7509. July 9.—Authorizing Bell Telephone Co. to erect wires across T.H. & B.R., 1½ miles west of Fenwick station, Ont.

7510. July 12.—Authorizing J. A. Lake to erect telephone wires across G.T.R. at Jackson's Point, Ont.

7511 to 7513. July 9.—Authorizing Bell

MONTREAL STEEL WORKS, LIMITED

POINT ST. CHARLES, = = MONTREAL

MANUFACTURERS OF

Steel Castings
(Acid Open Hearth System)

Switches and Track Work
for Steam and Electric Roads

Springs
of all kinds

Manganese Steel Castings
for wearing Parts, insuring Great Hardness and Durability

Interlocking Plants

Trucks for Electric Cars

Agents for Canada for

THOS. FIRTH & SONS, LIMITED, Sheffield, England

"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc. A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO., Barrow-in-Furness, England

Quotations for Tee Rails, Fish Plates, etc., promptly furnished. Catalogues sent on application.

Pintsch Light Steam Heat

Most brilliant illumination made possible by the Pintsch System using perfected Mantle Lamps and Safety Axle Driven Dynamo Electric System a product of sixteen years experience and now operating successfully on leading roads

The Safety Car Heating and Lighting Co.
2 RECTOR ST., NEW YORK.

Car Heating Systems guaranteed to meet all conditons of service. Controllable Direct Steam, Hot Water or Thermo Jet System where pressure not desired. Steam tight couplers, traps, trainpipe valves and other appliances.

CHICAGO. BOSTON. ST. LOUIS. ATLANTA. PHILADELPHIA. MONTREAL. BERKELEY, CAL.

Telephone Co. to erect wires across Michigan Central Rd. at three points at Leamington, Ont.

7514 to 7517. July 9.—Authorizing Norfolk County Telephone Co. to erect wires across G.T.R. in Woodhouse tsp., Ont.

7518. July 12.—Authorizing Bell Telephone Co. to erect wires across G.T.R., near Walkerton station, Ont.

7519, 7520. July 9.—Authorizing Manitoba Government Telephones to erect wires across C.P.R., near Emerson, and near Carroll.

7521 to 7524. July 12.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at Millbrook, Ont.; near Kingscourt, Ontario; near Lynn Valley, Ont., and near Midland, Ont.

7525. July 17.—Recommending to Governor in Council for sanction Ottawa & New York Ry. Co. by-law, prohibiting spitting in cars and premises.

7526. July 12.—Authorizing Bell Telephone Co. to erect wires across G.T.R., 2½ miles north of Newmarket, Ont.

Location of Switch Stands.

A circular published in our July issue stated that the Board of Railway Commissioners in view of the numerous accidents which had occurred, owing to the location of switch stands being too close to the track, considers it advisable that railway companies be required to remove all switch stands and other obstructions, to a distance 6 ft. clear of the main line, and in cases where high switch stands cannot be removed to this distance, they be replaced by dwarf switches. The Board, therefore, proposed to issue a general order, requiring within a reasonable time, the removal of all such switch stands as above set out, or the replacing, by dwarf switches, as well as the removal of all other obstructions.

The matter was considered at the Board's sittings, July 7, when several railway companies' representatives showed that such an order would be practically impossible to carry out, and the Board concluded not to go any further with the matter.

The Toronto Globe, which ought to know better, in reporting a sitting of the Board of Railway Comimssioners held at Fort William recently, spoke of the Assistant Chief Commissioner as "Hon. D'Arcy Scott." The habit of giving unauthorized titles to people in official positions is getting nauseating. There is only one member of the Board of Railway Commissioners who is entitled to the prefix "Hon." and that is the Deputy Chief Commissioner, Hon. M. E. Bernier, who is a member of the Privy Council of Canada.

The Interstate Commerce Commission in the matter of the Kalispell Lumber Company et al versus the Great Northern Ry. Co., et al, has ordered the G.N.R. Co. to establish and maintain rates on lumber and other forest products from certain points on its line in Idaho and Montana to certain points on its line located on the Pembina-Port Arthur line, which are certain differentials under the lumber rates from the Spokane group. It has also ordered the G.N.R. and the Minneapolis, St. Paul & Sault Ste. Marie Ry. to establish and maintain through routes and joint rates on lumber and other forest products between certain points in Idaho and Montana, and certain points in North Dakota.

Canadian Northern Railway Finances.

Lazard Bros. & Co., of London, Eng., recently offered for subscription £600,000 4% first mortgage debenture stock, principal and interest unconditionally guaranteed by the Saskatchewan Government, and the same amount of similar stock guaranteed in the same way by the Alberta Government, the subscription price being £97 10s.%. The stocks are repayable at par in London in 1939, interest payable half yearly. The stock will also be secured in each case by a first mortgage on the railway lines mentioned below. The net proceeds of the issue will be applied by the C.N.R. Co. to the construction and equipment of railways specified in the trust deeds, in respect of which the guarantees have been authorised by the Provincial Legislatures, and for that purpose will, in accordance with the provisions of the trust deeds, be paid to the credit of a special account in the name of the Treasurer of each Province, and by him paid out from time to time against engineer's certificates. These lines are as follows:—In Saskatchewan: from the C.N.R. near Maryfield, southwesterly and westerly, about 135 miles; from the C.N.R. near Dalmeny, northerly and north-easterly, about 40 miles; from the C.N.R. near North Battleford, northwesterly, about 50 miles. In Alberta: from Strathcona to Calgary, about 230 miles; from Edmonton north-westerly towards the Peace River, about 50 miles. The stocks now issued represent a bonded indebtedness at the rate of $13,000 a mile of lines above referred to, but power is reserved under the trust deeds, subject to special sanction by the Legislatures of the Provinces, to increase the amount up to $15,000 per mile, all ranking pari passu. The stocks will also rank pari passu with similar stocks or bonds to be issued for the construction of certain other railways specified in the trust deeds, at a rate not exceeding $15,000 a mile, and with any similar stocks or bonds which may be issued for the construction of any additional railways in Saskatchewan and Alberta, which the C.N.R. Co. may hereafter be authorised to construct, and in respect of which the Governments of the Provinces may be authorised by their Legislatures to give their guarantee.

At about the same time Sperling & Co., London, Eng., offered for subscription £800,000 4% perpetual consolidated debenture stock of the Canadian Northern Ontario Ry. Co., the subscription price being 92%, interest payable half yearly. The stock is perpetual and irredeemable. The net proceeds of the issue will be applied towards the construction of a railway to be constructed from an international bridge on the Niagara River, over which an entry will be secured into Buffalo, through Niagara Falls, Hamilton, Toronto, Oshawa, Port Hope, Cobourg, Trenton, Belleville and Smiths Falls to Ottawa, where it will join the existing line to Montreal and Quebec via Hawkesbury. The prospectus states that:—"No railway could be constructed in any other portion of the Dominion, which, with the same mileage, would traverse a district so densely populated, and it will provide the C.N.R. system with a very advantageous route between five of Canada's greatest cities and the points on the Niagara River, over which passes the greater part of the commerce between Canada and the U.S." The Debenture Stock will be secured by a first mortgage on the line already constructed from Hawkesbury to Ottawa, and on the new line to be constructed from Ottawa to Buffalo. It will also be secured by a fixed mortgage upon all other C.N.R. lines, present and future, ranking after any mortgages thereon now existing or hereafter to be created for the purpose of securing either bonds or other securities of the company guaranteed by the Dominion or Provincial Governments, and by a floating charge upon the whole of the residue of the company's undertaking and property (other than land and money subsidies). The company reserves the right to issue further stock or bonds ranking pari passu with the stock now offered, provided that the principal amount of all the stock and bonds at any time outstanding shall not exceed an amount equal to $30,000 a mile of line for the time being constructed or under contract to be constructed after deducting the amount for the time being outstanding of any Government guaranteed securities secured on such line in priority to the stock and bonds, and an amount equal to the amount by which any such Government guaranteed securities exceed $30,000 per mile of the line on which they are secured as a first charge, and an amount equal to the cost price to the company of all rights-of-way or land purchased or to be purchased by the company for terminals or any other purposes in connection with the construction, operation and maintenance of its railways, and an amount equal to the cost price to the company of any bonds, stocks, shares or securities of other companies deposited hereafter with the trustees as security for the stock.

The above mentioned issues were underwritten in London, W. Mackenzie being over there in connection with the matter and returning to Toronto, July 10. Further particulars of construction work to be undertaken as a result of these flotations, are given under the head of Canadian Northern Ry. construction on another page.

C. A. Westcott, conductor on the C.N.R. Goose Lake branch, was committed for trial at Saskatoon, Sask., July 7, on a charge of misappropriating cash paid to him for transportation.

F. C. Salter, European Traffic Manager, Grand Trunk Ry., London, Eng., writes: "I read the Railway and Marine World religiously, and it certainly keeps me posted with the information I want on railway matters."

The C.P.R. is reported to have deposited with the Royal Trust Co. $2,500 to be used for the education of the son of the constable who was killed while endeavoring to capture a train robber in British Columbia recently.

The Dominion Government at various times loaned old light weight Intercolonial rails to the Halifax Cotton Co. to the value of $4,335; to the Canada Steel Co., to the value of $11,964.66, and to Lowe, Reid & Co., to the value of $1,056.61, for the construction of sidings, and has ever since been carrying the amounts as assets. A committee of the House of Commons was appointed last session to look into these matters, and as a result it was decided to no longer look upon the amounts as assets, and they will not again appear in the public accounts.

CANADA CAR COMPANY

MONTREAL, QUE. **LIMITED**

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS CASTINGS FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

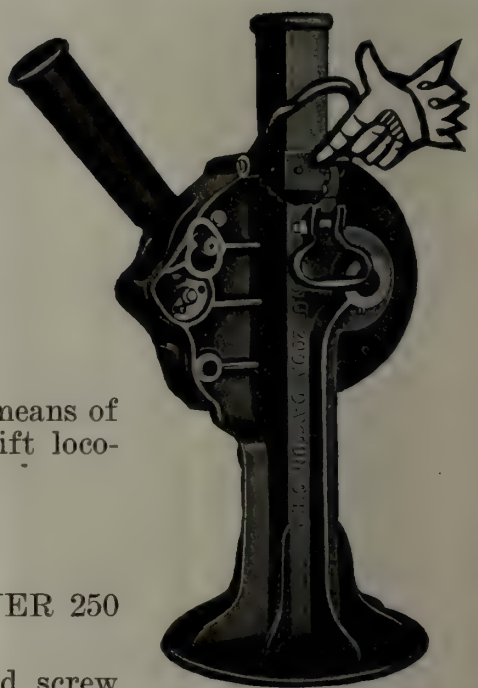
P.O. ADDRESS:
BOX 2286, MONTREAL **Works: TURCOT**

That Hard Plate

is typical of the Joyce-Cridland construction. Every one of the jacks has a tempered steel hard plate to take up thrusts due to the lever and to the load.

The frames are of crucible steel and there is not an ounce of superfluous metal anywhere. The jacks have high carbon steel bearings. The pawls and lever trunnions are chrome nickel steel.

In the automatic geared jacks force is multiplied by means of a gear and pinion and they are powerful enough to lift locomotives or loaded freight cars.



AUTOMATIC
GEARED LEVER JACK

AN IDEAL WRECKING JACK

JOYCE-CRIDLAND JACKS ARE MADE IN OVER 250 STYLES AND TYPES.

Write for special bulletins describing hydraulic and screw jacks, and special jacks for railway use.

A. R. Williams Machinery Co., Limited

Toronto, Winnipeg and Vancouver. WILLIAMS & WILSON, Montreal

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction Betterments.

Alberta and Great Waterways Ry.—The act incorporating this company, which was passed last session of the Alberta Legislature, authorizes the construction of a railway with branches from Edmonton north-easterly to the west end of Lac la Biche, thence to Fort McMurray, and from the west end of Lac la Biche to the east end. The capital is fixed at $7,000,000, and bonds to the amount of $40,000 a mile may be issued. The work of construction is to be commenced within one year, and completed within four years, but the Lieut. Governor in council has power to grant extensions of time if the progress of the work is delayed by causes beyond the control of the company. Upon the completion of each successive 50 miles the company shall provide accommodation for freight and passengers and unless otherwise ordered by order in council the line when put in operation shall as far as practicable be continually operated with a passenger and freight service. The company may construct telegraph and telephone lines, and enter into agreements with other companies. The Government is given power to purchase the entire undertaking of the company at any time for the then fair value, but this option is not to be assigned by the Government. The provisional directors are: W. R. Clarke, B. R. Clarke, of Kansas City, Mo.; W. Bain, Winnipeg, Man.

The Legislature also passed an act authorizing the Government to guarantee the company's bonds to the amount of $20,000 a mile of its lines of railway (branches and sidings to be computed in making up the mileage, but not the mileage of terminals in Edmonton), and to the additional extent of $400,000 in respect of the cost of terminals in Edmonton. The total mileage for which bonds are to be guaranteed is not to exceed 350 miles. The company shall not, except with the Government's sanction, amalgamate with any other company, or lease or transfer the railway or its franchises, or adopt any method of placing the railway under the management or control in whole or in part of any other railway or railways in any manner whatsoever. (April, pg. 249.)

Alberta Northwestern Ry.—The Alberta Legislature at its last session granted an extension of time for the commencement and completion of this projected railway. (Oct., 1908, pg. 711.)

Alberta Oil, Coal and Wheat Ry.—See Pincher Creek, Cardston and Montana Ry.

American Midland Ry.—A despatch from Valley City, North Dakota, says this much discussed and widely advertised railway project seems to have gone up in smoke. The company proposed to construct a railway to connect up Winnipeg, Man., with a port in the Gulf of Mexico. The despatch states that the company is not properly incorporated; that it has no equipment or cash adequate to construct the line; and that the courts have decided that it cannot yet acquire land by expropriation for a right-of-way. (Sept., 1907, pg. 663.)

Calgary and Knee Hill Ry.—The Alberta Legislature at its last session granted an extension of time for the construction of the first 30 miles of this projected railway. (April, pg. 247.)

Canada Western Ry.—An engineering party is working from Fernie, B.C., in connection with this projected line. The proposed route is from Calgary southwesterly. It will probably run from 20 to 30 miles west of the present C.P.R. line to Macleod, and west of the Porcupine Hills, following as closely as possible the valley of the Old Man River to Pincher Creek. It will then follow the easiest route to the International boundary, where it will connect with a line to be constructed to Butte, Montana. The line will pass through the Sheep Creek coal fields, in which P. Burns & Co. are said to be interested, and within easy reach of the Livingstone coal fields. It will open up a large section of agricultural land in South-western Alberta, as well as afford transportation for the timber and coal resources of a large section of the foothills of the eastern slope of the Rocky Mountains. The survey party, which is in charge of —. Godard, expects to be in the field for about three months. Press reports state that construction will be started as soon as the surveys are completed. The line is being constructed in the interests of the Chicago, Milwaukee and St. Paul Ry., and its western extension the Chicago, Milwaukee and Puget Sound Ry., with a special view to securing a coal supply for the western portion of its system. (May, pg. 355.)

Fort William Terminal Ry. and Bridge Co.—There has been deposited with the Dominion Department of Public Works and with the Registrar of Deeds at Port Arthur plans and descriptions of the company's proposed bridge across the Kaministikwia River, and also plan and description of its proposed bridge across the McKellar River, at Fort William, Ont. Application is being made for an order in council approving of the plans. (July, pg. 477.)

Graham Island Ry.—The British Columbia Legislature at its last session incorporated a company with this title to construct a railway from near Lena Island, on Skidegate channel, Queen Charlotte Islands, following the valley of the Hanna Island northerly to Camp Robertson, Camp Wilson, and on to Shields Island, Rennel Sound, with a branch to Masset Inlet. The capital is fixed at $1,000,000, and the company may issue bonds for $30,000 a mile. It is authorized to make traffic and other agreements with steamship, railway, telephone or telegraph companies, and it may also own and operate steam and other vessels. The provisional directors are: P. D. Hillis, E. W. Tracksell, L. L. Butler, Z. B. Hamilton, Victoria, B.C. (April, pg. 247.)

Halifax and Southwestern Ry.—The construction of a branch line from Nictaux to the Canada Iron Corporation's mines, about 4 miles is projected. The Corporation is making surveys at Port Wade, N.S., in connection with this, for the construction of terminal facilities, and the installation of an extensive ore handling plant, with a capacity of 2,000 to 3,000 tons an hour.

Hardy Bay and Quatsino Sound Ry.—The British Columbia Legislature at its last session incorporated a company with this title to construct a railway from Hardy Bay westerly to Coal Harbour, Quatsino Sound, and branch lines. The capital was fixed at $250,000, and the company is authorized to issue bonds for $25,000 a mile of railway constructed. The company is given the usual powers to construct telephone and telegraph lines, and to enter into traffic and other agreements. The head office is to be at Victoria, and the provisional directors are: Col. H. Appleton, F. Appleton, Victoria, B.C., and F. J. Marshall, London, Eng. (April, pg. 247.)

Hudson Bay.—There are yet two survey parties in the field working out details in connection with the railway to Hudson Bay, projected by the Dominion Government. One of these is at Fort Churchill, and the other at the mouth of the Nelson River. Their work has to do with the harbors and terminals, and it is expected that they will have completed their work by the end of August.

The staff, working at Winnipeg, has practically completed the plans, the estimates and the quantities and grades of material to be excavated. It was expected that its detailed report would be in the hands of the Department of Railways by July 31.

Intercolonial Ry.—Replying to representations made by the Halifax, N.S., Board of Trade, F. P. Brady, member of the Government Railways Management Board, said, July 10, that the question of removing the old round-house and other buildings at Halifax in order to increase the yard room, was under consideration. (July, pg. 447.)

Kootenay and Alberta Ry.—The Alberta Legislature last session incorporated a company with this title to construct a railway from near Cowley, on the C.P.R. Crow's Nest branch, southwest through the Beaver Valley directly or nearly directly west to North Kootenay Pass Rocky Mountains; and from near Cowley, south easterly through Pincher Creek, the Fishburn settlement, Cardston, and thence almost directly to Coutts, or where the Great Northern Ry. reaches the International boundary. The capital is fixed at $500,000; bonds to the amount of $20,000 a mile may be issued; agreements may be made with other railway companies, and telegraph and telephone lines may be constructed. The provisional directors are: F. M. Steel, J. E. Woods and C. Kettles, Pincher Creek, Alta. (April, pg. 247.)

Northern New Brunswick and Seaboard Ry.—New Brunswick Docks and Terminal Ry. Co.—Bathurst Iron Mine Line.—These are the various titles under which the Canada Iron Corporation has power to construct a railway from its iron mines on the Nepisiquit River, in Gloucester County to Bathurst, N.B., and terminals, docks, etc., at Bathurst. The length of the line is about 17 miles. We are advised that a contract has been let to A. and W. D. Wheaton for the construction of this line. They have moved their headquarters from Amherst, N.S., to Bathurst, N.B., and are to start work at once. (April, pg. 249.)

The new line starts from the Intercolonial Ry. at Black's Cut, about four miles south of Bathurst, and runs up the valley of the Nepisiquit River for a distance of about 17 miles to the iron mines. There are no large structures to be erected. There will be a small steel bridge on concrete abutments across the Pabineau River. The line is to be substantially constructed and laid with 85 lb. steel rails. F. C. Parsons, Londonderry, N.S., is Chief Engineer for the

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.
MONADNOCK, CHICAGO

The Hamilton Steel & Iron Co.

HAMILTON, CANADA LIMITED

PIG IRON

RR. AXLES **ANGLE BARS**
TRACK SPIKES **TIE PLATES**

Marine and Railroad
FORGINGS
In Rough, Rough Turned or Smooth Finished

BAR IRON **BAR STEEL**
Plain, Cold Twisted or Deformed

STEEL BARS
For
CONCRETE REINFORCEMENT

Canada Iron Corporation, and J. J. Taylor is Chief Engineer of construction.

Ottawa and New York Ry.—Plans have been approved by the Board of Railway Commissioners for the construction or a new drawbridge over the Cornwall canal.

Pacific Northern and Omineca Ry. (G.T. Pacific Ry.)—The British Columbia Legislature last session granted the company an extension of time to construct the lines previously authorized, and also gave it power to construct an additional branch line from the junction of the Skeena and Copper rivers to the junction of the Bulkley and Telkwa rivers.

Pincher Creek and Southern Ry.—A company with this title was incorporated at the last session of the Alberta Legislature, with power to construct a railway from the International boundary between ranges 22 and 29 west of the 4th principal meridian, northerly and westerly to the Pincher Creek Coal Mining Co.'s collieries in tp. 6, range 30, west 4th meridian, and tp. 6, range 1, west of the 5th meridian, and thence to the C.P.R. Crow's Nest Pass branch at or near Pincher station. The capital is fixed at $500,000; the company may issue bonds to the extent of $20,000 a mile; may construct telegraph and telephone lines, and may enter into agreements with other railway companies. The provisional directors are: R. D. Miller, O. G. Laberee, Spokane, Wash.; J. Finlay, A. C. Kemmis, Pincher Creek, Alta. (See South West Alberta Ry., Mar., pg. 175.)

Pincher Creek, Cardston and Montana Ry.—The Alberta Legislature last session changed the name of the Alberta Oil, Coal and Wheat Ry., incorporated by chap. 48 of the statutes of 6th Edward VII., to the above. Sections 5 to 49 and 51 to 54 of the incorporation act are repealed, and new sections passed. These provide that the company may construct a railway to be operated by electric, steam or other power from a point connecting with the C.P.R. in tp. 7, range 30, west of the 4th meridian, to Pincher Creek, thence easterly and south easterly to the Kootenay River in tp. 5, range 28, west 4th meridian, thence to Cardston, and southerly to the Internatnional boundary in tp. 1, range 23, west 4th meridian, a distance of 54 miles from Pincher Creek; also an extension or spur from Pincher Creek westerly and northwesterly to the Alberta-B.C. boundary, about 40 miles. The company is authorized to construct telephone and telegraph lines, and to enter into agreements with other companies. The other sections deal with the date of annual meetings, election of directors, and other general matters. (May, pg. 357.)

Portland Canal Short Line Ry.—A company with this title was incorporated by the British Columbia Legislature last session, with power to construct a railway from the head of Portland Canal, along Bear River for about 30 miles, also up American Creek, and branch lines not exceeding 10 miles long. The head office is to be at Victoria; its capital is fixed at $1,000,000, and it may issue bonds for $30,000 a mile. The company is given the usual powers as to telegraph and telephone lines, and as to amalgamating or making agreements with other companies. The provisional directors are T. F. Hopkins and M. Stewart, Seattle, Wash.

Prince Edward Island Ry.—Tenders are under consideration for the construction of a 20-stall brick and concrete engine house, foundation for turntable, foreman's office, and lavatories at Charlottetown, P.E.I. (May, pg. 357.)

Prince Rupert and Port Simpson Ry.—The British Columbia Legislature last session incorporated a company with this title to construct a railway from Prince Rupert northerly to Port Simpson, and branch lines not exceeding 10 miles long. The capital stock is $1,000,000, and bonds for $35,000 a mile may be issued. All the other powers incidental to railway companies are also conferred. The head office is to be at Victoria, and the provisional directors are M. King and H. B. Robertson, Victoria. (April, pg. 249.)

Quebec Eastern Ry.—Surveys are being made for a line to extend from the Quebec Bridge, through Lysander Falls, Inverness, and Lime Ridge, to Sherbrooke, Que. It is also proposed to construct a line from Lyster, the point of junction of the Lotbiniere and Megantic Ry. with the G.T.R., to Inverness to connect with the projected Q.E.R. The survey party is at present working between Lime Ridge and Sherbrooke.

The Q.E.R. is being promoted by interests owning the Lotbiniere and Megantic Ry., which line, it is intended, ultimately to amalgamate with the Q.E.R. A press report says that when completed the Q.E.R. will be taken over by the G.T.R. F. N. McCrea, is President of the L. and M. Ry., and also the most active promoter of the Q.E.R. (Feb., pg. 103.)

Quebec, Montreal and Southern Ry.—The Quebec provincial inspecting engineer and director of railways has completed an inspection of the line from St. Lambert to Fortierville, the terminus of the new extension, and reports that the road, stations, bridges, and equipment are in good and satisfactory condition. (July, pg. 481.)

Red Deer Ry.—The Alberta Legislature has extended the time for the construction of this projected railway, and authorized the company to construct additional lines from Red Deer, Alta., northwesterly to Sylvan Lake, and from Red Deer southerly to Pine Lake. (Mar., pg. 175.)

The Red River Valley and Hudson Bay Ry. Co. has been incorporated under Minnesota State laws, with a capital of $500,000. The incorporators are farmers, and it is desired, as far as possible, to have only farmers as shareholders. The line which the company proposes to construct will extend from Osio, in the southwestern part of Marshall County, on the Minneapolis, St. Paul and Sault Ste. Marie Ry., to St. Vincent, near the Manitoba boundary in the northwestern part of Kittson County, on the Great Northern Ry. This line will run parallel to the Red River, through a rich part of the country. The right-of-way has been secured from the farmers along the route for a considerable distance without cost; and land has been acquired in the towns of St. Vincent, Hill, Red River, Telin, Eagle Point, and Big Wood. The length of the line at present proposed is about 70 miles.

Royal Collieries Ry.—The Alberta Legislature at its last session incorporated a company with this title to construct a steam or electric railway from the C.P.R. Crow's Nest branch at or near Lethbridge to sec. 32, tp. 9, range 21, west of the 4th meridian. The capital is fixed at $50,000; it may issue bonds for $15,000 a mile; may construct telegraph or telephone lines along its route, and may enter into agreements with other companies. The provisional directors are: H. N. Galer, Spokane, Wash.; G. L. Fraser, J. B. Wilkie, Lethbridge, Alta. (Feb., pg. 105.)

Southern Alberta Ry.—The Alberta Legislature last session incorporated a company with this title to construct a railway from the C.P.R. at Medicine Hat northwesterly to the C.P.R. at Suffield, thence southwesterly to the Bow River in tp. 11, range 13, west of the 4th meridian, thence westerly to the Calgary and Edmonton Ry.; and from the above line in tp. 24, range 1, west of the 5th meridian, northwesterly to tp. 24, range 1, west of the 5th meridian. The capital is fixed at $2,500,000; bonds may be issued for $15,000 a mile; agreements may be made with other companies, and telephone and telegraph lines may be constructed. The provisional directors are: J. A. McGregor, A. M. Grace, L. Welford, Medicine Hat, Alta.

Strathcona Central Ry.—The Alberta Legislature last session incorporated a company to construct a railway from near Ellerslie on the C.P.R., westerly through ranges 24 and 25, tp. 51, west of the 4th meridian, to the North Saskatchewan River, thence northeasterly to Strathcona. The capital is fixed at $100,000; bonds may be issued for $10,000 a mile; agreements may be made with other railway companies, and telephone and telegraph lines may be constructed. The provisional directors are: R. Crockart, A. Lloyd, R. T. Purvis, Strathcona, Alta.

Temiskaming and Northern Ontario Ry.—The Commissioners have approved of the construction of a siding from Charlton, for 0.75 mile, to some mills, but as this point is on the line of the surveyed route of the suggested line to Elk Lake and Gowganda, it is locally regarded as a start upon the construction of such a line. It has been decided to construct temporary freight sheds at Charlton, pending the development of traffic. (July, pg. 481.)

Plans have been prepared for the erection of a freight station at Cobalt, and the Chairman of the Commission stated, that in the near future an improved passenger station would be erected at the same place.

The T. and N.O.R. is erecting a large and commodious station building, 151 ft. 4 ins. by 35 ft., at Cochrane, for joint use with the National Transcontinental Ry. The new building is to be of red pressed brick, with covered platforms on the north and south sides. The waiting-room, common to both lines, will be in the centre, the ticket and other offices for each company being at the sides, with ladies' waiting-room, dining-room, kitchen and baggage-room on the ground floor, while upstairs will be offices for the divisional officials, sleeping quarters for employes, and a special suite of rooms for the T. and N.O. Ry. Commissioners.

The foundations and footings are of concrete construction, the ground floor being of reinforced concrete carried by steel beams, and the exterior platforms are of concrete with granolithic surface. The walls are of deep red hard burned pressed brick with grey stone trimmings. The roof covers are green slate, and the building is surrounded by a hood. The

Bowser Pumps in a Railway Storehouse

Greater Net Earnings

A big gross income is a good thing, but it is what is left after all expenses are deducted that counts.

Reduce your operating expenses, and thereby increase your net income by installing

The Bowser System of Oil Storage

The BOWSER reduces the cost of labor involved in handling the oil 75 per cent. It reduces the oil bills 10 to 25 per cent. It also reduces the insurance rate by decreasing the fire hazard.

Bulletin 18 tells all about it. Sent upon request to those interested.

S. F. BOWSER & CO., LIMITED
66-68 FRASER AVENUE - - TORONTO

THE

NEW HOTEL BREVOORT CHICAGO

The Twentieth Century Hotel **Absolutely Fireproof**

Centrally located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG, PROPRIETORS

ARTHUR M. GRANT, MANAGER

THE SEA-SIDE

100's of Safe Beaches
Water Agreeable Temperature
Accommodation at Reasonable Rates

In

QUEBEC

NEW BRUNSWICK

NOVA SCOTIA

PRINCE EDWARD I.

Halifax, N.S.....Cor. Sackville and Hollis Sts.
St. John, N.B.....3 King Street
Quebec.....22 Dalhousie Street, 7 Dufort Street, 349 St. Paul Street
Montreal, P.Q. .....130 St. James St.
Toronto....51 King Street, King Edward Hotel Block

Write for copy of "TOURS TO SUMMER HAUNTS" to
General Passenger Dept.
INTERCOLONIAL RAILWAY
MONCTON, N.B.

interior finish of the ground floor is plastered with white cement dadoes and hardwood trim, while the upper floor apartments are plastered with painted pine trim.

Tramping Lake, Sask.—At a meeting of settlers in this vicinity, June 25, a resolution was passed asking the Provincial Government to arrange for the construction of a railway through the district. The settlement is at present 40 miles from a railway.

United Gold Fields of British Columbia.—The Board of Railway Commissioners has approved the amended location plans for the railway which this company is authorized to construct from Frank to Grassy Mountain. The United Gold Fields of B.C. is a joint stock company incorporated in London, Eng., which obtained registration in Canada. In 1902 it obtained power from the Dominion Parliament to construct a railway from Frank, on the C.P.R. Crow's Nest Branch, northerly to Grassy Mountain, about seven miles, and branches not to exceed eight miles in any one case. The line from Frank to Grassy Mountain was constructed and was operated for some time as the F. and G.M.R., carrying the output of some collieries at Grassy Mountain. The landslide at Turtle Mountain on April 29, 1903, practically wiped out Grassy Mountain village and carried away or covered up about 1.50 miles of the F. and G.M.R. There were subsequently some difficulties with the contractors, and nothing has been done since in the way of restoring the line. In 1904, the company secured power from the Dominion Parliament to amalgamate with the West Canadian Collieries Co., a joint stock company also incorporated in London, Eng., originally for the purpose of developing coal mining properties in Yukon and elsewhere, and it obtained an act from the Dominion Parliament to take over the powers of the U.G.F. of B.C., and to amalgamate with or take over the Cardiff Ry. The amended plans approved of by the Railway Commission would, therefore, appear to be for the reconstruction of the F. and G.M.R., and especially for that portion carried away or buried by the landslide of 1903. (Sept., 1904, pg. 317.)

Vancouver and Northern Ry.—The British Columbia Legislature last session incorporated a company with this title to construct a railway from Vancouver following the valley of the Seymour Creek to the watershed north of Loch Lomond, thence via the valley of the easterly branch of Seymour Creek and along the valley of the Indian River to the north arm of Burrard Inlet, and a branch via the valley of Furry Creek to Howe Sound, with power to extend northerly from the main line to the Howe Sound, Pemberton Valley and Northern Ry. between the mouth of Squamish River and the junction of the Cheakamus and Chee Kee rivers; and other branch lines not to exceed 10 miles long, none of such branches, however, to be in the valleys of the Squamish, Cheakamus or Chee Kee rivers. The capital is fixed at $1,500,000, and it may issue bonds for $30,000 a mile. The company is given all the usual powers; its head offices are to be at Victoria, and the provisional directors are: C. T. Dunbar, F. C. Wade, E. J. McFeely, H. M. Burwell, C.E. (Feb., pg. 105.)

Victoria and Barclay Sound Ry.—Press reports from Victoria, B.C., state that surveys have been commenced on this projected railway. The object of the present survey is said to be to secure a line from deep water at Esquimalt Harbor, to the west coast of Vancouver Island. (April, pg. 251.)

Western Coal and Coke Co.—The Alberta Legislature last session changed the name of the Western Oil and Coal Consolidated Co. to the above.

Great Northern Ry. Lines in Canada.

Land is being purchased in the vicinity of Winnipeg for right of way, one report stating that it is for the Northern Pacific Ry. As this company is in alliance with the G.N.R., the work being done will probably have some bearing on the construction of the latter company's projected line from Emerson to Winnipeg. The N.P.R. as well as the G.N.R. owns charters enabling it to construct a considerable network of lines throughout Manitoba.

A copy of a resolution passed by G.N.R. directors was filed July 7 at Helena, Mont., announcing the company's intention to construct a line northerly from Poplar, Valley county, Mont., to the International Boundary. Poplar is a station on the G.N.R., in the Fort Peck Indian reservation, and the proposed line will follow the Poplar River valley to the boundary line between Montana and Saskatchewan. It is reported that work is to be started this season, and that on reaching the boundary line, construction will be continued to Regina, Sask., under a Canadian charter.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—Tracklaying is being proceeded with rapidly upon the extension of this line westerly into Penticton, B.C. It was expected that track would be laid to the second crossing of the Similkameen River by July 31, and it is hoped to reach Twenty-mile creek by Aug. 15, to complete the bridge across that creek by the end of the month, and to get into the yards at Hedley by Sept. 1. Past Hedley, it is expected to be over the third crossing of the Similkameen River by Sept. 15, and to have the track laid into Penticton by Oct. 15. The ballasting gang is following up the tracklaying work, and it is expected to have the ballasting completed so that trains can be run into Penticton by Dec. 1. Beyond Penticton, the located line is being opened up so as to be ready for the grading gangs as they come off the section into Penticton. (July, pg. 503.)

The C.P.R. is surveying a line on the east side of the Fraser River in British Columbia, in which district C.N.R. and G.T.P.R. survey parties are also at work.

The differences between the Commissioners of the Temiskaming and Northern Ontario Ry. and McRae, Chandler and McNeill, Ltd., over the contract for the construction of the line north of Matheson, Ont., are to be fought out in court. The contractors desire to recover $200,000, which they allege to be due on account of work done up to the time the Commissioners took over the contract. The Attorney General has promised the necessary fiat, on condition that the contracting firm makes an arrangement with certain firms which advanced money to carry out the contract, with a view of obviating the necessity of more than one action.

Trade and Supply Notes

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

H. G. Nicholls, who was for several years Assistant General Manager of the Canadian General Electric Co. and the Canada Foundry Co., has resigned that position and gone into business for himself. He has organized a company, Factory Products, Limited, with offices in the Confederation Life Building, Toronto, for the purpose of acting as Canadian selling agent for representative manufacturers.

The firm of Burnham, Williams & Co., proprietors of the Baldwin Locomotive Works, Philadelphia, Pa., was dissolved July 1 by mutual consent, and its entire property and interests in the locomotive business were sold to the Baldwin Locomotive Works, a corporation organized under Pennsylvania laws. The officers of the Baldwin Locomotive Works are: J. H. Converte, President; W. L. Austin, Vice President and Engineer; A. B. Johnson, Vice President and Treasurer; S. M. Vauclain, General Superintendent; W. De Krafft, Secretary and Assistant Treasurer. All officers except Mr. De Krafft were partners in the Burnham, Williams & Co. firm.

The Falls Hollow Staybolt Co. advises us as follows:—It has received an order from the Great Southern of Spain Ry. Co., Ltd., for a carload of hollow staybolt iron bars, making the second carload order received from that company within the year. The Great Northern Ry. specified recently Falls hollow staybolt iron in five locomotives, the American Rd. of Porto Rico in three locomotives being built by the Baldwin Locomotive Works. The Ann Arbor Rd. in four locomotives, and the Detroit, Toledo & Ironton Ry. in eight locomotives ordered recently from the American Locomotive Co. During the past six months The Falls Hollow Staybolt Co. has secured some 50 new railway customers for its product in the U. S., Canada and Mexico, and has also received new business from railways in several foreign countries.

The Annual Financial Review, for 1909, which has been issued by Houston's Standard Publications, Toronto, contains reports as to the operation of Canadian financial institutions, railways and industrial concerns as well as of concerns in the United States and other countries in which Canadian capital is largely invested. In addition to the latest annual reports, the Review gives information showing the extent to which the securities of the companies are traded in on the different stock exchanges, together with the range of prices. The book gives evidence of careful compilation, and is well arranged. As giving a comprehensive survey of the joint stock corporations in which Canadians are interested it is a valuable book of reference to investors as well as to officials of companies. This is the ninth year of issue, and the present volume is the largest of the series.

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING, 232 ST. JAMES STREET, **MONTREAL**

DOMINION IRON & STEEL CO. LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1909. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICES AND WORKS: **SYDNEY, CAPE BRETON, CANADA**

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for Sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

Railway Commissioners Traffic Orders.

Summaries of other traffic orders passed are given on another page under the heading of Orders by Railway Commissioners.

7337. June 22.—Re order 7023, May 10, 1909, approving supplement 1 to Canadian Classification 14, with certain exceptions named in the order, amongst the exceptions being the temporary approval of the classification of silos pending a hearing by the Board. Upon hearing representatives on behalf of the Montreal Board of Trade and the Canadian Freight Association, and upon the report and recommendation of the Chief Traffic Officer of the Board, it is ordered that order 7023 be amended by striking out clause 2.

MONTREAL CHEESE RATES.

7343. June 23.—Re application of Montreal Produce Merchants' Association, for order directing that the exporter of cheese in Montreal be placed on as favorable a basis with regard to rates on export traffic as his competitor west of Montreal; that freight rates on cheese be placed on a parity with those on bacon; and complaining of alleged advance in freight rates on cheese in the past two or three years. Upon hearing the application in Montreal Dec. 22, 1908, members of the Montreal Produce Merchants' Association and counsel for and representatives of the C.P.R. and G.T.R. appearing at the hearing, the evidence adduced, and what was alleged; and upon the report of the Chief Traffic Officer of the Board; it is ordered that the application for absorption of the inward cartage charge at Montreal be refused. That, on cheese shipped from points west of Montreal to Montreal on separate rail bills of lading, the railway companies absorb the wharfage and port warden's fees when such cheese is subsequently exported from the port of Montreal; the said absorption to continue so long as it is applied in the case of cheese shipped on joint rail and ocean bills of lading to Europe; the tariffs of the railway companies to provide for such absorption to be filed and published and to become effective within 30 days from date of this order. That the application for refunds covering the seasons 1907 and 1908 be refused. That the application that the rail rates on cheese be placed on a parity with those on bacon be dismissed. That the complaint dealing with the alleged advance in rail rates on cheese to Montreal which has taken place in the last two or three years be dismissed.

CLASSIFICATION OF INGOT TIN.

7367. June 25.—Re application of Montreal Board of Trade Transportation Bureau for order directing reduction from second class rate on ingot tin, in Canadian Classification, to third class, as in the Official Classification; upon hearing the application at Ottawa, May 19, applicants being represented, and in the presence of counsel for and representatives of C.P.R. and G.T.R., and what was alleged, and upon the report of the Chief Traffic Officer of the Board, it is ordered that the application be dismissed.

INTERSWITCHING AT ROSSLAND, B.C.

7393. June 21.—Re order 2115, Nov. 16, 1906, prescribing rates to be charged for interswitching between the Red Mountain Ry. and the Columbia Western Ry. at Rossland, B.C., amending previous order dated Feb. 14, 1906; and re application of Red Mountain Ry. for amendment to said order 2115, making applicable the general interswitching order; upon hearing the application at Nelson, B.C., Mar. 5, 1909, counsel appearing for the Red Mountain and the Columbia Western Ry. Cos., the evidence adduced, and what was alleged, it is ordered that the application be dismissed.

OIL RATE, STOY, ILL., TO TORONTO

7479. July 6.—Re complaint of British American Oil Co. of Toronto, complaining that the G.T.R. unjustly discriminated against crude oil shipments from Stoy, Ill., to Toronto, by refusing to carry it at the published and filed joint tariff fifth-class rate, in accordance with the Official Classification and at the same rate as animal and vegetable oils, in carloads, and that the G.T.R. refused to deliver to complainants at Toronto cars containing crude oil from Stoy, Ill., except upon payment of 12½c. per 100 lbs., which additional rate has been paid under protest and which the G.T.R. refused to refund. Upon the application of counsel for the railway companies in the presence of counsel for complainant company, it is ordered that the railway companies have leave to appeal from the Board's order of May 19, to the Supreme Court of Canada upon all questions of law involved in the making of the order, as provided by the Railway Act, subsec. 3 of sec. 56, and that such appeal be set down for the next ensuing sittings of the Supreme Court. And it is further ordered that the railway companies do, on or before Aug. 1, furnish the solicitor for the complainant company a memorandum setting forth the questions of law proposed to be raised in the appeal to enable the solicitor to prepare his factum.

ELEVATOR CHARGES AT FORT WILLIAM.

7482. July 7.—Re complaint of the Dominion Millers' Association, under provisions of Railway Act, alleging that C.P.R. charges for elevating and storage of grain at Fort William, Ont., are excessive, and applying for an order directing the company to reduce the charges; upon hearing application in presence of counsel for applicants and the C.P.R. and C.N.R. Companies, it is ordered that the same be dismissed.

7500. July 7.—Re application of Manitoba Grain Growers' Association for order directing C.P.R. to reduce charges for elevating and storage of grain in terminal elevators at Fort William, Ont., to same charges the Company makes for similar services in elevators at Owen Sound, Ont., and for order directing that such reduction of storage tariff as may be decided upon be made to apply to C.N.R. terminal elevators at Port Arthur and terminal elevators in course of construction by G.T.P. Ry. at Fort William upon hearing application in presence of counsel for applicants and the railway companies interested, and what was alleged, it is ordered that the same be dismissed.

COAL RATE TO MARLBANK, ONT.

7495. June 25.—Re application of Canadian Portland Cement Co. under secs. 315 and 334 of Railway Act, for order directing the G.T.R. and the Bay of Quinte Ry. to establish and maintain through joint rate on bituminous coal to Marlbank, Ont., properly related to the rates in effect to points contiguous thereto; upon hearing the application on May 19, and what was alleged by counsel for applicant and the G.T.R. and the representatives of the railway companies interested, it is ordered that the said railway companies publish and file with the Board a tariff of a joint rate on bituminous coal from Black Rock, N.Y., and Suspension Bridge, N.Y., to Marlbank, Ont., of $1.43 a ton of 2,000 lbs. on a minimum weight of 15 net tons per carload, except that in the case of cars having a less marked capacity than 15 net tons, the said marked capacity, but not less than 12 net tons, shall be the minimum carload weight, the rate to become effective not later than August 23.

Accidents at Railway Crossings.

The Board of Railway Commissioners passed the following order, 7472, July 8: All railway companies subject to the jurisdiction of the Parliament of Canada shall, on or before Sept. 1, 1909, furnish to and file with the Board:—

1. A return of all highway crossings upon its railway at which an accident has happened, subsequent to Jan. 1, 1900, by a moving train causing bodily injury or death to a person using such crossing.

2. In the event of more than one accident of the character aforesaid having happened at any such crossing, such return shall so indicate.

3. That such return shall cover all accidents of the character aforesaid up to the date thereof.

4. That after the filing of the said returns with the Board, each of the companies aforesaid shall, immediately upon the happening of an accident or accidents of the character aforesaid, furnish to and file with the Board a return of all such accidents happening upon its lines subsequent to the date of the return required by par. 1 hereof.

5. The said returns shall be certified to by an officer or official of the railway company, who shal have the necessary knowledge, obtained by enquiry or otherwise, to justify such certification.

6. The said returns shall be in the form appearing as Schedule A hereto.

7. The information set forth in the said returns shall be full and explicit.

Galt Hospital, Lethbridge, Alta.—The Alberta Legislature last session passed an act revising the old charter of incorporation of this institution—granted by the old North West Territorial Legislature in 1894. The incorporators are E. T. Galt, W. M. Ramsay, Montreal; J. Galt, Winnipeg; and C. A. Magrath, Lethbridge, Alta. These with four others to be appointed annually—two by the Lethbridge Council, and two by the Alberta Ry. and Irrigation Co., or if the latter ceases to exist, by the original incorporators. The original incorporators hold office for life and vacancies are to be filled by those remaining. The object of the incorporation of the hospital is to administer as trustees the bequest made to it by the late Sir A. T. Galt, together with such other gifts and bequests as may from time to time be made to it.

The C.P.R. put in operation, July 4, a Sunday service to and from St. John, N.B., in addition to the regular week-day service. The Lord's Day Alliance has protested against the new service, but has decided not to take any steps to endeavor to have the trains discontinued.

Canadian Gold Car Heating & Lighting Co. Ltd.

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished. Improved System of Acetylene Car Lighting.

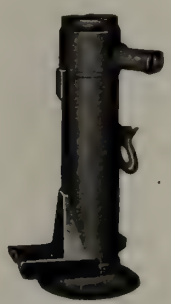
Send for Circular of our New Combination Pressure and Vapor Car Heating System

Largest Manufacturers in the World of Car Heating Apparatus

H & E Patent Ball-Bearing Lifting Jacks

For Railway and Bridge Work, Contractors' and Builders' Use

Foot-Lift

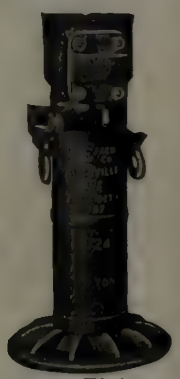


For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed. Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

MANUFACTURED BY

Square Base

Journal Jack



Plain

H & E LIFTING JACK COMPANY = = WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

CANADIAN LOCOMOTIVE CO., LTD.,

KINGSTON, ONT.

Builders of Simple and Compound **LOCOMOTIVES** Adapted to every variety of service

National Transcontinental Railway.

An Order in Council has been passed appointing H. Holgate, Montreal, and A. Noble, Chief Engineer of the Pennsylvania Ry. tunnel, as special engineers to decide upon certain problems in connection with the reconstruction of the bridge across the St. Lawrence River at Quebec, upon the working out of which the board of three engineers cannot agree. It is said that the principal question about which there is a difference of opinion has to do with the foundation piers. The piers, which were erected by the old bridge company, were built for a span of 1,800 ft. centre to centre, and the board of engineers are not at one as to whether these piers are sufficiently strong to carry the added stresses which the increased weight of the new bridge will bring into play; or if it will be necessary to construct two additional piers, thereby reducing the central span to one of 1,600 ft.

The question of the material of which the superstructure will be constructed, has been given full consideration, and H. E. Vautelet, Montreal, is quoted as saying that he and his colleagues had united in favor of recommending the use of nickel in place of carbon steel. Nickel steel is harder but lighter than carbon steel, and is more expensive on account of the greater cost of working it.

Interest in construction work on the N.T.R. at present is primarily centred upon the completion of the section between Winnipeg and Lake Superior Jct., the point of connection with the G.T. Pacific Ry. branch to Fort William, Ont. The latest reports are to the effect that from St. Boniface, Man., there has been laid about 150 miles of track easterly, and from Lake Superior Jct. westerly, about 30 miles. On July 1 there had been laid 140 miles from St. Boniface end and 20 miles from the Lake Superior Jct. end, and it was expected to complete the intervening 89 miles by about the middle of August. The construction of this section of the line has been particularly heavy. With the exception of a few miles of prairie work near Winnipeg, almost the entire distance here had to be cut through solid rock. In all something like 6,000,000 cubic feet of rock has been removed, of which about 4,000,000 cubic feet came from four tunnels. The deepest rock cut was one of 84 ft. north of Wabigoon. It is upon this section of line that the differences as to classification have been most acute. For the settlement of these differences an inspection of the line has been made by H. D. Lumsden, who recently resigned his position as Chief Engineer for the Canadian Government; B. B. Kelliher, Chief Engineer G.T. Pacific Ry.; and C. Schreiber, Consulting Engineer for the Department of Railways, as arbitrator.

The construction of the line from St. Boniface into Winnipeg is being gone on with, but there are two questions in process of settlement which may delay work somewhat. They are the question of a bridge in which the Commissioners and the St. Boniface Council are involved, and the question of the crossing of the C.P.R. and C.N.R. at St. Boniface. In regard to the first it was arranged that the St. Boniface Council should provide $110,000 to have the bridge so constructed that it would be available for general, as well as for railway traffic. It is now proposed that the contribution be reduced to $75,000, and that half of the cost of maintenance be assumed. The question of the crossing of the C.P.R. and the C.N.R. came before the Board of Railway Commissioners at Ottawa, July 7, when the Commissioners gave the parties until July 26 to come to an agreement. The Commissioners sat at Winnipeg July 26, when the application of the N.T.R. was to have been reheard if the parties had not reached an understanding.

Grand Trunk Pacific Ry. Bridge, South Saskatchewan River.

GRAND TRUNK PACIFIC RAILWAY.

The South Saskatchewan River bridge, which is illustrated on this page, spans the South Saskatchewan River on the G.T.P. Ry. main line near Saskatoon, 468.5 miles west of Winnipeg. The foundations were made in the ordinary way by means of open coffer dams and concrete forms, and the noses of the river piers were provided with steel protectors. Sixty piles were used only in the foundation of the west abutment. The total amount of concrete used in the foundations, which consist of two abutments and seven river piers, was 7,600 cu. yds. The superstructure is composed of one 175 ft. through truss span, five 225 ft. and one 125 ft. deck truss spans, and one 50 ft. deck girder span. The amount of steel in the superstructure is about 2,240 tons. The total length of the bridge between parapets is 1,501 ft., and the distance from base of rail to low water 71 ft. Work was commenced on the substructure in Jan., 1907, and the entire structure completed in May, 1908.

A press despatch from Edmonton, Alta., July 16, stated that the track laying gang working from the east, connected that morning with the line laid from Edmonton to Cloverdale bridge, thus completing the G.T.P. tracks into Edmonton. Ballasting trains were reported to be well up behind the track layers. The line has a total length of 794 miles from Winnipeg to Edmonton, and it is expected to have it fully completed to haul out this season's crop, as soon as the grain is ready to be moved. For the accommodation of Edmonton traffic, "a tentative agreement," said D. D. Mann, Vice President Canadian Northern Ry., "has been entered into between E. J. Chamberlin (General Manager G.T. Pacific Ry.) and myself, by which the new road will have the use of our terminals there for passenger and local freight business."

The track laying gang, which has completed its work on the line into Edmonton, has been started on the line westerly from that city. Grading has been practically completed to Wolf Creek, at the McLeod River, and it is hoped to get the track laid to that point this season. Bridges are under construction on this section at the crossing of the Pembina River, and also at Wolf Creek.

Foley, Welch and Stewart have been awarded a contract for building 70 miles west of Wolf Creek. Tenders have been invited for the building of 135 miles east from Copper River to Aldermere, and they will be opened Aug. 9.

Construction is going on at the Prince Rupert end of the line at a satisfactory rate. A contract is reported let to the Canadian Bridge Co., Walkerville, Ont., for the superstructures for six steel bridges on the first 100 miles easterly from Prince Rupert. The contract for the concrete substructures has been let to —. Ferguson. It is expected that track laying will be commenced at Prince Rupert in Sept.

C. Schreiber, C.M.G., is making a complete inspection of the line from Winnipeg to Prince Rupert, and expects to return to Ottawa by the end of Aug.

Grand Trunk Pacific Branch Lines.— The Ontario Railway and Municipal Board has approved of the payment of the Provincial subsidy at the rate of $2,000 cash and 3,375 acres of land a mile for the final 66.16 miles of the line from Fort William to Lake Superior Jct.

An effort is being made in Brandon, Man., to secure the construction of a G.T.P.R. branch into that city.

Surveys are being made for a line from Regina, through Estevan to Portal, Sask., on the International boundary.

The Alberta Legislature last session authorized the Government to guarantee the bonds of the company to an amount not exceeding $13,000 a mile in respect of the construction of the following lines: from the western division of the G.T.P.R. between the 111th and 113th degrees of

THE CANADA IRON CORPORATION

Successors to: **LIMITED**

CANADIAN IRON & FOUNDRY CO., LIMITED
CANADA IRON FURNACE CO., LIMITED
ANNAPOLIS IRON CO., LIMITED
JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE — MONTREAL, P.Q.

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and Gas Pipe, Specials, Valves, Hydrants, Etc.
Castings of All Kinds

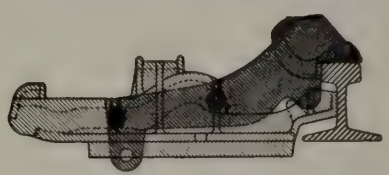
W. T. RODDEN, Managing Director **J. F. JOHNSON, Secretary-Treasure**
T. L. GALLAGHER, Sales Manager

Standard Explosives
Limited

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL
Works: L'ISLE PERROT, NEAR VAUDREUIL, P. Q.



The 18 hour trains between Chicago and New York are protected by Hayes Derails.

You cannot go from Chicago to New York by any rail route, no matter how circuitous, without traveling over track where Hayes Derails are used.

The development of the Hayes Derail has made it possible to protect the main track in a manner unknown ten years ago. To be sure the switch point derail was in use then to some extent but its manifest disadvantages narrowly limited its field. A simple two-piece device with an unbroken main rail gave just what was needed. Low cost of material, installation and maintenance were secondary but attractive.

It is a tribute to the progressiveness of American railroads that they have been quick to avail themselves of the protection afforded by Hayes Derails.

Hayes Track Appliance Co., Geneva, N.Y.

Canadian Works at Hamilton.

longitude to Calgary and thence to the Southern boundary of the province; and from the G.T.P. branch line between Calgary and Lethbridge, north-easterly from Macleod, a distance not exceeding 40 miles. Not less than 50 miles of the lines are to be constructed by Dec. 30, and the remainder by Dec. 30, 1911.

Railway Finance, Meetings, Etc.

Albert Ry.—The books of the Dominion Finance Department show that the Albert Ry. Co. has been for years indebted to the Government for $14,725.56 on loan account, and $14,665.45 value rails loaned for construction. The line has not been operated for several years. Last session the House of Commons appointed a committee to examine into this and other similar amounts, with the result that it was decided to eliminate them from the Dominion's assets.

Atlantic and Lake Superior Ry.—See Quebec Oriental Ry.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales for May, $5,491, against $25,196 for May, 1908. Cumulative net profits for 11 months ended May 31, $348,132. Approximate railway receipts for June, $22,284, against $13,416 for June, 1908. Cumulative railway receipts for 12 months ended June 30, $310,226.

Atlantic and Lake Superior Ry.—The London, Eng., Chancery Court has appointed the Royal Trust Co., Montreal, as receiver for a quarter of the whole preference stock, with liberty to apply it generally. The order was made on a motion in the action of Derenzy against Galindez Brothers.

There has been litigation going on in connection with this railway almost continually since its incorporation, but it was thought that all differences had been settled by the arrangements entered into in 1907. It would appear, from the present action, however, that the end is not yet.

Canadian Pacific Ry.—Application is being made by the St. Mary's and Western Ontario Ry. Co. to the Board of Railway Commissioners for the approval of a lease of its railway to the C.P.R.

Canadian Northern Quebec Ry.—At the annual meeting of this company, held in July, the following directors were elected for the current year: D. B. Hanna, Z. A. Lash, H. H. Melville, F. Nicholls, R. M. Horne-Payne, W. H. Moore, A. J. Mitchell, F. C. Annesley, Hon. J. Tessier, V. Chateauvert, T. McDougal and the Mayor of Quebec. Up to July 25, the meeting of directors for the election of officers had not been held, but it is understood that D. B. Hanna will be re-elected President for the current year.

Canadian Pacific Ry.—A press report says that the C.P.R. sold a block of about $5,000,000 of its 4% preferred stock in the London, Eng., market recently; that no offering of securities was made by the company, but, on the other hand, a bid, which is said to have been 102, was accepted.

Dominion Atlantic Ry.—Gross earnings for May, $87,450, against $86,436 for May, 1908. Aggregate gross earnings for 5 months ended May 31, $373,650, against $364,473 for same period 1908.

Great Northern Ry.—Notice is given that the second mortgage bonds of the St. Paul, Minneapolis and Manitoba Ry., maturing Oct. 1, will be redeemed at par with accrued interest, or may be exchanged dollar for dollar, with adjustment of interest for 4% bonds of the company.

Intercolonial Ry.—The public accounts show open accounts to the amount of $155,757.51, which have been unchanged for some years, but which, nevertheless, have been carried forward from year to year as Dominion assets. The Parliamentary committee appointed, last session, to overhaul these and similar assets, directed them to be no longer counted, and the House of Commons assented.

Kent Northern Ry.—Among the Dominion assets carried forward from year to year on the public accounts, is $58,334.27 as being due from the K.N. Ry., on rails loan account, representing the value of old Intercolonial Ry. rails loaned at the time of construction of the K.N.R. The House of Commons has as the result of an investigation by a special committee, last session, directed that this shall no longer be counted as an asset.

Lake Superior Corporation.—The head offices of the Lake Superior Corporation, owning the Algoma Central and Hudson Bay Ry., Manitoulin and North Shore Ry., Algoma Central Line steamships, and the electric railways in Sault Ste. Marie, Ont. and Michigan, as well as steel mills, etc., are being removed from Philadelphia, Pa., to Toronto.

Prince Edward Island Ry.—A number of open accounts, amounting altogether to $5,552.34, have been carried in the public accounts as Dominion assets for a number of years without change. As a result of an investigation, the House of Commons has directed that they be removed from the assets, and the accounts closed.

Quebec Oriental Ry.—A meeting of the shareholders was held in London, Eng., July 22, for the purpose of passing resolutions approving an agreement for the purchase of the railways from Matapedia to Caplin, and Caplin to Paspebiac, Que., known as the Baie des Chaleurs section of the Atlantic and Lake Superior Ry., to change the location of the head office from Montreal to London, Eng., to fix the remuneration of directors; to appoint an auditor; and to authorize the directors to issue bonds or other securities to the extent of $45,000 a mile, and to execute the necessary security for such bond issue.

Quebec and Lake St. John Ry.—Gross earnings for June, $51,991.14, against $57,072.36 for June, 1908. Aggregate gross earnings for 6 months ended June 30, $278,021.56, against $257,939.62 for same period 1908.

Quebec Central Ry.—Gross earnings for May, $83,989.05; expenses, $58,335.10; net earnings, $25,653.95; against $91,487.51 gross earnings; $63,364.92 expenses; $28,122.59 net earnings for May, 1908. Aggregate gross earnings for 11 months ended May 31, $927,384.65; expenses, $658,636.09; net earnings, $268,748.56; against $999,607.38 gross earnings; $698,500.36 expenses; $301,107.02 net earnings for same period 1907-08.

Temiscouata Ry.—Total earnings for Apr., $19,048.60; for May, $17,090.91.

Temiskaming and Northern Ontario Ry.—Gross earnings for May, $130,536.47; expenses, $60,321.24; net earnings, $70,215.23; ore royalties, $2,705.25. Approximate gross earnings for June. $125,000; net earnings, $60,000.

Victoria and Sidney Ry.—A call of $15 a share payable at the company's office, Victoria, B.C., July 19 was recently made on all shareholders, excepting those holding certificates numbers 80, 88, 92, and 97.

White Pass and Yukon Ry.—Aggregate gross earnings for 11 months ended May 31, $1,070,635.

Wisconsin Central Ry.—An issue of $2,500,000 new 50-year first and refuding bonds has been authorized, for the purpose of providing funds for the construction of terminals in Duluth, Minn.

Canadian Freight Association.

The Association held its quarterly meeting at Halifax, N.S., July 14 and 15. A party of about 120, including members of the Association and their wives, left Montreal July 12 at 6.45 p.m. on a special I.C.R. train and reached Halifax July 13 about 8 p.m. after a charming trip, during which the scenery of the Metapedia and Wentworth valleys especially was greatly enjoyed. At Moncton E. Tiffin, member Government Railways Managing Board and General Traffic Manager I.C.R. and P.E.I.R., joined the party, and that evening they were his guests at dinner on the dining cars. The business meetings were held at Halifax July 14; in the afternoon the ladies were given an automobile ride to the beach, and in the evening there was a band concert in the public gardens. On July 15 the party were the guests of the City Council and Board of Trade in the morning on a carriage drive through Point Pleasant Park, the citadel and the suburbs and inspected the railway terminals; in the afternoon on an excursion on the harbor, and in the evening at a garden party and dance at the Walgwoltic. Halifax was left July 16, about half the party returning by Dominion Atlantic Ry. to Digby, thence by the s.s. Prince Rupert to St. John and on by the C.P.R., the others going to Yarmouth, and thence by boat to Boston. The whole trip was greatly enjoyed and was undoubtedly one of the best trips, if not the very best, in the Association's history.

Central Station, Ottawa.—The question of the amounts which the C.P.R. has to pay for the use of the tracks and station facilities at Ottawa central station has been for some years unsettled. The C.P.R. and the Canada Atlantic Ry. never arrived at an understanding, and the matter has been under consideration since the G.T.R. took over the C.A.R. The Board of Railway Commissioners made an order July 7 directing the C.P.R. to pay the G.T.R. interest since 1898 on a capitalization of $250,000, in addition to a wheelage basis on its local trains between Ottawa and Montreal and $500 a month for through trains. A press report says that the order does not specify the rate of interest to be paid and that the companies disagree as to whether the rate should be 2½% or 5%.

The Superintendent of the Algonquin provincial park has reported to the Ontario Government that beavers are building dams in the culverts of the Canada Atlantic Ry. (G.T.R.), which runs through the park, and that the roadmaster is having lanterns placed in the culverts at night to keep the beavers away.

CROSSEN CAR MFG. COMPANY

OF COBOURG, LIMITED

MODERN HIGH-CLASS

ROLLING STOCK

Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows

CAR CASTINGS, FORGINGS AND REPAIR PARTS

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON (via Boston & Maine R.R. and Cent. Vermont Ry.) MONTREAL, TORONTO and CHICAGO.

THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.

Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, Gen. Passenger and Ticket Agent, MONTREAL, QUE.

Dominion Malleable Iron Journal Box

Manufactured in Canada.

—ALSO—

Malleable Iron Journal Bearing Wedges

Strong and Light Simple and Tight

Taylor & Arnold, Montreal

C. P. R. Betterments, Construction, Etc.

Atlantic Division Bridge Work.—The Board of Railway Commissioners has approved the plans for the reconstruction of bridge 23.51, Atlantic Division.

Windsor St. Station, Montreal.—Considerable progress has been made in the clearing away of the buildings on the land acquired for the enlargement of this station. All the buildings on Windsor St. from the present station premises to St. Antoine St. have been cleared away, and work is now in progress as far west as Mountain St. It is stated that, beyond clearing the site, nothing will be done this year.

Place Viger Improvements, Montreal.—The C.P.R. is reported to have purchased for $250,000 the Montreal Brewing Co.'s property adjoining Dalhousie Square yards, Montreal. The differences between the railway and the brewery company about the property have been the subject of many discussions, and have held up for about seven years the extension and rearrangement of the Place Viger yards. The sale of the property was made possible by the amalgamation of all the breweries in Montreal, and the centralizing of the business. As a result of the sale the legal actions which had been entered to prevent the closing up of certain streets, and the consequent isolation of the brewery premises, will be dropped, each party paying its own costs. The property is to be transferred April 1, 1910.

Plans for improvements in the station and hotel and for the laying out of the yards are under consideration.

The Nomining to Rapide de L'Orignal Extension, which runs from Nomining to Rapide de L'Orignal, Que., a distance of nearly 36 miles, is rapidly nearing completion. The grading is being done by the Toronto Construction Co., and it was expected to have the line completed ready to turn over to the company, July 31. The station at mile 17, near the village of Chemin Gouin, is completed, as also the single and double section houses; work is being rushed on the 40,000 gal. tank at mile 19, and at the station at mile 26, near the village of Val Banette. The station, tank, 2-stall engine house and coal platform at Rapide de L'Orignal are expected to be completed by Aug. 30. C. E. Deakin, Montreal, has the contract for these buildings.

Wellington St. Viaduct, Ottawa.—Considerable progress has been made by the company upon the construction of the viaduct at Wellington St., Ottawa. The work should have been completed by July 1, but as, from unavoidable causes, the company could not start work as early as was expected, the Board of Railway Commissioners granted an extension of time for its completion to Sept. 1.

Georgian Bay and Seaboard Ry.—The Board of Railway Commissioners has passed an order authorizing the opening of the portion of the line completed between Coldwater Junction and Maple Island, on Hog Bay, near Victoria Harbour, Ont., a distance of 13 miles.

Tillsonburg, Lake Erie and Pacific Ry.. St. Marys and Western Ontario Ry.—It is reported that work will shortly be started at Code's Junction on an extension of the line into Ingersoll, Ont. The T.L.E. and P.R. extends from Port Burwell to Ingersoll, and in 1908, under its charter, there was constructed a line from Code's Junction into Embro village, conencting with the St. M. and W.O. Ry., from St. Mary's to Embro. The construction of this proposed piece of line would enable trains to be run through from Port Burwell to St. Marys.

In connection with the projected extension of the St. M. and W. O. Ry., from St. Marys westerly to Sarnia, Ont., it is stated that arrangements are being completed for the submission, during the winter, to the taxpayers of various municipalities of by-laws granting aid for construction.

We are advised that the extension from Code Junction to Ingersoll, when it is constructed, will be undertaken by the T., L. E. and P. Ry. Up to July 23, we have been informed, no work on the extension had been done, neither had tenders been asked for.

Victoria Harbor, Ont.—In connection with the construction of the Georgian Bay and Seaboard Ry., which is in operation for construction purposes between Coldwater Jct., on the Toronto-Sudbury Line, and Victoria Harbour, the C.P.R. is carrying on extensive construction work on the terminals close to Victoria Harbor. Docks are being constructed, yards are being laid out, and the preliminary work for the erection of a large elevator is in progress. It is said that the plans for the elevator provide that it shall have, when fully completed, a capacity of 12,000,000 bush. The Dominion Government is carrying on some extensive dredging operations so as to make the depth of water at the docks and in the approaches thereto sufficient for the largest vessels navigating the Upper Lakes.

Hawk Lake Trestle.—The trestle bridge across the end of Hawk Lake, about 25 miles east of Kenora, Ont., is in process of being filled up. Recently the filling in the centre slid away, carrying a portion of the trestle with it, causing the structure to drop from 20 to 30 ft. While the bridge was being repaired, through traffic was carried on between Winnipeg and Fort William over the Canadian Northern Ry.

Fort William Union Station.—Ground was reported to have been broken, July 13, at Fort William, Ont., for a union station building, to be used by the C.P.R. and the G.T. Pacific Ry.

Fort William-Winnipeg Second Track.—The Board of Railway Commissioners has authorized the use for traffic of the second track between mileage 13.8 and 16.0 on the Kenora section.

Winnipeg.—The new agreement between the company and the city of Winnipeg is ready for signature. Under it the company grants to the city about 1.25 acres of land in Elmwood, at the end of Louise bridge, formerly used as a right of way, to be used for street widening, etc.; it is agreed that a subway shall be constructed at McPhillips St., at a cost of $120,000, the city paying one-third of the cost; the company agrees to maintain Haymarket Square as a park, after the city fences it and lays it out; provision is made for the repair and reconstruction by the city, when necessary, of the overhead bridge at Salter St. The city agrees to close up and convey to the company the portions of Ellen and Fountain streets, on which the company's freight sheds stand.

Branch Line Plans Passed.—The Board of Railway Commissioners has approved plans for the construction of the following branch lines:—Manitou Lake branch, mileage 0 to 51.33; Langdon branch, from Langdon, mileage 0 to 45, and from Langdon northerly, mileage 45 to 60.

Lethbridge-Macleod Cut-off.—The last spans of the big bridge across the Belly River, on the Lethbridge-Macleod cut-off, were got into position June 23, and a track was laid across it. The work of rivetting up the spans and generally completing the work was expected to be completed July 15. The bridge is entirely of steel, 5,327 ft. in length, and the rail bed is 312 ft. above the water at the highest point. The spans are carried on 67 steel piers, erected on a natural rock foundation. The completion of this work will enable the company to push forward the completion of the cut-off.

Strathcona-Edmonton Bridge.—A number of the C.P.R. engineering staff have been in Edmonton, Alta., recently, in connection with the project for the construction of the projected high level bridge across the Saskatchewan River. The C.P.R. line at present terminates at Strathcona, and surveys have been made for an extension into Edmonton. This work includes the construction of a high level bridge, and the visit of the engineers was to consult with the mayor of the city and some members of the Provincial Government, in connection with the proposal, to provide for the construction of a bridge capable of carrying general as well as railway traffic.

Nelson, B.C.—An agreement has been reached by which the company will take over the Nelson city dock from the municipality.

Kootenay Central Ry.—We were advised July 10 that no definite decision had then been reached in regard to the construction of the southern end of this projected railway.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—The last rails of the extension from Brooton to Duluth, Minn., were reported to have been laid July 15, and it is expected that the extension will be opened for freight traffic, Aug. 15, and for passenger traffic, Sept. 1. (July, pg. 493.)

Dominion Railway Subsidies.

The Dominion Government has entered into contracts under the act granting aid to certain railways for the construction of the following lines:—

CANADIAN NORTHERN QUEBEC RY.—From Hawkesbury to Ottawa, Ont., about 60 miles. The construction of this line is practically completed.

CAPE BRETON RY.—From Port Hawkesbury or Point Tupper, on the Strait of Canso, to St. Peters, N.S., 31 miles. This railway was constructed in 1902-03, and has been in operation since 1904. The line was constructed under a Nova Scotia charter. A Dominion subsidy was voted in 1899 for a line of 30 miles, and in 1908 the subsidy was revoted and made specially available for the C.P.R.

The International Railway Fuel Association's first annual convention was held in Chicago recently, the officers elected for the current year being: President, E. McAuliffe, Chicago, Ill.; Vice Presidents, W. C. Hayes, New York; J. H. Hibben, Parsons, Ka.; Secretary, D. B. Sebastian, Chicago, Ill.; Treasurer, J. McManamy, Grand Rapids, Mich.

MORISON Suspension Furnaces

The Universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine Boilers

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

Manufactured by

THE CONTINENTAL IRON WORKS, WEST AND CALYER STS. BOROUGH OF BROOKLYN. Near 10th and 23rd St. Ferries. NEW YORK

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

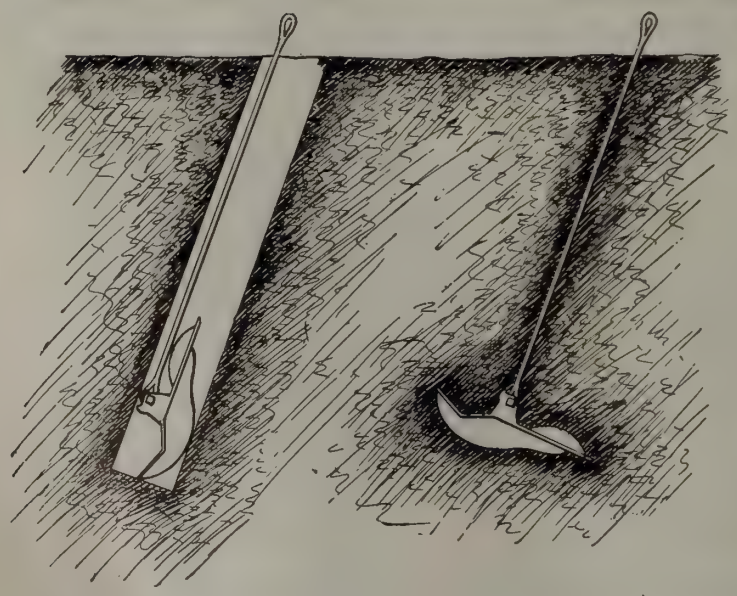
"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes

Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13

A. B. Jardine & Co. - - Hespeler, Ont.



"AULD" TYPE GUY ANCHORS

Write us about your pole line; we can increase its efficiency and save you money.

Sole manufacturers under letters patent No. 90301 and No. 101462

THE GROUND ANCHOR CO.
LIMITED
Street Railway Chambers
MONTREAL

MAINLY ABOUT PEOPLE

Rear-Admiral Kingsmill has been appointed Honorary Aide-de-Camp to the Governor General of Canada.

H. Calderwood, marine architect, and Mrs. Calderwood, left Toronto early in July for a trip to the Atlantic coast.

W. B. Lanigan, Assistant Freight Traffic Manager, C.P.R. Western Lines, Winnipeg, was in Montreal early in July.

H. A., and A. A. Allan, of the Allan Steamship Line, sailed from Montreal for England, July 16, on the s.s. Tunisian.

G. T. Bell, Assistant Passenger Traffic Manager G.T.R. and G.T.P.R., returned to Montreal early in July from a trip to Winnipeg.

W. R. MacInnes, Freight Traffic Manager C.P.R., Montreal, returned there recently from a short holiday in the Metapedia Valley.

Mrs. D. B. Hanna and her two daughters will leave Toronto early in August to spend some weeks at Portage La Prairie, Man.

The Misses Margaret and Edith Shaughnessy returned to Canada from England, by the C.P.R. s.s. Empress of Britain, July 9.

D. McNicoll, Vice President, and I. G. Ogden, Third Vice President, C.P.R., left Montreal, July 9, for a short fishing trip on the Rideau Lakes.

Lord Strathcona has given $500,000 to McGill University, the greater part of which is to be utilized for the reconstruction of the medical building.

J. Belliveau, of the I.C.R. mechanical office, Moncton, N.B., was presented with an oak arm chair recently by the staff on his retirement on a pension.

J. H. Sorley, City Freight Agent C.P.R., Ottawa, who recently underwent an operation at the General Hospital, Montreal, is reported to be recovering rapidly.

W. B. Bulling, Assistant Freight Traffic Manager, C.P.R. Eastern Lines, Montreal, sailed for England, June 26, on the C.P.R. s.s. Lake Manitoba, for a six weeks holiday.

H. R. Charlton, General Advertising Agent, G.T.R., and G.T.P.R., returned to Montreal, July 9, from a trip over the G.T.P.R., between Winnipeg and Superior Jct.

J. Bruce Ismay, President International Mercantile Marine Co., was a passenger on the White Star-Dominion Line s.s. Megantic, which sailed from Montreal July 3.

The Chamberlin cup, which was won by J. Devlin, July 7, in the annual match play of the Ottawa Golf Club, is donated by E. J. Chamberlin, Vice President and General Manager, G.T.P.R.

Sir Percy Girouard, heretofore Governor and Commander in Chief of Northern Nigeria, West Africa, has been appointed Governor and Commander in Chief of the East Africa Protectorate.

W. D. Reid, President Reid Newfoundland Co., and Mrs. Reid arrived in Montreal at the end of June, from St. John's, Nfld., and sailed July 2 on the s.s. Empress of Ireland for Great Britain.

The residence of the late H. C. Hammond, President of the Northern Navigation Co., 60 Grosvenor St., Toronto, has been sold to The Ewart Mission and Deaconesses Training Home. Mrs. Hammond is building another house on St. George St.

A. B. Stickney, President Chicago Great Western Ry., who was the first General Superintendent of the C.P.R. at Winnipeg in 1881 until W. C. Van Horne became General Manager, was in Winnipeg recently, having travelled over the C.P.R. from Vancouver.

Hon. L. P. Brodeur, Minister of Marine; Hon. G. P. Graham, Minister of Railways and Canals, and C. C. Ballantyne, of the Montreal Harbor Commission, were passengers on the C.P.R. s.s. Empress of Ireland, which sailed from Quebec, for England, July 2.

W. Aird was presented with a leather steamer trunk, a club bag and a steamer rug recently, on retiring from the position of inspector of locomotive building at the Canadian Locomotive Works, Kingston, Ont. He subsequently left Kingston for a trip to Scotland.

W. C. McIntyre, whose death took place as the result of an automobile accident at Montreal, June 29, held the following positions, among others: President Canadian Transfer Co., Vice President Dominion Bridge Co., Director Structural Steel Co., and President Windsor Hotel Co.

The list of honorary patrons of the proposed "Back to Montreal" celebrations, Sept. 13 to 20, includes Sir Thos. G. Shaughnessy, President C.P.R.; C. M. Hays, Second Vice President and General Manager G.T.R.; Sir H. Montagu Allan, and G. W. Stephens, Chairman Montreal Harbor Commission.

M. M. Campbell, C.E., formerly of the National Transcontinental Ry. Commission's field staff, and who had considerable experience in building inspection while located in the State of Washington, has been appointed a building inspector on the C.P.R., with headquarters at Chemin Gouin, Que.

London, Eng., papers announced recently that Harold A. and Mrs. Richardson had attended Court at Buckingham Palace, Mrs. Richardson being presented by Lady Crewe. H. A. Richardson was, at one time, a resident of Montreal and was interested in the promotion of the Montreal and Southern Counties Ry.

W. Bryce, who was recently appointed locomotive foreman, C.P.R., at Ignace, Ont., was born at Glasgow, Scotland, Aug. 22, 1872, and entered C.P.R. service Mar. 8, 1904, since when he has been to Feb., 1906, machinist; Feb., 1906, to Mar., 1908, steam shovel inspector; Mar., 1908, to Apr. 30, 1909, locomotive foreman.

E. S. Piper, President of the N. L. Piper Railway Supply Co., Ltd., who died in Toronto in March, left an estate of $43,940, of which $29,800 was stock in the company, he having held 298 shares out of 400, the rest being owned by members of his family. The whole estate was left to the widow, daughter and four sons.

Jas. Mills, member of the Board of Railway Commissioners, who underwent a serious operation in Toronto April 7, and who since his partial convalescence in a private hospital in Toronto, has been in Guelph General Hospital, left Guelph July 23, with his family to spend the summer at Forest Nook, Magnetawan River, Ont.

A. H. Baird, C.P.R. ticket agent, Paris, Ont., who died there July 17, aged 75, was born at Montreal, and moved to Paris in 1847, where he resided ever since. Among the many offices held by him during his residence there, are, Mayor, Reeve, Warden of Brant County, Chairman of Board of Education, and Chairman of the Public Library Board. He was a member of the Canadian Ticket Agents' Association, and attended most of the Association's annual trips for many years past.

Thomas King, who has been appointed Travelling Passenger Agent, G.T.R., Montreal, was born at Dunbarton, Ont., July 18, 1869, and entered G.T.R. service in the Transportation Department, Mar. 28, 1885 as telegraph operator, and filled various positions until June, 1889, since when he has been to Aug. 11, 1892, agent, Whitby Jct., Ont.; Aug. 11, 1892, to May 23, 1895, agent, Brockville, Ont.; May 23, 1895, to Nov. 4, 1897, agent, Sherbrooke, Que.; Nov. 4, 1897, to May 10, 1909, agent, Lewiston, Me.

F. W. Morse, ex-Vice President and General Manager G.T. Pacific Ry., arrived in Montreal July 2 on his return from Europe. C. M. Hays, President G.T.P.R. and Second Vice President and General Manager G.T.R., sailed from New York June 29 for England, and his car Canada being in New York, Mr. Morse travelled back in it to Montreal. This fact was magnified by a section of the daily press into a special sending of the Canada to New York to meet Mr. Morse, and the fairy story writers followed this up by an announcement that Mr. Hays would resign and be succeeded by Mr. Morse and other equally likely prophecies.

A. Z. Mullins, who has been appointed Commercial Agent G.T.R., Grand Rapids, Mich., was born at Appin, Ont., Feb. 14, 1862, and entered G.T.R. service Feb. 10, 1884, since when he has been, to May 1, 1887, telegraph operator, Komoka, Ont.; May 1, 1887 to 1888, clerk and operator, Buffalo, N.Y.; 1888 to 1889, rate clerk to Assistant General Freight Agent Through Traffic, Buffalo, N.Y.; 1889 to 1892, chief clerk to Commercial Agent, Buffalo, N.Y.; 1892 to Oct., 1896, Contracting Agent, Buffalo, N.Y.; Oct., 1896, to Apr. 1902, Agent National Despatch-Great Eastern Line, Grand Rapids, Mich,; Apr. 1902, to July 1, 1909, Agent Lackawanna-Grand Trunk Line, Detroit, Mich.

C. W. VanBuren, who has been appointed Master Car Builder, C.P.R. Eastern Lines, Montreal, entered railway service Mar., 1889, since when he has been, to Nov. 1891, carpenter, New York Central shops, West Albany, N.Y.; Nov., 1891, to Sept. 1, 1893, assistant foreman; Sept. 1, 1893, to Sept. 1, 1896, in charge of car department work, Adirondack Division, same road, Herkimer, N.Y.; Sept. 1, 1896, to July 16, 1905, car foreman on Adirondack Division and Mohawk Division, New York Central and West Shore Rds.; July 16, 1905, to July 1, 1906, General Car Inspector, C.P.R. Eastern Lines, Montreal; July 1, 1906, to July 1, 1909, Divisional Car Foreman, C.P.R., Eastern Division, Montreal.

W. C. Bowles, whose appointment as General Freight Agent, C.P.R. Pacific Division, Vancouver, was announced in our last issue, was born at Montreal, June 3, 1875, and entered railway service in 1891, since when, to 1897, he held various positions in the District Freight Agent's office, Montreal, and General Agent's office, Chicago, Ill.; Sept. 1, 1897, to Apr. 1, 1903, rate clerk Traffic Manager's office, Winnipeg; Apr. 1, 1903, to

(*Continued on page* 591.)

"Q & C" Devices for Railroad and Contractors' Use

MAXWELL Deformed Bar for concrete reinforcement, rolled on strictly up-to-date engineering principles.

BONZANO RAIL JOINTS
INSULATED JOINTS
STEP JOINTS
ANTI-RAIL CREEPERS
PORTABLE RAIL SAWS
PORTABLE RAIL BENDERS
RAIL BRACES
GUARD RAIL BRACES

Write us for descriptive catalogues and prices on any of above devices.

THE HOLDEN COMPANY, Limited

MONTREAL 302 St. James Street. TORONTO 42 York Street. WINNIPEG 291½ Portage Ave.

ADDRESS NEAREST OFFICE.

The Northern Navigation Co.

OF ONTARIO, Limited

GRAND TRUNK LINE

"A FRESH WATER SEA VOYAGE"---1500 Miles up the Great Lakes.

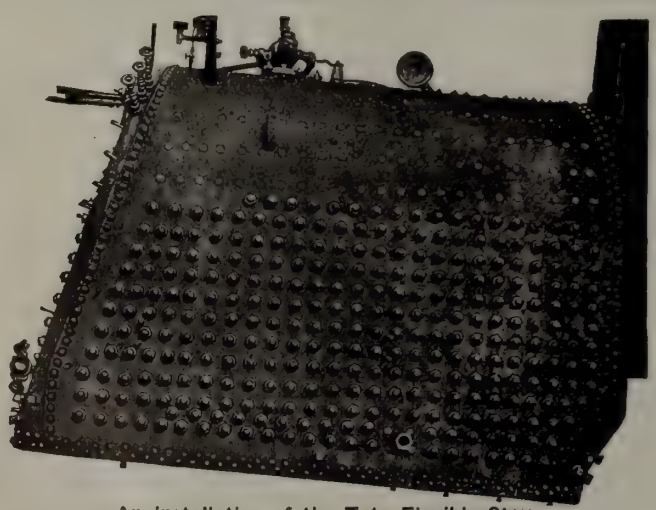
Frequent Sailings for Sault, Port Arthur, Fort William and Duluth.

"THAT GEORGIAN BAY TRIP." Sailings from Collingwood and Owen Sound for Manitoulin Island Points and Sault Ste. Marie.

Also from Penetang and Midland for Parry Sound and Point Au Baril after June 15th.

TICKETS and INFORMATION from all Agents, or address

C. H. NICHOLSON, Traffic Manager, SARNIA.



An Installation of the Tate Flexible Stay.

THE TATE FLEXIBLE STAYBOLT

THE PERFECT STAY

For Locomotive Fire Boxes

Over a million and a half bolts in service on over 100 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited
TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, - Pittsburgh, Penn., U.S.A

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

ACTON BURROWS LIMITED, - Proprietors, 157 Bay Street, Toronto, Canada.

Local and Long Distance Telpehone, Main 3201.

ACTON BURROWS, - Managing Director and Editor-in-Chief.

AUBREY ACTON BURROWS, - Secretary and Business Manager.

A. FENTON WALKER, - U. S Representative, 143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.

SUBSCRIPTION PRICES, INCLUDING POSTAGE:

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, AUGUST, 1909.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, M. MAGIFF, St. Albans, Vt.; MANAGER, J. E. DUVAL, 401 St. Nicholas Bldg., Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. J. Mossman, Buffalo, N.Y.; SEC.-TREAS., T. Marshall, Toronto.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, H. H. Vaughan, Montreal; SECRETARY, J. Powell, St. Lambert, Que. MEETINGS 1st Tuesday each month 8 p.m., except June, July and August.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal. MEETINGS at Montreal, alternate Thursdays, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, R. J. Craig, Cobourg, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto. MEETINGS at Toronto, 3rd Tuesday each month, except June, July and August.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto.
SECRETARY, R. B. Wolsey, C.E., Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Quebec Transportation Club.

PRESIDENT; F. S. Stocking.
SEC.-TREAS., A. H. Davis, Box 350, Quebec.

Western Canada Railway Club.

PRESIDENT, G. Hall, Winnipeg; SECRETARY, W. H. Rosevear, Winnipeg. MEETINGS at Winnipeg, 2nd Monday each month, except June, July and August.

Alphabetical List of Advertisers

	PAGE
Abbott, W.	Cover 1
Alexander Car Replacer Mfg. Co.	614
American Brake Shoe & Foundry Co.	590
American Hoist & Derrick Co.	Cover 2
Babcock & Wilcox, Ltd.	628
Baldwin Locomotive Works	604
Banwell Hoxie Wire Fence Co., Limited	600
Beatty, M., & Sons, Ltd.	614
Bertram, John, & Sons Co., Ltd.	558
Boker, Hermann & Co.	620
Bowser, S. F. & Co., Limited	576
Bradstreet Company	604
Brevoort Hotel, Chicago	576
Brown Hoisting Machinery Co.	550
Burns R. M. & Co.	620
Burrows.—Acton Burrows, Limited	Cover 1
Butterfield & Co.	624
Canada Car Co., Ltd.	572
Canada Iron Corporation, Ltd.	582
Canadian Bridge Co., Ltd.	614
Canadian Bronze Co., Ltd.	624
Canadian Gold Car Heat'g & Light'g Co., Ltd.	580
Canadian Locomotive Co., Ltd.	580
Canadian Northern Railway	598
Canadian Office & School Furniture Co., Ltd.	620
Canadian Pacific Railway Land Department.	608
Canadian Railway Accident Insurance Co.	620
Canadian Ramapo Iron Works, Ltd.	608
Canadian Rand Co., Ltd.	596
Canadian Road Machine Co., Ltd.	598
Canadian Westinghouse Co., Ltd.	Cover 2
Chicago Ry. Equipment Co.	612
Cleveland City Forge & Iron Co.	604
Clifton Hotel, Niagara Falls, Ont.	610
Coghlin, B. J., & Co.	618
Continental Iron Works	586
Crossen Car Mfg. Co. of Cobourg, Ltd.	584
Date, John	622
Delaware and Hudson Co.	620
Dominion Bridge Co., Ltd.	612
Dominion Car & Foundry Co., Ltd.	Cover 4
Dominion Iron & Steel Co., Ltd.	578
Dominion Wire Rope Co., Ltd.	
Dougal Varnish Co., Ltd.	Cover 1
Drake & Wiers Co.	592
Drewry, E. L.	620
Drummond, McCall & Co.	590
Duner Co.	624
Engineering News Book Dept.	598
Falls Hollow Staybolt Co.	614
Farlow Draft Gear Co.	596
Flannery Bolt Co.	588
Fuce, Edw. O.	589
Galena Signal Oil Co.	560
Galt Malleable Iron Co.	624
Gardner, J. T.	622
Gartshore, J. J.	618
Gartshore-Thomson Pipe & Foundry Co., Ltd.	616
General Railway Signal Co.	612
Goldschmidt Thermit Co.	612
Grand Trunk Railway	584
Greening, The B. Wire Co., Ltd.	624
Ground Anchor Co., Ltd.	586
H. & E. Lifting Jack Co.	580
Hamilton Pattern Works	624
Hamilton Steel & Iron Co., Ltd.	574
Harrison Dust Guard Co.	620
Harrison, John & Sons Co. Ltd.	592
Hart, John A., & Co.	Cover 1
Hart-Otis Car Co., Ltd.	556
Hayes Truck Appliance Co.	582
Hicks Locomotive and Car Works	592
Holden Co., Ltd., The	588
Hopkins, F. H., & Co.	566
Hotel Cadillac, Detroit, Mich.	Cover 1
Hudson's Bay Company	578
Hunt, Robert W., & Co.	608
Hutton, James, & Co.	620
Illinois Central Railroad	620
Imperial Bank of Canada	624
Imperial Guarantee & Accident Insurance Co.	624
Intercolonial Railway	576
International Marine Signal Co.	618
International Mercantile Marine Co.	612
Jardine, A. B., & Co.	586
Jessop, Wm. & Sons, Ltd.	620
Kerr Engine Co., Ltd.	602
Knowlton, W. H.	620
Lehigh Valley Rd.	624
Lewis, Rice & Sons, Ltd.	590
Lufkin Rule Co.	Cover 1
Marsh Co.	620
McConway & Torley Co.	604
McCord & Co.	564
McGregor Banwell Fence Co., Ltd.	594
Meaford Wheelbarrow Co.	—
Metcalf, John S., Co.	606
Midland Towing & Wrecking Co., Ltd.	620
Montreal Locomotive Works	552
Montreal Rolling Mills Co.	600
Montreal Steel Works, Ltd.	570
Mussens Limited	Cover 1 and 554
National Malleable Castings Co.	Cover 1
Niagara Navigation Co.	610
Northern Electric and Mfg. Co., Ltd.	606
Northern Navigation Co.	588
Norton, A. O.	566
Ontario Wind Engine and Pump Co.	616
Orford Copper Co.	624
Ottawa Car Co., Ltd.	Cover 1
Owen Sound Wire Fence Co., Ltd.	616
Parry Sound Lumber Co. Ltd.	624
Phillips, Eugene F., Electrical Works. Ltd.	610
Piper, The Hiram F. Co., Ltd.	624
Piper, N. L., Railway Supply Co., Ltd.	594
Polson Iron Works, Ltd.	562
Positive Lock Washer Co.	620
Provincial Steel Co., Ltd.	592
Pyke, J. W., & Co.	578
Pyle National Electric Headlight Co.	574
Rail Joint Co. of Canada, Ltd.—Cover 1 and	568
Rendle, A. Edgcumbe	Cover 1
Renouf Publishing Co.	594
Rhodes, Curry & Co., Ltd.	562
Robb Engineering Co., Ltd.	564
Robertson Machinery Co.	624
Safety Car Heating & Lighting Co.	570
Saxby & Farmer Ltd.	Cover 1
Sheriffs Mfg. Co.	618
Silliker Car Co., Ltd.	568
Shaw Willis Machinery Co.	616
Smart, James, Mfg. Co., Ltd.	—
Southam Press	618
Standard Coupler Co.	616
Standard Explosives, Limited	582
Standard Paint & Varnish Co., Ltd.	624
Standard Steel Works Co.	604
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold	584
Toronto Bolt & Forging Co., Ltd.	602
Toronto Pressed Steel Co., Ltd.	596
Union Draft Gear Co.	620
United Typewriter Co.	614
Vulcan Iron Works	592
Waugh Draft Gear Co.	Cover 1
Williams, A. R., Machinery Co.	572
Williams Boltless Rail Joint Mfg. Co.	618
Williams Mfg. Co. Ltd.	607
Wire & Cable Co.	Cover 1

EDW. O. FUCE

Hon. Grad., Univ. Tor. (S.P.S.)
A. M. CAN. SOC. C. E.
ONT. LAND SURVEYOR,

Consulting Civil Engineer
GALT, ONT.

Railway Location & Construction.
Reinforced Concrete Structures.

The C.P.R. has installed an airbrake testing apparatus at Toronto for the purpose of testing the brakes on each car before it is sent out of the passenger car yard to be made up into a train.

In connection with the proposal to construct a joint stockyard at St. Boniface, Man., by the railway companies entering the city, it has been discovered that the C.P.R., by an agreement made in 1881, is under bonds of $200,000 and loss of exemption from taxation on terminal properties to maintain its shops and stockyards in perpetuity in Winnipeg. It is stated that the proposed union stockyard cannot be operated successfully unless by the co-operation of the C.P.R., and that unless some readjustment is made the C.P.R. will have to withdraw from the temporary agreement.

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.

The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.

THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

American Brake Shoe and Foundry Company

NEW YORK MAHWAH, N.J. CHICACO, ILL.

THE HOLDEN CO., Limited, Agents, 302 St. James St., MONTREAL

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

THE ALGOMA STEEL CO., LIMITED

SAULT STE. MARIE, ONTARIO

IS NOW BOOKING ORDERS FOR **STEEL RAILS** FOR DELIVERY DURING THE SEASON OF 1909

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to insure desired deliveries.

Office:
CANADA LIFE BUILDING
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS

Mar., 1905, Assistant General Freight Agent, Calgary, Alta.; Mar., 1905, to Oct., 1907, Assistant General Freight Agent, Vancouver, B.C.; Oct., 1907, to Mar., 1908, General Freight Agent, Nelson, B.C.; Mar., 1908, to June 5, 1909, General Freight Agent, Winnipeg; entire service with the C.P.R.

F. T. Anderson, Car Service Agent, C.P.R. Western Division, Calgary, Alta., whose appointment was announced in our July issue, was born at Lambeth, Ont., Apr. 1, 1878, and entered C.P.R. service Nov., 1895, since when he has been, to 1901, successively, clerk at Broadview, Sask., assistant agent and operator at various points in the Central Division west of Winnipeg; during a part of 1901 he was agent, Balgonie, Sask.; 1901 to 1904, agent, Alexander, Man.; 1904, agent, Sintaluta; 1904 to 1905, agent, Indian Head, Sask.; during the grain rush of 1905 appointed Travelling Grain Agent, district 4, Central Division; Feb. 1, 1906, to Feb. 1, 1907, Inspector of Agencies, Western Lines; Feb. 1, 1907, to May, 1909, Car Distributor, Central Division, Winnipeg.

R. Preston, whose appointment as Master Mechanic C.P.R. Central Division, Winnipeg, was announced in our last issue, was born at Toronto, July 28, 1863, and entered G.T.R. service there, as machinists' apprentice, and finished his apprenticeship with the Toronto, Grey and Bruce Ry., subsequently absorbed by the C.P.R.; from May, 1887, to May, 1890, locomotive foreman C.P.R., Havelock, Ont.; May, 1890, to Aug., 1894, locomotive foreman, C.P.R., London, Ont.; Aug., 1894, to Oct., 1897, locomotive foreman, C.P.R., Smiths Falls, Ont.; Oct., 1897, to Aug., 1898, locomotive foreman, C.P.R., Montreal; Aug., 1898, to May, 1901, locomotive foreman, C.P.R., Toronto; May, 1901, to Oct., 1903, Master Mechanic, C.P.R. Lake Superior Division, North Bay, Ont.; Oct., 1903, to Feb., 1908, Master Mechanic, Ontario Division, Toronto; Feb., 1908, to June 21, 1909, Shop Superintendent, Toronto.

W. E. Fowler, who has resigned the position of Master Car Builder, C.P.R., on account of ill health, was born at Weymouth, Eng., Apr. 27, 1856, and has been engaged in railway car construction since 1880. His record is as follows:—Mar., 1880, to Sept., 1882, car builder in shops of St. Louis, Iron Mountain and Southern Rd., Baring Cross, Ark.; Oct., 1882, to Nov., 1883, car builder in shops of Union Pacific Rd., Denver, Col.; Nov., 1883, to end of 1889, car foreman, same company at Denver; 1890 to 1891, general car foreman, Denver, Texas and Fort Worth Rd., Denver, Col.; 1891 to 1893, car foreman, Union Pacific Rd., Denver, Col.; 1894 to 1900, Master Car Builder, Union Pacific, D. G. and Colorado Southern Rd.; 1900 to Apr., 1902, General Car Inspector and Master Car Repairer, Southern Pacific Rd., Sacramento, Cal.; 1902 to June 30, 1909, Master Car Builder, C.P.R. He was Second Vice President of the Master Car Builders' Association, 1904-05; First Vice President, 1905-06, and President, 1906-07.

G. W. Robb, whose appointment as Master Mechanic G.T.P.R., Rivers, Man., was announced in our last iusse, entered G.T.R. service in 1880, since when he has been, to 1881, car repairer and clerk, Chaudiere Jct., Que.; 1881 to 1882, apprentice, erecting shops, Montreal; 1882 to 1884, apprentice at Brockville roundhouse, Ont.; 1884 to 1885, machinists' improver, Northern and Northwestern Ry. repair shop and roundhouse, Toronto; 1885 to 1887, machinist, C.P.R. shops, Winnipeg, and charge hand at Broadview, Man.; 1887 to 1889, foreman of roundhouse at Brackenridge and Wilmar, Minn., locomotive foreman on construction, and at Fort Budford and Glasgow, Mont., during the construction of the G.N.R. between Minot, N.D., and Great Falls, Mont.; 1889 to 1890, locomotive foreman, Chicago and Great Western Ry., Des Moines, Ia.; 1890 to 1905, general foreman, Canada Atlantic Ry. erecting shops, Ottawa; 1905 to Mar., 1909, general foreman, G.T.R. shops, and roundhouse, Ottawa (taken over from the Canada Atlantic Ry.); Mar. to June, 1909, Assistant Master Mechanic, G.T.P.R., Rivers, Man.

Gordon Grant, who has been appointed Chief Engineer National Transcontinental Ry. Commission, in succession to H. D. Lumsden, resigned, was born at Dufftown, Banffshire, Scotland, Jan. 2, 1865, and is a son of the late Peter Grant, a member of Sir Sandford Fleming's staff on the I.C.R. and the C.P.R. He was educated at Ottawa, and went to the Argentine Republic in 1881 with his uncle, W. B. Grant, Chief Engineer Buenos Ayres Southern Ry., remaining there for six years. Returning to Canada in 1887 he was engaged until 1890 upon the I.C.R. construction in Cape Breton; from 1890 to 1893 he was engaged on C.P.R. survey work east of Montreal; from 1893 to 1897 he was on construction work on the Flagler roads in the U.S., since when his record has been: 1897 to 1900, on construction Crow's Nest Pass Line, and Kootenay and Arrowhead Ry., for C.P.R.; 1900 to 1903, chief draughtsman construction department C.P.R., Montreal; May, 1904, to Feb., 1905, on C.P.R. location work in British Columbia; Feb., 1905, to Sept., 1906, on National Transcontinental location work northwest of Quebec; Sept., 1906, to May, 1907, assistant District Engineer National Transcontinental Ry., Quebec; May, 1907, to Aug., 1909, inspecting engineer, N.T.R. Commission.

C. E. Cartwright, Division Engineer C.P.R. Pacific Division, Vancouver, B.C., whose portrait appears on the first page of this issue, was born at Toronto, Oct. 14, 1864, but spent his early years at Kingston, Ont., and graduated at the Royal Military College there, June, 1884. He entered railway service in 1883, his subsequent record being:—1883, chain man on location, Great American and European Short Line, Nova Scotia; Oct., 1885, to July, 1888, location and construction, Pontiac and Pacific Jct. Ry., and Gatineau Valley Ry.; July, 1888, to Mar., 1890, draughtsman, Norfolk and Carolina Ry., and in charge of survey for Belt Line Ry., Norfolk, Va.; Mar., 1890, to Nov., 1892, in private practice; Nov., 1892, to July, 1896, in charge of preparation of right of way maps and changes of grade and alignment for Division Engineer, Peoria Division, Terre Haute and Indianapolis Rd.; Oct., 1896, to Apr., 1897, topographer and draughtsman through Adirondacks for New York and Ottawa Ry.; Apr., 1897, to Jan., 1899, Assistant Chief Engineer, Ottawa and New York Ry., Cornwall, Ont.; Apr. to Sept., 1899, Resident Engineer C.P.R. Kamloops and Laggan branches; Oct., 1899, to Apr., 1902, engineer of construction Vancouver and Lulu Island Ry.; Apr., 1902, to Jan., 1905, assistant to Division Engineer C.P.R., Vancouver, B.C.; Jan., 1905, to date, Division Engineer C.P.R., Vancouver, B.C.

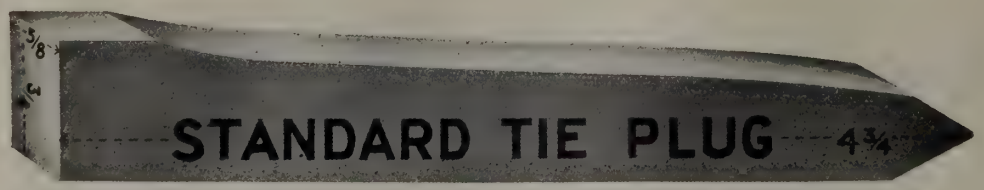
H. D. Lumsden, who has resigned the position of Chief Engineer National Transcontinental Ry., was born at Belhelvie Lodge, Aberdeenshire, Scotland, Sept. 7, 1844. He was educated in Scotland and England, and came to Canada in 1861; was admitted a provincial land surveyor for Ontario in Jan., 1866, and remained in private practice as such up to 1870. He was elected Reeve of Eldon tp. and President Eldon Agricultural Society in 1870. In 1867 he obtained a Military School certificate and was gazetted a lieutenant in the 34th Batt.; was elected a member of the Institute of Civil Engineers, Eng., in 1885, a member of the Canadian Society of Civil Engineers in 1887, and for several years was a member of the council of the latter body and was also President. He has had a long and varied experience as an engineer commencing in Oct., 1870, when he was in charge of the location of the northerly portion of the Toronto and Nipissing Ry., under E. Wragge, C.E., since when he has been almost constantly employed in the location or construction of railways, amongst others the location of portions of the Credit Valley Ry., Toronto, Grey and Bruce Ry., Northern Ry., Georgian Bay branch C.P.R., etc., the location and construction of the Ontario and Quebec Ry., Toronto to Perth; the C.P.R., Smith's Falls, Ont., to Vaudreuil, Que.; St. John's to Lennoxville, Que.; and Holeb to Mattawamkeag, Me.; Supervising Engineer of the location and construction of the Qu'Appelle, Long Lake and Saskatchewan Ry., and Calgary and Edmonton Ry., in the Northwest Territories; the C.P.R. from Rigaud to Ottawa; the Crow's Nest Pass Ry., Lethbridge to Kootenay Landing, and numerous branches of the C.P.R. in other portions of the Dominion. In Aug., 1904, he was appointed Chief Engineer of the National Transcontinental Ry. He was married in Oct., 1885, to Mary Frederica, only daughter of J. W. G. Whitney, of Toronto. Shortly after his appointment as Chief Engineer of the N.T.R. he removed from Toronto, where he had lived for several years previously, to Ottawa. His summer home is Buchrome, Orillia, where Mrs. Lumsden and their two sons are now staying.

F. W. Dudley, Eastern Passenger Agent, Canadian Pacific Ry., New York City, writes:—"Your publication, The Railway & Marine World, is a most interesting one."

The hearing of the C.P.R. and G.T.R. appeals against the Board of Railway Commissioners' order to erect a viaduct along the Toronto waterfront has been set down for argument at the October sittings of the Supreme Court at Ottawa.

G. S. Potts, a Winnipeg barrister, has filed a claim in the Court of the King's Bench against the C.P.R. for $350 disbursements and $20,000 for labor and services performed. It is set forth in the statement of claim that he was actively and exclusively engaged by the company from Aug. 6 to Oct. 26, 1908, in conducting negotiations between the company and its employes, and that he succeeded in effecting a settlement and adjusting the differences which caused the strike of the C.P.R. mechanical employes.

"Note the Size and Shape"



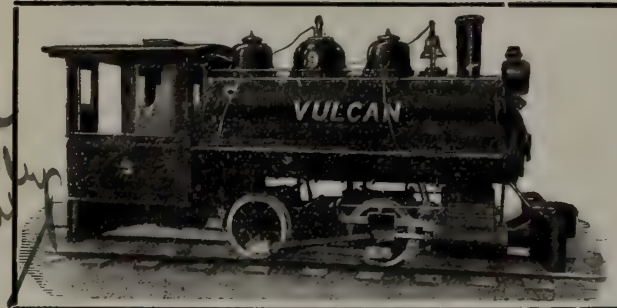
In bags of 1000 each
Write for prices
Better and Cheaper than hand made

M'f'd by J. HARRISON & SONS CO., LIMITED

OWEN SOUND, ONT.

These plugs are giving good satisfaction. We are also large dealers in Ties, Posts, Timbers, Lumber, Sash, Doors, Interior Finish, and with the plant we have here should be able to supply you. . . . .

Our Specialty is Good Material Promptly. Try us once.

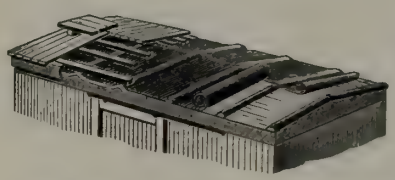


EVERYBODY IS GOING into heavier cars and equipment, and of course heavier Dinkeys. Come along. We are ready for you. All sizes in stock.

VULCAN IRON WORKS

WILKES-BARRE, PA., U.S.A.

Canadian Representatives - MUSSENS LIMITED, MONTREAL



ASPHALT CAR ROOFING

WILL LAST THE LIFE OF ANY CAR WITHOUT REPAIRS OR ATTENTION

2 AND 3-PLY PLASTIC CAR ROOFS

CHEAPER AND MORE DURABLE THAN STEEL

THE DRAKE & WIERS CO., = CLEVELAND. O.

PROVINCIAL STEEL CO., LTD.

COBOURG, ONT.

Largest Dealers Rebuilt Equipment in United States

TWO SEPARATE PLANTS

EAST PLANT
Capacity, 25 New Freight Cars per day
10 New Coaches per month

WEST PLANT
Capacity, 10 Heavy Repairs Locomotives per month
Besides Coach and Freight Car Repairs

PROMPT DELIVERY—New Passenger and Freight Equipment—Rebuilt Locomotives, Passsenger and Freight Equipment

HICKS LOCOMOTIVE AND CAR WORKS, = = Chicago, Ill.

TRANSPORTATION APPOINTMENTS.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian Government Railways Managing Board.—D. Pottinger, in addition to his duties as a member of the Board, is specially charged with the work of the office, such as approving and signing all vouchers on behalf of the Board, the preparation of returns for Parliament, the checking of pay rolls and vouchers, and the exercising of a general supervision over the Accounting Department. He acts for theBoar d as Chairman of the Provident Fund Board, and of the Insurance Association.

E. Tiffin, in addition to his duties as a member of the Board, exercises the power and authority of General Traffic Manager. All questions affecting traffic are dealt with by him.

F. P. Brady, in addition to his duties as a member of the Board, acts as General Superintendent. All matters affecting transportation are dealt with by him.

Canadian Northern Ry.—H. Williams has been appointed locomotive foreman, Kipling, Sask., vice A. W. McKenzie transferred.

A. W. McKenzie, heretofore locomotive foreman at Kipling, Sask., has been appointed locomotive foreman, Prince Albert, Sask.

Canadian Pacific Ry.—A. L. Smith, heretofore Superintendent District 2, Lake Superior Division, White River, Ont., has been appointed Superintendent District 1, Eastern Division, vice W. B. Cronk transferred. Office, Farnham, Que.

R. W. Burnett, heretofore Assistant Master Car Builder, has been appointed acting General Master Car Builder, W. E. Fowler, Master Car Builder, having resigned on account of ill health. Office, Montreal. The position of Assistant Master Car Builder has been abolished.

C. W. VanBuren, heretofore Divisional Car Foreman, Eastern Division, has been appointed Master Car Builder, Eastern Lines. Office, Montreal.

C. Kyle, heretofore Supervisor of Engines and Trains, has been appointed General Master Mechanic, Eastern Lines. Office, Montreal.

G. E. Smart, heretofore General Car Inspector, Eastern Lines, has been appointed Divisional Car Foreman, Eastern Division, vice C. W. VanBuren promoted. Office, Glen Yard, Montreal.

P. A. Crysler, heretofore Car Foreman, Place Viger, Montreal, has been appointed General Car Inspector, Eastern Lines, vice G. E. Smart promoted. Office, Montreal.

W. B. Cronk, Superintendent District 1, Eastern Division, Farnham, Que., is reported to have been appointed Superintendent District 2, Lake Superior Division, White River, Ont., vice A. L. Smith, transferred.

G. Gilbert, heretofore train dispatcher, Kenora, Ont., has been appointed Chief Train Dispatcher, District 1, Central Division, vice A. H. Mansfield transferred. Office, Kenora, Ont.

T. M. Fraser, heretofore Roadmaster, Minnedosa, Man., has been appointed temporarily Roadmaster, Souris section, during the absence of P. E. Barry. Office, Winnipeg.

R. J. Hood, heretofore Roadmaster, Brandon, Man., has been appointed Roadmaster, Minnedosa, Man., vice T. M. Fraser transferred.

J. M. Mack, heretofore locomotive fitter at Brandon, Man., has been appointed acting locomotive foreman at Minnedosa, Man., vice W. F. Lowe on leave of absence.

Drs. J. S. Matheson, J. I. Lynch and C. T. Templeton, have been appointed company's surgeons at Brandon, Man.

A. McDonald has been appointed Roadmaster, Rapid City section, Miniota and Lenore branches and Brandon yard, Brandon, Man., vice R. J. Hood transferred.

L. E. W. Bailey has been appointed District Master Mechanic, at Moose Jaw, Sask., vice F. W. Sadlier transferred.

W. H. Gordon, Travelling Freight Agent, Winnipeg, has been appointed acting District and Travelling Freight Agent, Saskatoon, Sask., during the absence of R. W. Drew as acting General Freight Agent at Nelson, B.C.

L. A. Warner, heretofore conductor, has been appointed Assistant Trainmaster, District 1, Pacific Division, with territory from Laggan to Field. Office, Field, B.C.

V. Anderson, Roadmaster, Revelstoke, B.C., has had his jurisdiction extended from Beavermouth to Laggan.

Jno. Anderson has been appointed Roadmaster, Shuswap section, including Shuswap and Okanagan branch, Pacific Division, vice W. Stormont resigned. Office, Revelstoke, B.C.

F. Olson has been appointed assistant Roadmaster, Field, B.C.

W. G. Cooper has been appointed Agent of Immigration and Atlantic Steamships, vice C. McLaughlin, who has been granted leave of absence on account of illness. Office, 1 Broadway, New York City.

W. B. Slattery, heretofore City Freight Agent, New York, has been appointed Travelling Freight Agent, with territory covering Eastern New York, Eastern Pennsylvania and the State of New Jersey.

C. R. Bishop has been appointed City Freight Agent, New York City, vice W. B. Slattery transferred.

Central Vermont Ry.—The jurisdiction of W. E. Costello, Superintendent, has been extended to include the Central Vermont Transportation Co.'s steamships New York and New London. Office, St. Albans, Vt.

Deleware and Hudson Co.—J. G. Eisele, General Coal Sales Agent, having resigned, the position has been abolished.

Chicago and North Western Ry.—F. H. Terry, heretofore Soliciting Freight Agent, G.T.R., Toronto, has been appointed Travelling Agent, C. & N.W.R., Toronto.

Intercolonial Ry.—W. Davidson has been appointed roundhouse foreman at Halifax, N.S.

National Transcontinental Ry. Commission.—Gordon Grant, heretofore Inspecting Engineer, has been appointed Chief Engineer, vice H. D. Lumsden resigned.

Niagara, St. Catharines and Toronto Navigation Co.—H. G. Wiltze, heretofore dispatcher N. St. C. and T. Ry., at St. Catharines, Ont., has been appointed General Agent at Toronto, vice E. H. Pepper, who has been transferred to the Canadian Northern Ry.'s service in the north-west , in the hope that he may regain his health in that climate.

Grand Trunk Pacific Ry.—J. G. Swalwell has been appointed Local Auditor in charge of Traffic Receipts. Office, Winnipeg. All reports and correspondence relating to business subsequent to July 1, previously sent by other companies and G.T.P.R. agents to Auditor of Freight Accounts and Auditor of Passenger Accounts, Montreal, and conductors' and train agents' reports and ticket collections sent to District Passenger Agent Duff, Winnipeg, are to be sent to Local Auditor, Winnipeg. Drafts on foreign roads for freight and passenger balances are drawn by Local Auditor. Agents' drafts in settlement of interchange freight balances are drawn on, and all remittances by foreign companies for freight and passenger balances are made to W. LeB. Ross, Local Treasurer, Winnipeg. No change will be made in the present method of handling car mileage accounts and settlement of same.

Grand Trunk Ry.—T. King, heretofore Agent at Lewiston, Me., has been appointed Travelling Passenger Agent, Montreal, vice C. W. Johnston, appointed chief clerk G.T.P.R. General Passenger Agent's office, Winnipeg.

E. R. Thorpe, heretofore Soliciting Freight Agent, Hamilton, Ont., has been appointed Soliciting Freight Agent, Toronto, vice F. H. Terry, who has resigned to take service with another company.

W. E. Kleinsteiber, heretofore rate clerk, Freight Traffic Office, Toronto, has been appointed Soliciting Freight Agent, Hamilton, Ont., vice E. R. Thorpe, transferred.

Consequent on the G.T.R. having assumed the supervision of the solicitation, in the west, of the Fast Freight Lines, as mentioned in our last issue, its agencies for the solicitation of freight traffic have been reorganized, as follows:—Chicago, Ill., H. E. Graves, Commercial Agent, formerly General Western Agent National Despatch-Great Eastern Line; T. A. Chappell, Assistant Commercial Agent, formerly Agent Lackawanna-Grand Trunk Line; Milwaukee, Wis., H. W. Ploss, Commercial Agent, formerly Contracting Freight Agent Reading Despatch; Minneapolis, Minn., T. C. Burgess, Commercial Agent; Omaha, Neb., A. Wallace, Commercial Agent, formerly Agent National Despatch-Great Eastern Line; Kansas City, Mo., H. Seeley, Commercial Agent; St. Louis, Mo., C. A. Gormaly, Commercial Agent; Los Angeles, Cal., W. H. Bullen, Pacific Coast Agent; San Francisco, Cal., F. H. Lord, Agent; Seattle, Wash., L. V. Druce, Commercial Agent, all reporting to R. L. Burnap, Assistant General Freight Agent, Chicago, Ill.; Detroit, Mich., W. H. Spicer, Commercial Agent, formerly Agent Lackawanna-Grand Trunk Line, Milwaukee, Wis.; Grand Rapids, Mich., A. Z. Mullins, Commercial Agent, formerly Agent Lackawanna-Grand Trunk Line, Detroit, Mich.; Saginaw, Mich., C. E. Wagner, Commercial Agent, formerly Agent National Despatch-Great Eastern Line, Detroit, Mich.; all reporting to C. Clarke, Division Freight Agent, Detroit, Mich.; Buffalo, N.Y., E. J. Hilliard, Commercial Agent; Toledo, Ohio, S. G. Wagstaff, Commercial Agent; Cincinnati, Ohio, W. K. Evans, Commercial Agent; Pittsburg, Pa., E. F. Flinn, Commercial Agent, formerly Manager Reading Despatch, Buffalo, N.Y., all reporting to I. W. Gantt, Assistant General Freight Agent, Buffalo, N.Y.

The following agents have been appointed:—Lyn, Ont., E. N. Granger;

RENOUF

Publishing Co.

61 Union Avenue

Montreal

SECOND EDITION, REVISED AND ENLARGED.
Total issue, six thousand.

TURNEAURE—MAURER — **Principles of Reinforced Concrete Construction.** 8vo, cloth, x+429 pages. $3.50.

GRIMM—**Secondary Stresses in Bridge Trusses.** 8vo, viii+140 pages, 60 illustrations, and 13 numerical examples. Cloth. $2.50.

CROCKETT—**Methods for Earthwork Computations.** 8vo, x+114 pages, 90 figures. Cloth. $1.50 net.

BARNES—**Ice Formation.** With Special Reference to Anchor-ice and Frazil. 8vo, x+257 pages, 40 figures.. Cloth. $3.00.

JACOBS—**Betterment Briefs. A Collection of Published Papers on Organized Industrial Efficiency.** 8vo, 271 pages, 152 figures, mostly half-tones. Cloth. $3.50.

JONES—**The Gas Engine.** 8vo, ix +447 pages, 142 figures. Cloth. $4.00.

MOYER—**The Steam Turbine.** A Practical and Theoretical Treatise for Engineers and Designers. Including a Discussion of the Gas Turbine. 8vo, ix+370 pages, 225 figures. Cloth. $4.00.

THOMAS—**Steam-Turbines.** 8vo, xiii+334 pages, 145 figures, 20 plates. Cloth. $4.00.

The above books delivered to any address on receipt of published price.

IDEAL RAILWAY FENCING
MADE TO LAST
Large gauge (No. 9) hard steel wire is used throughout, decreasing cost of maintenance, insuring durability and serviceability.
IDEAL FENCE has been adopted as a standard by all the leading Railways in Canada. More IDEAL is used by Railways this year than all other makes combined.
Write for Prices and Catalogue.
The McGregor Banwell Fence Co.
Limited
WALKERVILLE, ONTARIO.

THE **N. L. PIPER RAILWAY SUPPLY CO.** LIMITED

314 FRONT ST. WEST

TORONTO

MBOSSED ALUMINUM NUMBERS

Our Signs and Numbers are made of ALUMINUM and riveted with ALUMINUM RIVETS to a BLACK JAPANNED STEEL PLATE. The great benefit of our Numbers and Signs is. that being made of Aluminum they will never CRACK, RUST or TARNISH, and can be seen much better both by day and night than any other manufactured. The Light, Glistening Aluminum Figure standing out on the Black Background makes a PERFECT CONTRAST between the Number and the Plate.

Kingston, Ont., S. C. Wright; Whitby, Ont., S. McPhaden; Mariposa, Ont., J. S. Francis; La Salette, Ont., G. P. Robbins; Carlsbad Springs, Ont., J. M. Joynt; Rockland, Ont., G. W. Beriault (Acting); Rock Lake, Ont., J. E. Marchand (Acting); Algonquin Park, Ont., J. Armstrong; Kearney, Ont., H. G. Younkie.

Intercolonial Ry.—W. H. Estano, who has been acting Traffic Auditor since the retirement of J. R. Bruce, Dec., 1908, has been appointed Traffic Auditor. Office, Moncton, N.B.

See also Canadian Government Railways Managing Board.

Michigan Central Rd.—In our last issue it was stated that A. A. Ingram had been appointed Solicitor at St. Thomas vice W. B. Kingsmill, resigned. This was not quite correct. The M.C.R. solicitors in Canada are Kingsmill, Saunders, Torrance & Kingsmill, whose head office is in Toronto and who have a branch office at St. Thomas. They have sent A. A. Ingram from their Toronto office, where he has been for the past three years, to take charge of the St. Thomas office under W. B. Kingsmill, who will in future divide his time between the Toronto and St. Thomas offices.

Prince Edward Island Ry.—See Canadian Government Railways Managing Board.

Ottawa and New York Ry.—F. J. Balch, heretofore Assistant General Freight Agent, has been appointed General Freight Agent, vice G. H. Phillips, who was Superintendent and General Freight Agent and will in future discharge the duties of Superintendent only. Office, Ottawa. The position of Assistant General Freight Agent has been abolished.

Esquimalt & Nanaimo Ry.—Following is the official organization revised to date:—W. Whyte, Second Vice President, C.P.R., Winnipeg, President; R. Marpole, General Executive Assistant, C.P.R., Vancouver, B.C., Vice President; H. E. Beasley, Superintendent, Victoria, with full charge of operation of line, and representing the Vice President in connection with construction of new lines and land clearing operations; J. Goodfellow, Assistant Superintendent, Victoria; H. J. Cambie, Chief Engineer, Vancouver; R. A. Bainbridge, Division Engineer, Victoria, reporting to H. E. Beasley, Superintendent and to H. J. Cambie, Chief Engineer; A. R. Wilby, Resident Engineer, Victoria; M. S. Wheatley, Mechanical Foreman in charge of mechanical affairs, with office at Wellington, B.C., reporting to Superintendent; W. Newman, Roadmaster and Bridge and Building Master, Victoria; L. H. Armstrong, Dispatcher, Victoria; F. H. Clendenning, District Freight Agent, Victoria; L. D. Chetham, District Passenger Agent, Victoria.

The Toronto City Council in voting, July 16, for the sale of 23 acres of land and water lots, at Ashbridge's Bay, to an iron manufacturing company in process of organization, decided to retain a right of way through the land for a double track railway. The city is to provide a 14 ft. channel to the site, the company doing the piling and filling in of the water lots, in addition to paying $35,000 for the acreage, and expending $100,000 on buildings. The Polson Iron Works Co. is negotiating for a site in the same vicinity.

Canadian Northern Ry. Construction.

Canadian Northern Quebec Ry.—Two bridges on the line in the vicinity of Grand Mere were burned July 8, the fires, it is believed, being incendiary. The first fire destroyed one span of the bridge at Burrill Siding, and the second destroyed the bridge between Charett's Mills and St. Poulin. This bridge, of which 11 spans were destroyed is 150 feet high. Temporary repairs have been made, and traffic has been resumed.

Canadian Northern Ontario Ry.—The Board of Railway Commissioners, July 6, approved of the location plans for the extension into Ottawa of the company's line from Hawkesbury. The plan shows a line well to the south of the Rideau River, gradually curving around to a junction near Hardman's Bridge. It was decided that a separate order must be applied for to authorize connection with the C.P.R. and the Ottawa and New York Ry. The construction of this short piece of line into Ottawa will be carried out by Mackenzie, Mann & Co.'s own staff.

In connection with the development of the Ashbridge Bay district, Toronto, the mayor suggests that the council open negotiations with the C.N.O.R. so as to secure the location of the company's shops.

With further reference to the construction of the short section of line at Parry Sound, Ont., to connect up the C.N.R. and the C.P.R. with the water front, which was dealt with in our last issue, we are advised that the line has a total length of about two miles. Of this, the C.P.R. has under construction about three-quarters of a mile; of the remaining portion, the C.N.R. is constructing about three-quarters of a mile on its own account, and the balance on joint account. There is a good bit of rock work on the C.N.R. and the joint section. The work on the C.N.R. section includes the construction of a bridge across the river, which will consist of three spans, 85, 50 and 75 ft. respectively, on concrete piers and abutments. The contractor for the C.N.R. and the joint section is J. A. Johnston, Parry Sound.

Angus Sinclair, C.E., is the contractor for the extension of the C.N.O.R. from Selwood Junction northerly and westerly for 32 miles. Grading has been so far completed that it is expected tracklaying may be commenced at any time. This 32 miles of track will be all that will be done this season, but it will make a considerable reduction in the number of miles to be travelled by trail and stage into the Gowganda country.

On returning to Toronto, July 10, from England, where he secured the underwriting of £800,000 4% C.N.O.R. perpetual consolidated stock, W. Mackenzie, President, announced that work would be started in the near future on a line between Ottawa and Niagara Falls, via Toronto. The C.N.Q.R. has about completed the Quebec-Garneau cut-off, the line from Garneau to Hawkesbury, Ont., has been in operation for some time, and the C.N.O.R. between Hawkesbury and Ottawa is nearly completed. In a very short time through trains will be running between Quebec and Ottawa, also between Montreal and Ottawa, via Joliette. A short line between Hawkesbury and Montreal has been surveyed, so as to avoid going round by Joliette.

From Toronto east the route plan has been approved by the Minister of Railways as far as Verona, Frontenac county, 153 miles, and the question of the route from Verona to Ottawa is under the minister's consideration. The line as located leaves the C.N.O.R. Toronto-Sudbury line about five miles north-east of Toronto, near the Todmorden road crossing, runs up the Don east valley and crosses under the G.T.R. near Scarboro Jct. Thence it proceeds north-easterly, keeping north of the G.T.R., and passing through Cherrywood, Kinsale and Orono to Port Hope, thence via Colborne to Cobourg, crossing the G.T.R. at Brighton, and passing through Trenton to Belleville, thence via Shannonville and up the Salmon River to Verona. From Verona to Ottawa, two routes are under the minister's consideration, one via Portland and South Falls, south of Rideau Lakes, the other crossing the Rideau Lakes near Newboro', thence via Perth and Carleton Place. The Board of Railway Commissioners has approved of the location plans of practically the whole distance between Toronto and Verona, except through Trenton and Belleville where the company's engineers are endeavoring to improve the location. There is also likely to be a change of location at the Toronto end, where the location shows two crossings of the G.T.R. which will probably be reduced to one as above indicated.

From Toronto to Niagara Falls the railway will be built as much as possible on the right-of-way of the Electrical Development Co. of Ontario, in which W. Mackenzie has a controlling interest. That right-of-way may have to be deviated from at some points, particularly at the escarpment near Hamilton. It was expected that an electric railway would be built along the power route, but Mr. Mackenzie states that the railway will be a steam one, though it may be electrified later. It is suggested that an electric railway may be built alongside the steam one on the same right-of-way. A bridge will be built at or near Niagara Falls to connect with U.S. lines.

It is expected that final surveys both east and west from Toronto will be gone on with at once, and some grading may be done this year.

Canadian Northern Ry.—D. D. Mann, Vice President, had an interview with the Mayor and Corporation of Regina, Sask., July 6. He is reported to have told the council that the position of Regina was such that it had been decided to make it the chief divisional point on the C.N.R. system between Winnipeg and Calgary, and that it was proposed to develop a new line into Edmonton, using the present line from Winnipeg, via Brandon into Regina, as the first section; then using the Regina-Prince Albert line as far as Craik, and from there a new line would be constructed crossing the Saskatchewan at the elbow, and then running northwesterly into Edmonton. In connection with the developments in Regina, Mr. Mann asked for a site for a passenger station in the centre of the city. The council are favorable to granting this site, on condition that a union station be erected, but if the C.P.R. declines to join in the project, the council desire that the station be open to any other lines that might enter the city.

In Manitoba the company has under construction 70 miles of line, starting from Halboro, westerly through the centre of the province.

IMPERIAL PNEUMATIC TOOLS

Two Photos, showing "IMPERIAL" Air Tools at Works of Locomotive and Machine Company, Montreal.

CHIPPERS
RIVETERS
AIR DRILLS
MOTOR HOISTS

Built in all Standard Sizes. Efficiency Guaranteed.

A complete line of the above appliances and all sizes of Air Compressors for pneumatic work carried in stock for immediate shipment.

Canadian RAND Co. Limited
MONTREAL. QUE.

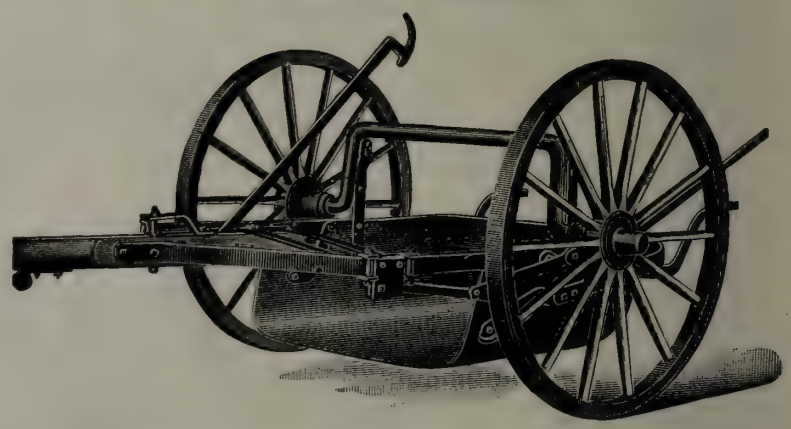
Branches at:
TORONTO, WINNIPEG, ROSSLAND, COBALT, HALIFAX, MONTREAL.

THE
Farlow Twin Spring Draft Gear

Designed for Wooden or Steel Cars and Engines.
Pulling Strains Distributed Equally on the Three Cross Keys.
Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.
Baltimore, Md. **Chicago, Ill.**

THE TORONTO PRESSED STEEL CO. LIMITED
TORONTO, CANADA



Our **SOLID PRESSED BOWL DRAG** and **WHEEL SCRAPERS** are the most satisfactory in the market. They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies including

PLOUGHS **DUMP CARS**
DUMP WAGONS **DUMP CARTS**
WHEELBARROWS **TRUCKS**
CEMENT MIXERS **WAGONS**
etc., etc.

PROMPT SHIPMENTS **SEND FOR CATALOGUE**

Track is laid on the Goose Lake extension to sec. 27, tp. 29, range 16, west of the third meridian, and grading is being pushed rapidly beyond that point.

Construction has been started on the branch from Maryfield, southwesterly, for which the Cowan Construction Co. have the contract.

Considerable progress has been made on the grading on the branch from Vegreville to Camrose, Sask. It is expected that tracklaying will be started at Vegreville early in Aug.

Alberta Midland Ry.—A company with this title was incorporated last session of the Alberta Legislature, the provisional directors being: W. Mackenzie, D. D. Mann, Z. A. Lash, D. B. Hanna and G. G. Ruel, Toronto. The company was given power to construct the following lines:—(1) From near Vermillion on the C.N.R., north-westerly to Whitford Lake, thence westerly to a junction with the C.N.R. main line near Bruderheim. (2) From between Morinville and the northern boundary of tp. 61, on the Edmonton and Slave Lake Ry., easterly keeping north of the North Saskatchewan River to the eastern boundary of the province. (3) From near Edmonton north-westerly to or near Slave Lake, thence to the Peace River. (4) From near Strathcona southerly, via Calgary, to the confluence of the Little Bow and Belly rivers, thence south-westerly to Lethbridge, with a branch line from near Bittern Lake north-easterly to Vegreville, and the following other branch lines: from the crossing of the Little Bow River via Macleod to the southern boundary of the province; from between Macleod and the crossing of the Belly River on the last mentioned line westerly to the western boundary of the province; from between Cardston and the southern boundary of the province westerly to the western boundary of the province; from Calgary westerly to Cochrane, Exshaw and Banff, and from Cochrane north to intersect the company's line near Pigeon Lake, and from Cochrane southerly to Nanton; from near Little Beaver Lake northwesterly to Wetaskiwin, thence north-westerly to connect with any proposed railway to be operated by the C.N.R. (5) From near Content on the last mentioned line westerly via Red Deer to tp. 39, range 7, west of the 5th meridian, at or near Rocky Mountain House. The capital stock is fixed at $5,000,000; bonds may be issued up to $25,000 a mile, and agreements may be made with the Canadian Northern Ry., the Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co., and the Saskatchewan Northwestern Ry. Company.

The Legislature also passed an act confirming an agreement between the C.N.R. Co. and the Government, by which the Province guaranteed the company's bonds to not exceeding $13,000 a mile for the following lines which the A. M. Ry. is authorized to construct:—From Vermillion to Whitford Lake, 40 miles; from Morinville easterly for 40 miles; from Strathcona to Lethbridge, 355 miles; from Bittern Lake to Vegreville, 50 miles; from Little Bow River to the International boundary, 110 miles; from near Macleod to the Alberta-B.C. boundary, 65 miles; from Cardston to the Alberta-B.C. boundary, 35 miles; from Calgary to the eastern boundary of the Banff National Park, 50 miles; from Content westerly, 60 miles. The act also authorized a similar guarantee of bonds of the following lines which the C.N.R. has power to construct:—From near Edmonton towards Peace River for 50 miles; from Morinville northerly for about 65 miles to Athabasca Landing. Under a section of this act the C.N.R. has taken over the A. M. Ry. Co. and its powers are now merged with the C.N.R. Co. (July, pg. 501.)

Railway Rolling Stock Notes.

The I.C.R., between June 15 and July 20, received 3 baggage cars from the Crossen Car Mfg. Co., Cobourg, Ont.

The G.T.P.R., between June 14 and July 14, received 5 mogul locomotives from the Canadian Locomotive Co., Kingston, Ont.

At the Board of Railway Commissioners' sittings at Ottawa on Sept. 7 all railway companies subject to the Board's jurisdiction wil be asked to show cause why a general order should not issue requiring all snowplows to be equipped with automatic couplers.

The C.N.R. between June 15 and July 15 placed orders for the following rolling stock: 100 steel underframe flat cars with the Dominion Car and Foundry Co., Montreal; 15 cabooses with the Crossen Car Mfg. Co., Cobourg, Ont., and 3 sleeping cars in the U.S.

The Montreal Locomotive Works has made the following deliveries, recently: 11 Pacific type locomotives to the C.P.R., one 4-wheel to M. P. & J. T. Davis, 6 consolidation locomotives to the C.N.R., 2 mogul locomotives to the J.D. McArthur Co., and one 4-wheel locomotive to the Robertson Asbestos Co.

The C.N.R., between June 15 and July 15, received the following additions to rolling stock: 188 box cars from Rhodes, Curry & Co., Amherst, N.S.; 129 box cars from the Canada Car Co., Montreal; 4 box cars from the Crossen Car Mfg. Co., Cobourg, Ont.; and 8 consolidation locomotives from the Montreal Locomotive Works.

The Secretary of the Board of Railway Commissioners has given notice that railway companies subject to the Board's jurisdiction will be required, at the sittings to be held in Ottawa on Sept. 7, to show cause why all freight vans should not be equipped with coupler operating levers and with air gauge and air controlling valves to be located in the cupolas of the cabooses.

The C.P.R., between June 12 and July 14, placed orders for rolling stock, as follows: 2 tank locomotives, 1 Pacific locomotive, 5 freight locomotives, 10 box cars, 1 box baggage car, 5 freight refrigerator cars, 1 stock car and 15 flat cars at its Angus shops, Montreal; 1 van at its Farnham shops, Que.; and 125 steel flat cars and 3 steel coal cars at the Dominion Car and Foundry Co., Montreal.

Following are general dimensions of the 15 cabooses being built for the C.N.R. by the Crossen Car Mfg. Co., Cobourg, Ont.:—

Length over body end sills	30′ 0″
" " platform end sills	35′ 1½″
Width over side sills	9′ 1½″
Height from top of sill to bottom of plate	6′ 6″
Outside of end sill to centre of bolster	4′ 10″
Centre to centre of cross ties	5′ 4″
Height, top of rail to centre of drawbar,	2′ 10½″
Wheel base of truck	5′ 0″
Couplers	Janney, all steel

The Canada Car Co., Montreal, has recently received orders for rolling stock as follows: 200 stock cars, 300 flat cars, 700 box cars and 200 refrigerator cars from the G.T.P.R.; 3 plow distributing cars, 125 Hart convertible cars and 10 Otis dump cars from the Hart-Otis Car Co., Montreal; 3 Lidgerwood unloaders from F. H. Hopkins and Co., Montreal; one 39-ton box car from the Hamilton Bridge Works Co., Hamilton, Ont., and 1 Lidgerwood unloader from the Allis-Chalmers Bullock Co., Montreal.

The C.P.R., between June 12 and July 14, received the following additions to rolling stock: 1 Mallet articulated compound locomotive, 7 observation cars, 6 mail and express cars, 4 second class cars, 16 box cars, 2 stock cars, 16 ballast cars, 6 freight refrigerator cars, 1 clearance car, from its Angus shops, Montreal; 8 vans from its Farnham shops, Que.; 324 steel coal cars from the Dominion Car and Foundry Co., Montreal; 4 locomotives from the Montreal Locomotive Works, and 2 locomotives from the American Locomotive Co.

The Montreal Locomotive Works has received an order from the Pacific Coast Coal Mines, Ltd., for one Columbia type locomotive, of which the following are the chief details:

Weight in working order	79,000 lbs.
Weight on drivers	58,000 lbs.
Weight on engine truck	9,000 lbs.
Weight on trailing truck	12,000 lbs.
Wheel base, driving	7′ 0″
Wheel base, engine	21′ 6″
Cylinders	14″ by 22″
Driving wheels, diar.	44″
Boiler, type	straight top
Boiler, diar.	42¾″
Boiler, pressure	160 lbs.
Firebox	42″ by 35″
Tubes, no. and diar.	92—2″
Tubes, length	10′ 6″
Brakes	Westinghouse-American
Capacity, water	1,075 gals.
Capacity, coal	½ ton

Following are the chief details of the hump switching locomotive which the C.P.R. is building at its Angus shops, Montreal, as mentioned in our July issue:—

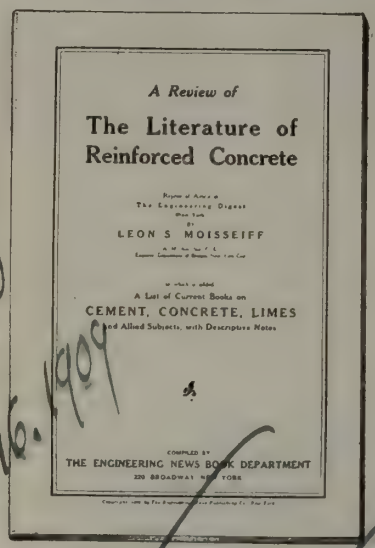
Weight	185,000 lbs.
Cylinders	22½″ by 28″
Drivers, diar.	52″
Working pressure	180 lbs.
Heating surface, tubes	2,305 sq. ft.
" " firebox	182 sq. ft.
Tubes, no. and diar.	349—2″
" length	12 ft. 7⅜″
Firebox	8′ 9⅞″ by 5′ 9¼″
Grate area	49.7 sq. ft.
Capacity, water	5,000 imp. gals.
" coal	10 tons
Air brakes	Westinghouse ET 6
Axles	Open hearth steel
Brake beams	Simplex, trussed for tender
Brake shoes	C.P.R. standard
Couplers	Tower
Journal bearings	C.P.R. standard
Springs	C.P.R. crucible steel
Tires	Krupp crucible steel
Driving wheel centres	Cast steel
Other " "	Cast iron

Following are additional particulars to those we gave in our July issue of the 22 observation cars which the C.P.R. has recently put into service on its western lines, and which were built at its Angus shops, Montreal:—

Body and underframe	Wood
Axles	5″ by 9″ M.C.B.
Bolsters	Double
Brake beams, Simplex, high speed with adj. head	
Brakes shoes	Unflanged steel back diamond S.
Brakes	Westinghouse air high speed
Couplers	Tower passenger
Heating system	Gold with Frumveller heater
Journal boxes	McCord with steel inserts
Platforms	Standard Coupler Co.'s steel
Roofs	Standard passenger covered with canvas
Seats	Movable arm chairs of 3 types
Springs	38″ duplex elliptic
Trucks	6-wheel with 5″ by 9″ journals
Vestibules	Pullman, wide
Wheels	36¼″ steel tired
Lighting	Pintsch gas

CEMENT AND CONCRETE

This 64-page Pamphlet


A Review of
The Literature of Reinforced Concrete
LEON S. MOISSEIFF
A List of Current Books on
CEMENT, CONCRETE, LIMES
and Allied Subjects, with Descriptive Notes
THE ENGINEERING NEWS BOOK DEPARTMENT

has been issued in an endeavor to answer the hundreds of letters we have received, requesting information on cement and concrete literature, and which could not be answered individually in detail.

More than 100 books have been listed and described sufficiently to permit the selection of the best books to suit any special requirements.

The pamphlet is of practical value to everyone interested in any way in this form of construction, and every Engineer, Contractor, Manufacturer and Builder should have a copy, which will be sent to any address on receipt of 5 cents, to cover cost of mailing. The supply is limited—if you want a copy, get it NOW. Use the attached coupon.

R.M.W. 89.

Send me pamphlet on Concrete Literature—5 cents enclosed for mailing. Also send me notices of new books on

..Civil Eng'g. ..Mining ..Cement and
..Electrical ..Municipal Concrete
..Mechanical ..Railroad ..Contracting
..Metallurgy

Name .....

Address .....

.....

ENGINEERING NEWS
BOOK DEPARTMENT
220 Broadway. New York.

Champion Revolving Dump Car

The CHAMPION CAR is radically different from any now on the market. It is simple, strong, compact and being built entirely of iron except the bed, is extremely durable. The bed revolves and may be dumped on either side or end. Write for catalogue of cars and drums.

The Canadian Road Machine Co., Limited
HAMILTON, CANADA

New Ways To The Woods

The six railways of the Canadian Northern Railway system offer the widest choice of new territories for the fisherman, canoeist, camper and hunter.

IN NOVA SCOTIA the Halifax and Southwestern Railway, from Halifax to Yarmouth, serves seven hundred miles of ocean shore; two score generous trout streams and the famous Rossignol lake system.

IN CAPE BRETON, sixty miles of the Gulf of St. Lawrence shore is skirted by the Inverness Railway, which gives easy access to the Margaree valley—far-famed for its salmon fishing.

IN QUEBEC, the Canadian Northern, Quebec and Quebec, and Lake St. John Railways give easy access to the Saguenay, Upper St. Maurice, the Batiscan, the La Tuque game and fish preserve, and the valleys of the St. Lawrence and Ottawa. All good fishing waters, abounding with ouananiche, trout and bass.

IN ONTARIO, the entire range of the Muskokas, the Georgian Bay hinterland, the French, Pickerel, Still and Maganetawan rivers—well stocked with bass, mascalonge, and pickerel, are best reached by the Canadian Northern Ontario Railway.

IN WESTERN ONTARIO and the prairie provinces, the Canadian Northern Railway serves over three thousand miles of splendid territory. The Rainy River section follows the old Dawson fur trail, which is the finest canoe trip on the continent. There is an amplitude of sporting opportunities for the camera hunter, the fisherman and canoeist.

For literature and general or special information inquire of the information Bureau, Canadian Northern Railway System, Toronto.

Of the 22 cars, 11 have been built with 3 staterooms and drawing room, while the remainder have a smoking room, one state room and one drawing room. The cars are 72′ 8″ long, over end sills; 9′ 10½″ wide, over frame. The observation platform, 6′ 6″ long, at the rear end, is enclosed by a massive brass rail and gate, and has chair accommodation for 15 passengers. The observation room is 25′ 2″ long, provided with 18 chairs of three different designs in padouk, upholstered in morocco leather. The walls are also finished in padouk, a wood similar to Spanish mahogany, but of a deeper red. The writing room, situated between the observation room and the buffet, is provided with a writing desk and chair, and occupies a space 4′ 3″. The staterooms are each provided with toilets, and are each 6′ 4″, as is also the drawing room, which has an annex of 4′. The smoking room, which takes the place of two staterooms in 11 of the cars, is 12′ 8″ long, with 8 movable chairs and 2 movable tables. A special point is made of the windows in the rear of the observation room, which are arranged to reach to within 12″ of the floor, so that passengers may have an unbroken view of the scenery.

Following are general dimensions and chief particulars of the Pacific type simple superheater locomotive which the C.P.R. is building at its Angus shops, Montreal, for delivery in Nov.:—

Weight on drivers	136,000 lbs.
" total	215,000 lbs.
Cylinders	21″ by 28″
Drivers, diar.	69″
Boiler, type	Wagon top, radial stayed
" pressure	200 lbs.
Heating surface, total	2,952 sq. ft.
Tubes, no. and diar.	193—2¼″ and 22—5″
" length	19′ 6″
Firebox	94⅛″ by 70″
Grate area	45.6 sq. ft.
Capacity, water	5,000 imp. gals.
" coal	10 tons
Air brakes	Westinghouse ET 6
Axles	Krupp steel
Brake beams	Simplex trussed
Brake shoes	C.P.R. standard
Couplers	Tower
Headlight	Pyle National Electric
Journal bearings	Canadian Bronze Co.
Sight feed lubricators	Detroit 5-feed
Steam heat equipment	Gold system
Tires	Krupp crucible steel
Wheel centres	Cast steel
Superheater	Vaughan and Horsey

Following are the general dimensions and chief particulars of the 5 consolidation locomotives which the C.P.R. is building at its Angus shops, Montreal, for delivery in Oct. and Nov.:—

Weight on drivers	168,150 lbs.
" total	198,350 lbs.
Cylinders	22½″ by 28″
Drivers, diar.	56″
Boiler, type	Wagon top
" pressue	180 lbs.
Heating surface, total	2,797 sq. ft.
Tubes, no. and diar.	240—2″ and 24—5″
" length	14′ 1⅜″
Firebox	8′ 0⅝″ by 5′ 5¼″
Grate area	43 sq. ft.
Capacity, water	5,000 imp. gals.
" coal	10 tons
Air brakes	Westinghouse ET 6
Axles	Mild steel
Brake beams	Simplex truss
Brake shoes	C.P.R. standard
Couplers	Tower
Headlight	Pyle National Electric
Journal bearings	Canadian Bronze Co.
Sight feed lubricators	Detroit 5-feed
Springs	C.P.R. crucible steel
Steam heat equipment	Gold system
Tires, driving and truck wheels	Krupp crucible
" tender wheels	Cast iron
Wheel centres	Cast steel
Superheater	C.P.R.

The Canadian Locomotive Co., Kingston, Ont., has received an order for one mogul locomotive from O'Brien, Fowler and McDougall Bros., contractors, Ottawa, of which the following are the chief particulars:—

Weight on drivers	102,000 lbs.
" total	117,000 lbs.
Wheel base of engine, rigid	14′ 6″
" " total	22′ 0″
" " and tender	47′ 7″
Length over all, engine and tender	57′ 0″
Width "	10′ 0″
Height "	13′ 9″
Heating surface, firebox	11.9 sq. ft.
" " tubes	1,235 sq. ft.
" " total	1,354 sq. ft.
Driving wheels, diar.	50″
Driving wheel centres	Cast iron
Driving journals	9½″ by 10″
Cylinders	18″ by 24″
Boiler type	Extended wagon top, radial stayed
" pressure	180 lbs.
Tubes, no. and diar.	200—2″
" length	11′ 10″
Brakes	Westinghouse automatic
Weight of tender loaded	92,000 lbs.
Capacity, water	3,800 imp. yals.
" coal	8 tons
Truck, Type	4-wheel steel bolster
Truck wheels, diar.	33″
" " material	Chilled cast iron
Journal	5″ by 9″
Brake beams	Steel

G. T. R. Betterments, Construction Etc.

Montreal Track Elevation.—The question of the elevation of the G.T.R. tracks in the city was further discussed by the Montreal City Council, July 6. A resolution was passed referring the subject again to the civic level crossings committee with instructions to request the G.T.R. to submit without delay plans, specifications and estimates to be prepared in conjunction with the city engineer.

Ottawa Terminal Station and Hotel.—The contract for the new joint terminal station has been let to P. Lyall & Sons, Montreal. A member of the firm was in Ottawa on that day and stated that work would be started at once. It is stated that the operations must necessarily be on a small scale at first until the staff in the present building can be moved into the baggage annex, which is to be used as a station until the new building is completed. This annex is in course of erection, the shed framework is partly erected and the bricklaying has been commenced. It was expected that work would have been so far completed by Aug. 1, that a beginning could be made in moving the staff from the present station. The old station building is to be torn down, and the new building will cover the old site and some adjacent land. The new station will be 140 ft. wide and 228 ft. deep. It will be four storeys high, and will be connected with the proposed new hotel on Major's Hill Park by a subway. The proposed buildings were fully described and illustrated in our July, 1908, issue.

The contract for the hotel to be called Chateau Laurier, is reported let to G. A. Fuller & Co., New York. The contract price has not been announced, but it may be mentioned that the building will cost about $1,500,000.

Toronto Yards.—The Superintendent of Terminals at Toronto made an inspection of the yards in the vicinity of the Don River, July 16. On account of the straightening out of the Don River south of Queen St., by the City Council, the lay-out of the yards there will have to be changed somewhat, and it is desired, in connection with this work, to secure lands for an enlargement.

Toronto Belt Line.—Rumor is once more crediting the G.T.R. with having decided to reconstruct the old belt line round Toronto. The story now being circulated is that the reconstruction is to be undertaken so that it can be utilized for freight trains running between Mimico yards on the west, and York yards on the east.

London Improvements.—The Mayor of London, Ont., met a number of G.T.R. officials at Toronto, July 10, and discussed the question of track elevation, etc., with them. He says he is confident that the company and the city representatives will get together very shortly, and that some arrangement as to what is to be done will be arrived at.

Canada-United States Tunnels.—The G.T.R. has a single track tunnel connecting Sarnia, Ont., with Port Huron, Mich., the trains being hauled through it by electric locomotives; and the Michigan Central Rd. is constructing a double tube tunnel, to connect Windsor, Ont., with Detroit, Mich. Trains will also be hauled through this tunnel by electric locomotives. Press reports recently credited the G.T.R. with having surveys made for the construction of a second tunnel between Sarnia and Port Huron, and for the construction of a tunnel between Windsor and Detroit. We were officially advised, July 16, that the management is not aware of any such project, and that the company's St. Clair tunnel, between Sarnia, Ont., and Port Huron, Mich., meets all its present requirements.

Pipes in Rail Ingots.

E. C. Washburn writes from Minneapolis, Minn.:—"While Manager of the Washburn Steel Castings and Coupler Co., I had several difficult casting propositions; to wit, to secure sound castings without blow holes. One of the usual ways to overcome this difficulty is to use a larger riser, or head; and to secure enough molten metal from these heads to take care of the contraction in the cooling casting, is the question to be solved. It is customary to reduce the end or neck of the riser, where it meets the mold, so as to avoid heavy sawing in removing the feeder from the casting. But when this neck is reduced enough to make its removal practical, it is of such a small size that the sand will freeze or cool it and so cut off the necessary supply of molten metal in the riser or feeder. To overcome this difficulty, I designed a clay pot, patterned exactly on the order of a flower pot, but having a hole of sufficient diameter in the bottom for the hot metal to feed through. This pot was set directly on the pattern, and rammed up with the mold with the usual pouring gate. The result was that the hot metal, after filling the mold, passed up through the bottom of the pot until it was filled. In doing this it heated the clay of the bottom of the pot to practically the temperature of the steel. Then, as the casting cooled, the molten metal fed into the casting through this hole, at times drawing almost the entire inside from the riser, and giving an absolutely sound casting, connected to the riser by the neck, which being only two inches in diameter, was readily broken with a heavy sledge. This type of riser can be easily applied to rail-ingot molds by setting on the mold a metal casing, carrying a heavy fire-clay pot inside, which not only retains the heat in the head and gives a sound ingot its entire length, but does it in a very cheap and practical way.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-08, from July 1, 1908:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July	$ 728,500	$525,600	$202,900	$159,000 –
Aug.	747,400	561,300	186,100	30,400—
Sept.	901,700	650,600	251,100	42,000+
Oct.	1,172,700	752,600	420,100	110,200+
Nov.	1,156,900	744,300	412,600	144,300+
Dec.	927,900	642,800	285,100	42,400+
Jan.	526,200	425,900	100,300	15,400—
Feb.	502,600	409,200	93,400	9,700+
Mar.	738,700	534,200	204,500	32,600+
Apr.	741,200	517,300	223,900	63,200+
May	720,100	537,200	182,900	51,100+
June	805,000	572,500	232,500	20,700+
	$9,668,900	$6,873,500	$2,795,400	$311,400+
Inc. or Dec.	$ 656,500	$ 345,100	$ 311,400	.....

Approximate earnings for 3 weeks ended July 21, $582,300 against $500,700 for same period 1908.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-8, from July 1, 1908:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
July	$6,292,889.82	$4,018,207.57	$2,274,573.24	$232,279.41 –
Aug.	6,385,956.69	3,807,057.98	2,578,898.71	8,623.56+
Sept.	6,391,672.48	4,277,064.71	2,114,607.77	36,745.58 –
Oct.	7,381,970.41	4,726,703.70	2,655,266.71	25,050.93 –
Nov.	7,303,303.20	5,082,223.85	2,221,079.35	223,954.86 –
Dec.	6,955,874.11	4,759,122.54	2,196,751.57	119,561.99+
Jan.	4,761,859.93	4,372,110.10	389,749.83	234,241.95 –
Feb.	4,966,208.14	4,204,063.36	762,144.78	405,048.17+
Mar.	6,518,763.14	4,715,055.01	1,803,708.13	502,678.64+
Apr.	6,384,038.32	4,240,530.80	2,143,507.52	421,273.08+
May.	6,420,640.04	4,493,779.55	1,926,860.49	245,365.25+
	$69,763,167.28	$48,693,019.17	$21,067,148.11	$950,277.96+
Inc. or Dec.	$3,934,828.60	$2,984,550.64	$950,277.96	.....

Approximate earnings for June, $6,354,000, and for 2 weeks ended July 14, $3,232,000; against $5,458,000 and $2,806,000 for same periods 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross revenue for May, $255,042.79; net revenue, $77,975.89, against $195,134.53 gross revenue and $37,503.91 net revenue for May, 1908. Aggregate gross revenue for 11 months ended May 31, $2,555,031.47; net revenue, $780,381.81, against $2,805,610.07 aggregate gross revenue and $763,301.75 net revenue for same period 1907-08. Approximate gross earnings for June, $280,151, against $206,763 for same period 1908.

MINERAL RANGE RD.—Gross revenue for May, $67,540.33; net revenue, $6,075.62, against $65,786.44 gross revenue and $6,106.33 net revenue for May, 1908. Aggregate gross revenue for 11 months ended May 31, $758,839.89; net revenue, $122,930.68, against $740,258.31 gross revenue and $110,977.17 net revenue for same period 1907-08. Approximate gross earnings for June, $66,026 against $68,786 for same period 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for May, $987,963.73; net earnings, $353,923.35; against $736,755.97 gross earnings; $88,927.38 net earnings for May, 1908. Aggregate gross earnings for 11 months ended May 31, $11,536,672.70; net earnings, $5,033,571.79; against $10,589,104.49 gross earnings, and $4,016,829.93 net earnings for same period 1907-08. Approximate gross earnings for June, $987,836, against $829,224 for same period 1908.

Grand Trunk Ry. Earnings, Expenses, Etc.

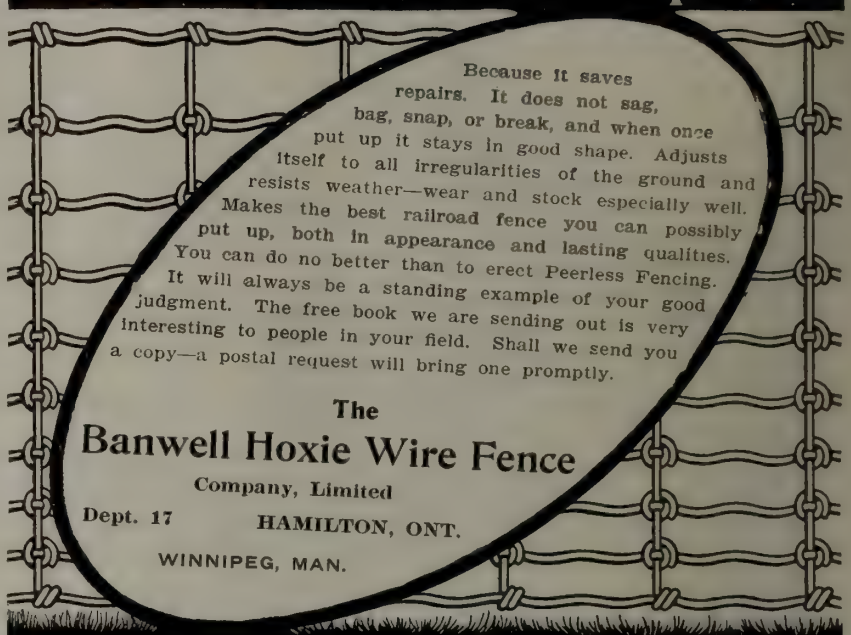
The following figures give the earnings of the G.T.R., the C.A.R., the G.T. Western Ry., and the D. G. H. & M. Ry., separately, for May, as compared with May, 1908:

	1909.	1908.
Earnings	$2,481,600	$2,472,986
Expenses	1,554,700	1,570,088
Net earnings	$926,900	$902,898
CANADA ATLANTIC RAILWAY.		
Earnings	$154,600	$149,509
Expenses	135,900	159,249
Net earnings	$18,700	*$9,740
GRAND TRUNK WESTERN RY.		
Earnings	$461,300	$364,763
Expenses	331,100	339,926
Net earnings	$130,200	$24,837
DETROIT, GRAND HAVEN & MILWAUKEE RY.		
Earnings	$142,200	$111,523
Expenses	114,300	117,367
Net earnings	$27,900	*$5,844

*Deficit.

Approximate earnings for June, $3,506,056, and for 2 weeks ended July 14, $1,558,155, against $3,420,857, and 1$,477,846 for same periods 1908.

PEERLESS
The Fence that saves Expense


Because it saves repairs. It does not sag, bag, snap, or break, and when once put up it stays in good shape. Adjusts itself to all irregularities of the ground and resists weather—wear and stock especially well. Makes the best railroad fence you can possibly put up, both in appearance and lasting qualities. You can do no better than to erect Peerless Fencing. It will always be a standing example of your good judgment. The free book we are sending out is very interesting to people in your field. Shall we send you a copy—a postal request will bring one promptly.
The
Banwell Hoxie Wire Fence
Company, Limited
Dept. 17
HAMILTON, ONT.
WINNIPEG, MAN.

STRONGER
Than Stock-Weather and Wear

WROUGHT PIPE
STANDARD WEIGHT
for Steam, Water and Gas
EXTRA HEAVY
for Car Heating

Our Pipe is made by experienced workmen, from the best material we can procure. Every length tested under high pressure, and carefully inspected before leaving our Mill.

Our trade mark on every bundle is a guarantee of quality.

TRADE M.R.M. CO. MARK

The Montreal Rolling Mills Co.

TRAFFIC RECEIPTS OF THE SYSTEM
Aggregate from Jan. 1 to June 30.

	1909	1908	Inc.	Decr.
Grand Trunk....	£2,864,776	£2,805,092	£59,684	.....
Canada Atlantic..	166,093	155,087	11,006	.....
G. T. Western....	553,860	514,678	39,182	.....
D. G. H. & M....	160,325	140,458	19,867	.....
Total.....	£3,745,054	£3,615,315	£129,739	

A. W. Barber, Superintendent C.P.R. Telegraphs, Toronto, died there, July 29, of diabetes.

Icebreaking Steamship Earl Grey.

The success of the ice-breaking and surveying steamship Lady Grey, built for the Dominion Government some three years ago, has encouraged further development in the same direction. This earlier vessel, Lady Grey, has done efficient work in breaking up the ice in the St. Lawrence River, and when not thus engaged has performed various duties for the Marine and Fisheries Department Board. The Government, therefore, decided to order another and larger vessel, and this one, which was launched by Vickers, Son and Maxim, Ltd., at Barrow-in-Furness, Eng., June 18, marks developments, especially in size and speed. The Marine Department officials decided, in the interests of economy, carefully to consider the uses to which such a vessel could be put when there was no ice. The problem was a difficult one, as the great strength necessary for ice-breaking involved a special form of hull, but the builders' experience enabled them to guarantee 17 knots, while forfeiting nothing of the essential qualities required for maintaining a free passage through ice. With the promise of this high speed, it was decided to fit the new vessel for passenger service, and she also has special quarters, so that she may be used as a yacht by the Governor-General, and is therefore appropriately named Earl Grey. In view of this, the designers have achieved very satisfactory success, so far as the appearance of the vessel is concerned. While the strength of the hull is obvious at a glance, grace has been lent to the appearance not only by fine shear, but by the adoption of a cut-water stem and a short bowsprit, an elliptical stern, and two steel pole-masts, which have a considerable rake and are schooner-rigged.

A closer examination shows that a consideration of strength has dominated the design of the hull, in order that effective work may be done amongst the heavy ice-fields of the Northumberland Straits and the Gulf of St. Lawrence. The frames are very closely spaced, in order to take up the thrust of the pack-ice, which will, at times, be piled around the vessel. The shell-plating is thicker than usual, and the outer skin is doubled along the water-line right fore and aft and to the bottom of the keel in the forebody, where the friction of the ice tends, in the case of ice-breaking steamers, to wear away the material faster than in ordinary marine practice. The procedure is to drive the ship forward until the fore body glides on to the floe sufficiently far to cause the ship's weight to crush the ice. In order that the weight may be increased at will large tanks are built into the structure, and the pumps for filling and emptying these tanks deal with 250 tons of water an hour. The vessel is also equipped for breaking ice when going astern, and the counter has been suitably strengthened to resist shocks. The rudder takes the form of the vessel, so that the movements of the ship are not in any way impeded by the ice floes.

The dimensions of the vessel and those of the earlier one, the Lady Grey, are as follows:—

	Lady Grey.	Earl Grey.
Length between perpendiculars	172 ft.	250 ft.
Breadth, moulded	32 ft.	47 ft. 6 in.
Depth, moulded	18 ft.	26 ft. 6 in.
Draught, normal	12 ft.	17 ft. 7 in.
Displacement	1,055 tons.	3,400 tons.
Speed	14 knots.	17 knots.

The arrangement for the accommodation of passengers is on the promenade, upper, and main decks, while above this is the bridge-deck, which contains quarters for the captain and navigating officers in the deck-house, the roof of which serves also for the navigating bridge. The apartments for the Governor-General, together with the smoking-room, are placed in the deck-house on the promenade deck, in which also there is arranged the entrance-hall and lounge for first-class passengers. A broad companionway leads down to the upper deck, where there are arranged state rooms for 50 first-class passengers, as well as the first-class dining-saloon, pantry, galley, etc. The chief engineer has his quarters close to the engine-room, and the petty officers of the ship are also accommodated on this deck. The mail-rooms are aft on this deck, and the seamen are accommodated forward. The second-class accommodation, which affords room for 20 passengers, is on the main deck, where also the remainder of the engineers and others of the crew of the ship have their accommodation. On this level, too, there is a hold for light cargo.

The vessel is sub-divided into numerous water-tight compartments, and the doors of the principal compartments are so constructed that they can be closed simultaneously from the navigating bridge. A water-tight bunker-bulkhead extends on each side of the vessel throughout the length of the boiler-rooms, and a double bottom is fitted for almost the entire length of the vessel. The vessel is lighted throughout with a complete system of electric light, and is heated by steam. Arrangements are provided for rapidly handling the cargo and for coaling expeditiously.

The machinery is of the triple-expansion three-crank type, and in the design the heavy stresses to which the vessel will be subjected in ice-breaking have had special consideration. Consequently, the shafting and the working parts are of considerably greater strength than usual. This also applies to the propellers, which are of the four-bladed built-up type. The blades, which, like the bosses, are of cast steel, are of exceptional strength for working through ice. The engine cylinders are 27½ in., 43 in., and 70 in. in diameter respectively, with a stroke of 39 in. Steam is supplied at a working pressure of 180 lbs. from four boilers of the cylindrical type, 15 ft. in diameter. Two of these are double-ended, being 21 ft. long, and two single-ended, 11 ft. long. The boilers are fitted with furnaces of the Morison suspension type, and work with a system of forced draught, the air being supplied by three fans driven by enclosed forced lubrication engines. The main condensers are cylindrical in form, and independent twin air-pumps are provided. There is also an auxiliary condenser capable of dealing with the whole of the steam from the auxiliary engines, and having separate air-pumps.

Special arrangements have been made in connection with the pumping plant, owing to the special duty of the ship in the ice-floes. In the event of the ordinary suction or discharge valves being choked with ice, the circulating water may be drawn from or discharged into a part of the double bottom, two frame-spaces being specially divided off for this purpose. In the way of these the outer skin of the ship is perforated in such a manner as to give a large area for the passage of the circulating water. Steam-jets are arranged on the branches of all sea inlet valves, to enable them to be cleared of ice as occasion arises. A ballast-pump of the centrifugal type, capable, as already stated, of dealing with 250 tons of water an hour, is fitted in the engine-room, with connections for transferring water between the forward and aft tanks when trimming the vessel for making its way through the ice. In addition to the usual feed, bilge, and sanitary pumps, the machinery department is fitted with evaporating plant, grease-extractor, feed-heater, and ash-expellers, the equipment generally embodying the latest up-to-date practice for this class of vessel. A workshop for repairing purposes is installed on the vessel, the lathes and other machines being driven by electric motor. The machinery, like the ship, has been built to the requirements of the Board of Trade, Lloyd's Registry of Shipping, and the Canadian Steamboat Inspection Act.

Preliminary descriptions of this vessel were published in our issues of April, 1908, and April, 1909, and an illustration of the profile in our issue of May, 1908.

Wythe—"I don't know what to do with my boy. He seems to know nothing. Cannot remember a thing, and is irritable and cross."

Smythe—"Why don't you get him in the bureau of information at some railway station?"

An order in council has been passed, rescinding article 9 of the regulations for the prevention of collisions at sea, and as to signals of distress, and substituting a new article applicable to all navigable waters within Canada, or within Dominion jurisdiction, excepting Lakes Superior and Huron, Georgian Bay, Lakes Erie and Ontario, their connecting and tributary waters, and the St. Lawrence River as far east as the lower exit of the Lachine canal and the Victoria Bridge, Montreal.

Protection or Elimination of Grade Crossings.

The Board of Railway Commissioners' Secretar, has issued the following circular:—"It is apparent from the legislation of last session, the discussion of Parliament, and the general expression of public opinion, that the Board is expected to initiate a definite movement towards the elimination of grade crossings and the protection of others that may be regarded as dangerous. It is the desire of the Board to deal with this important matter in a way that will not be unreasonably onerous upon the railway companies, but at the same time it fully appreciates the fact that little can be accomplished without large expenditure, and, therefore, it is particularly anxious that no mistakes shall be made,

and that no expense shall be incurred that is not fully warranted. The Board has for some time been collecting information and particulars regarding crossings that require protection, but before acting in the matter thought the proper course to pursue would be to ask the railway companies themselves to furnish a list of crossings upon their lines that in their opinion should be the ones to make a start at, as it would seem that those upon whom the responsibilities of railway operation rest should be the best informed as to the crossings upon their various lines that are the most dangerous. If this course is followed, it is felt that it will materially assist in directing expenditures at points where the greatest benefit to all concerned will ensue, but upon the other hand if the companies, or any of them, have objections to this suggestion, the Board trusts they will feel at perfect liberty to disregard it. If it is thought desirable to co-operate with the Board, the information given should cover crossings upon the whole system of each company and should not be confined to any one province or locality. Subject to hearing the views of the companies, it is the present intention of the Board to select a certain number of crossings each year, call all persons, corporations and companies that it may be thought should contribute, before the Board and after hearing all concerned, direct the character of the protection and apportion the cost. The Board will be glad to have suggestions from the companies upon this matter submitted in writing by, say, Oct. 1."

On July 23 the Board made its order under last session's legislation above referred to, in connection with which Parliament voted $200,000 for the current year, with the understanding that a similar sum will be voted for each of the succeeding four years. The crossing dealt with is at Raglan St., Renfrew, Ont. The Board has ordered its protection by gates, 20% of their cost be paid out of the Parliamentary vote, the balance by the C.P.R. The watchman's wages are to be paid equally by the C.P.R. and the town.

Fences, Gates and Cattle Guards.

The Board of Railway Commissioners of Canada has passed order 7473, dating it back to May 4:—Re complaints against railway companies for non-compliance with provisions of statute regarding fences and cattle guards and public highway crossings: Upon hearing complaints from many individuals, public bodies, and municipalities, that railway companies are not complying with the provisions of sec. 254 of the Railway Act, and that much hardship is caused by the exemption provided for in sub-sec. 4 of the said section; and upon request being made that the Board interevene as provided for by the said sub-section; and upon hearing what was said on behalf of the railway companies —It is ordered that all railway companies subject to the Board's jurisdiction, shall, as to all railway lines completed, owned, or operated by them, where the lands on either side of the railway are not enclosed, settled, or improved:

On or before Jan. 1, 1911, erect and maintain, on each side of the right of way, fences of a minimum height of 4½ ft., with swing gates, at farm crossings, with minimum height aforesaid, with

TORONTO BOLT AND FORGING CO. LIMITED
Manufacturers of
BOLTS AND NUTS
OF ALL KINDS, INCLUDING
Track Bolts
Track Spikes
Lag Screws
Boiler and
Bridge Rivets

TORONTO — CANADA

KERR'S GLOBE AND GATE VALVES
STRICTLY HIGH GRADE. TESTED & PACKED

THE KERR ENGINE CO. LIMITED
VALVE AND HYDRANT MANUFACTURERS
WALKERVILLE, ONT.

proper hinges or fastenings; and cattle guards on each side of the highway at every highway crossing, at rail level; provided that sliding or hurdle gates, constructed before Feb. 1, 1904, may be maintained.

The railway fences at every highway crossing shall be turned into the respective cattle guards on each side of the highway.

All fences, gates, and cattle guards shall be suitable and sufficient to prevent cattle and other animals from getting on the railway.

As to lines not yet completed or opened for traffic, or in course of construction, all such companies shall erect fences, gates, and cattle guards as aforesaid as the rails are laid. If not yet opened for traffic, then such fences, gates and cattle guards as aforesaid shall be erected and maintained before such railway shall be opened for traffic. Where the railway is being constructed through enclosed lands, it shall be the duty of the railway company to at once construct such fences or take such other steps that will prevent cattle and other animals escaping from such enclosed lands.

As to all railway lines completed, owned, or operated, where the lands on either side of the railway are enclosed, settled or improved, such company shall erect and maintain such fences, gates and cattle guards, and in all respects comply with sec. 254 of the Railway Act, on or before Oct. 15, 1909.

Where it shall be made to appear to the Board that no necessity exists for the fencing or other works hereinbefore directed, the company or companies may apply to the Board for exemption from fencing, and other works, and such exemptions may be made as the Board deems proper.

All railways now in operation shall, within the time aforesaid, construct and maintain suitable and proper highway crossings, except such as may have already been covered by previous orders apportioning cost of providing for liability for maintenance, at all such as are being used for travel, and additional ones at once upon such highways being from time to time opened and used for travel.

All railways not yet opened for traffic, or hereafter constructed, shall, before the same are opened for traffic, construct and maintain suitable and proper highway crossings at all such as are being used for travel, and additional ones at once upon such highways being from time to time opened and used for travel.

All such crossings shall comply with the standard conditions of the Board, in so far as the same may be applicable, which are as follows:—That unless otherwise ordered by the Board, the width of approaches to rural railway crossings over highways be 20 ft. road surface on concession and main roads and sixteen feet on side and bush roads. That a strong substantial fence or railing, 4½ ft., with a good post-cap, 4 x 4 ins, a middle piece of timber, 1½ x 6 ins., and a 10-in. board firmly nailed to the bottom of the posts to prevent snow from blowing off the elevated roadway, to be constructed on each side of every approach to a rural railway crossing where the height is six feet or more above the level of the adjacent ground, leaving always a clear road-surface 20 ft. wide. That the width of approaches to rural railway crossings made in cuttings be not

RAILWAY FREIGHT STATISTICS.

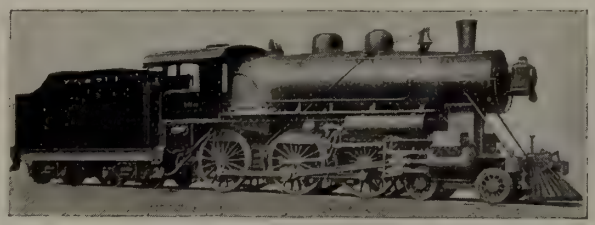
The following table shows the total tonnage of freight carried by Canadian railways during the year ended June 30, 1908, together with the tonnage originating on the several roads, and the tonnage received from connecting roads and other carriers.

Name of Railway.	Tonnage originating on road.	Tonnage received from connecting roads and other carriers.	Total Freight Tonnage.
Alberta Ry. and Irrigation Co.	77,697	18,486	96,183
Algoma Central and Hudson Bay	366,810	259	367,069
Atlantic and Lake Superior	32,241	.....	32,241
Bay of Quinte	268,549	.....	268,549
Bedlington and Nelson	1,251	804	2,055
Beersville Coal and Ry. Co.	11,082	.....	11,082
Bessemer and Barry's Bay	.....	.....	.....
Brandon, Sask. and Hudson Bay	29,160	12,283	41,393
British Yukon	3,178	28,974	32,152
Brockville, Westport and Northwestern	11,086	13,309	24,395
Buctouche and Moncton	.....	26,621	26,621
Canada Coals and Ry. Co.	83,698	3,055	86,753
Canada Southern	534,638	5,397,709	5,932,347
Canadian Government Railways—			
Intercolonial	3,629,682	378,859	4,008,541
Prince Edward Island	90,599	7,991	98,590
Canadian Northern	2,615,580	.....	2,615,580
Canadian Northern Ontario	92,098	.....	92,098
Canadian Northern Quebec	229,063	228,047	457,110
Canadian Pacific	10,736,619	3,495,687	14,232,306
Cape Breton	1,695	1,230	2,925
Caraquet	6,102	7,276	13,378
Carillon and Grenville	78	.....	78
Central Ontario	153,866	80,225	234,091
Crow's Nest Southern	177,321	51,205	228,526
Cumberland Ry. and Coal Co.	314,954	19,455	334,409
Dominion Atlantic	292,998	62,972	355,970
Elgin and Havelock	12,600	3,305	15,905
Grand Trunk	7,857,014	4,616,209	12,473,223
Grand Trunk (Canada Atlantic)	664,844	1,413,891	2,078,735
Halifax and Southwestern	149,849	32,212	182,061
Hampton and St. Martins	10,158	1,269	11,427
Hereford	180,563	6,130	186,693
Inverness Ry. and Coal Co.	313,904	8,571	322,475
Irondale, Bancroft and Ottawa	21,803	3,865	25,668
Kaslo and Slocan	8,444	839	9,283
Kent Northern	.....	.....	.....
Kettle River Valley	27,411	139	27,550
Kingston and Pembroke	90,284	31,882	122,166
Klondyke Mines	6,502	.....	6,502
Liverpool and Milton	.....	.....	.....
Lotbiniere and Megantic	48,953	1,963	50,916
London and Port Stanley	85,419	379,997	465,416
Manitoulin and North Shore	249,963	578	250,541
Massawippi Valley	81,200	432,998	514,198
Midland Ry. of Manitoba	18,461	31,709	50,170
Montreal and Atlantic	133,352	789,542	922,894
Montreal and Province Line	14,823	63,845	78,668
Montreal and Vermont Junction	6,532	740,586	747,118
Morrissey, Fernie and Michel	560,225	28,228	588,453
Maganetawan River	.....	12,429	12,429
Napierville Jct. Ry.	2,255	53,774	56,029
Nelson and Fort Sheppard	30,678	7,846	38,524
New Brunswick Coal and Ry. Co.	52,419	2,441	54,860
New Brunswick and P. E. Island	32,206	7,656	39,862
New Brunswick Southern	26,944	445	27,389
New Westminster Southern	25,615	61,058	86,673
Nosbonsing and Nipissing	.....	.....	.....
Nova Scotia Steel and Coal Co.	4,990	1,218	6,208
Orford Mountain	21,281	6,089	27,370
Ottawa and New York	24,007	71,407	95,414
Pere Marquette Rd.	3,604	2,240	5,844
Phillipsburg Ry. and Quarry Co.	.....	135,925	135,925
Princeton Branch, Washington Co. Ry.	269,585	1,579,691	1,849,276
Quebec Central	749,675	.....	749,675
Quebec and Lake St. John	260,862	84,596	345,458
Quebec Ry. Light and Power Co.	104,678	6,210	110,888
Quebec, Montreal and Southern	35,440	438,701	474,141
Red Mountain	86,605	28,776	115,381
Rutland and Noyan	.....	336,180	336,180
Salisbury and Harvey	34,797	4,453	39,250

BALDWIN LOCOMOTIVE WORKS

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND



LOCOMOTIVES

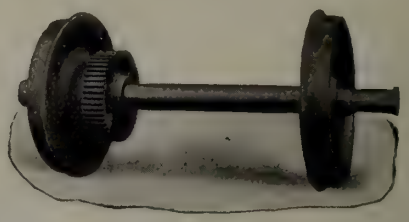
Mine, Furnace and Industrial Locomotives
Electric Locomotives with
Westinghouse Motors and Electric Trucks

Principal Offices and Works, 500 North Broad Street
PHILADELPHIA, PA., U.S.A.
Cable Address; -"Baldwin," Philadelphia

STANDARD STEEL WORKS CO.

Harrison Building, Philadelphia, Pa., U.S.A.

THE BRYDGES ENGINEERING AND SUPPLY CO. Limited
WINNIPEG, MAN. Representatives



Wheels mounted on axles fitted with motor gear ready for application to equipment

STANDARD

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

TURNBUCKLES

FORGINGS
OF ALL KINDS

CLEVIS NUTS

CLEVELAND CITY FORGE & IRON CO.

CLEVELAND, OHIO, U.S.A.

The McConway & Torley Co.

PITTSBURG, PA.

Manufacturers of the

JANNEY,
JANNEY "X"
AND
PITT FREIGHT COUPLERS

BUHOUP 3-STEM EQUIPMENT
BUHOUP VESTIBULE EQUIPMENT

MALLEABLE IRON AND STEEL CASTINGS
FOR RAILROAD USE

ESTABLISHED 1849

BRADSTREET'S

Capital and Surplus $1,500,000
Offices throughout the Civilized World
Executive Offices:
NOS. 346 and 348 BROADWAY, N. Y. CITY, U. S. A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

Correspondence Invited.

OFFICES IN CANADA:
Halifax, N.S.; Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.; Toronto, Ont.; Vancouver, B.C.; Calgary, Alta.; Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

Name of Railway.	Tonnage originating on road.	Tonnage received from connecting roads and other carriers.	Total Freight Tonnage.
Schomberg and Aurora	3,120	... ...	3,120
Stanstead, Shefford and Chambly	12,721	751,803	764,524
St. Clair Tunnel	... ...	... ...	... ...
St. Lawrence and Adirondack	7,838	653,410	661,248
Sydney and Louisburg	3,447,413	111,979	3,559,392
Temiscouata	132,584	15,885	148,469
Temiskaming and Northern Ontario	273,796	161,134	434,930
Thousand Islands	30,171	... ...	30,171
Toronto, Hamilton and Buffalo	126,023	1,055,700	1,181,723
Vancouver, Victoria and Eastern	720,200	151,922	872,122
Vancouver, Westminster and Yukon	... ...	... ...	... ...
Victoria and Sidney, B.C.	... ...	29,724	29,724
Victoria Terminal Ry. and Ferry Co.	29,724	... ...	29,724
Wabash Rd. (in Canada)	1,200,915	... ...	1,200,915
Wellington Colliery Co.	277,350	3,160	280,510
Wellington Colliery Co. (Ladysmith Extension)	483,347	... ...	483,347
York and Carleton	8,149	2,179	10,328
Total	38,821,418	24,198,482	63,019,900

less than 20 ft. clear from bank to bank. That, unless otherwise ordered by the Board, the planking or paving blocks, or broken stone topped with crushed rock screenings, on rural railway crossings over highways (between the rails and for a width of at least 8 ins. on the outer sides thereof) be 20 ft. long on concession and main roads, and 16 ft. on side and bush roads.

Leave may be reserved to each of the railway companies affected by this order to move to extend the time for compliance therewith.

Rhodes, Curry & Co., Limited, car builders, etc., Amherst, N.S., is being reorganized and additional capital introduced. Up to July 26 particulars had not been made public, but it is said that the stock will be offered to the public by C. Meredith & Co., Ltd., and the Royal Securities Co., of Montreal, and that W. B. Tennant and J. M. Robinson & Son, of St. John, N.B., are also interested. Press reports say that $1,850,000 of preferred stock and $1,000,000 of common stock will be issued, and that the preferred will be offered at 92½ with a bonus of 20% of common. While the introduction of additional capital will provide for the further extension of Rhodes, Curry & Co.'s already very extensive business, we have reason to believe that there will be no change in the management of the company or in its officers.

Notice is given that Rhodes Curry Company, Limited, has been incorporated under the Dominion Companies Act, with a capital stock of $3,000,000, divided into 30,000 shares of $100, and with head office at Amherst. The provisional directors named are E. F. Surveyer, K.C., G. V. Cousens, Manager, and F. C. Clarke, S. B. Hammond and H. G. Boyle, accountants, Montreal.

GRAND TRUNK PACIFIC TERMINAL ELEVATOR CO.'S ELEVATOR AT FORT WILLIAM, ONT.
The above is an illustration of the G.T.P.T.E. Co.'s grain elevator to be erected at Fort William, Ont., a full description of which appeared in our Jan. issue.

Railway Telegraph Superintendents' Association.

At the recent convention at Detroit, Mich., the retiring President, W. J. Camp, Superintendent C.P.R. Telegraphs, Montreal, referred to the death of four members of the Association which had occurred during his year of office, among them being those of P. W. Snider, Superintendent C.P.R. Telegraphs, St. John, N.B., and E. H. Millington, Superintendent M.C.R. Telegraphs, Detroit, Mich., which latter occurred at St. Thomas, Ont.

A number of changes were made in the constitution, among them being that regular meetings of the eastern division are to be held in Nov. and Mar., and of

WILLIAM WARREN

Laggan, Alta. and Field, B. C.

Guide and Outfitter to all points in Canadian Rockies

FISHING AND HUNTING PARTIES (fully equipped) a specialty

Seven years' experience on some of the most extensive private trips ever made since this greatest hunting and recreation ground has been opened.

References Furnished

Otto Brothers

FIELD, B.C. LAGGAN, ALTA.

GUIDES and OUTFITTERS

for the greatest scenic spot of the world,

The Canadian Rockies

Mountain climbing, exploring, hunting and fishing parties arranged on short notice. Reliable men and horses. References.

The important saving in the power bill of the railroad shop effected by individual Motor drive

YOU are naturally interested in the problem of increasing the efficiency of your shops.

You want to get more and better work out of your shops and you want to get it at the lowest possible cost.

You realize that a saving of 25% in your power bill is a considerable item and one worth investigating.

Then you will be interested in the Western Electric Individual Motor Drive for the Railroad Shop.

Let us give you some facts—

First, with Western Electric Individual Motor Drive you pay only for the power used in actual production. There is no power wasted in turning idle pulleys, shafting, and slipping belts. From actual tests, this waste power amounts to from 25 to 50% of the total power delivered by the engine.

You know how important it is to perform every operation at the greatest possible speed. Now, on a belt driven lathe, the cone steps give speed variations of about 50% each. If the first speed is too high for the operation, the next choice of speed is 50% lower than necessary. With the Western Electric variable speed motor any desired speed can be maintained without inconvenience to the operator. Consequently the speed of the operation is greatly increased and the machine becomes much more productive.

The portable machine, an absolute necessity in operation on very large work, is made reliable and practical by means of the electric motor drive.

The saving in floor space and the ease and quickness with which any machine may be moved at any time are points which alone should recommend the direct motor drive system to you.

If you are interested—if you want to know more about this system just write us and we will gladly give you full information.

Write to-day for our Bulletin No. 714.

THE NORTHERN ELECTRIC AND MANUFACTURING CO. LIMITED

Manufacturers and suppliers of all apparatus and equipment used in the construction, operation and maintenance of Telephone and Power Plants.

MONTREAL—Cor. Notre Dame and Guy Sts. WINNIPEG—599 Henry Avenue.
TORONTO—60 Front Street West. VANCOUVER—424 Seymour Street.

JOHN S. METCALF CO.

ENGINEERS AND CONTRACTORS FOR

GRAIN ELEVATORS ONLY

CONCRETE—STEEL—WOOD

Plans and Specifications our Specialty

MIDLAND, ONTARIO CHICAGO, ILL.

the western division in Sept. and Jan. each year; the addition of a second vice president, and the raising of the annual dues. The reports of the various committees and some papers were read and discussed as follows:—High Tension Wire Crossings; Efficiency of Office Organization; Preservation of Poles; Wire Testing and Care of Wires; Difference Between the Trouble Shooter and the Division Lineman; Telephone Construction; and Dry Batteries.

Among the new members elected were: J. McMillan, Superintendent C.P.R. Telegraphs, Calgary, Alta.; and J. Tait, Superintendent C.P.R. Telegraphs, Winnipeg. The Canadian visitors present included W. J. and Mrs. Camp, W. W. and Mrs. Ashald, A. B. Smith, G. T. Rooke, T. and Mrs. Rodger, H. D. Crouch, Montreal; I. McMichael, W. Marshall, W. J. Duckworth, A. W. and Mrs. Stanley, Toronto; J. and Mrs. McMillan, Calgary, Alta.; F. T. Jennings, North Bay, Ont.; C. E. Davies, Ottawa; E. Pope, Quebec.

The officers for the current year are:—President, J. L. Davis, Superintendent Chicago and Eastern Illinois Rd. Telegraphs, Chicago, Ill.; First Vice President, I. T. Dyer, Superintendent San Pedro, Los Angeles and Salt Lake Rd. Telegraphs, Los Angeles, Cal.; Second Vice President, G. A. Cellar, Superintendent Pennsylvania Rd. Telegraphs west of Pittsburg, Pittsburg, Pa.; Secretary and Treasurer, P. W. Drew, Superintendent Chicago Division Minneapolis, St. Paul and Sault Ste. Marie Ry. Telegraphs, Chicago, Ill.

Grain Elevator Notes.

The John Campbell Milling Co.'s elevator at Port Stanley, Ont., took fire July 1 and did damage to the extent of $500.

The Alameda Farmers' Elevator and Trading Co., Ltd., Alameda, Sask., has increased its capital from $20,000 to $80,000.

The West Coast Grain Co., Ltd., has been incorporated under the North West Territories Companies Ordinance, with office at Calgary, Alta.

The Melfort Farmers' Elevator Co., Ltd., has been incorporated under the North West Territories Companies Ordinance, with office at Melfort, Sask.

The Kinistino Milling and Elevator Co., Ltd., has been incorporated under the North West Territories Companies Ordinance, with office at Kinistino, Sask.

The Western Terminal Elevator Co., Ltd., incorporated under the Dominion Companies Act, has been licensed to carry on business in Ontario, with J. I. Irwin, Fort William, as its attorney.

The Northern Elevator Co.'s elevator at Arcola, Sask., caught fire recently. The damage to the structure was comparatively small, but the contents, about 5,000 bush. of wheat, were destroyed by water.

At a meeting of directors of the Montreal Grain Elevating Co., July 3, a resolution was adopted recording the sense of the loss the company had sustained through the death of A. T. Paterson, who was President for 8 years, and a director for 45 years.

It is reported that 56 elevators have already been erected in Saskatchewan this season, and it is said that before the end of the season 200 will have been erected with a capacity of 6,000,000 bush., increasing the total elevator capacity of the province to 24,139,500 bush.

The Carlyle Farmers' Elevator Co. at its recent annual meeting resolved to build an elevator of 25,000 bush. capacity, at a cost of about $6,000, to replace the one destroyed last winter by fire. It has not yet been decided whether it is to be built on the C.P.R. or the C.N.R.

The Cummings Grain Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $150,000 and office at Calgary, Alta., to construct, acquire and operate country and terminal elevators. The provisional directors are: W. K. Chandler, E. Lockington, H. Phillips, R. J. McClelland, E. A. Fletcher, Winnipeg.

The elevator which the Ogilvie Milling Co. is about to erect at Fort William, Ont., will consist of 16 concrete tanks, each 21 ft. diar., by 104 ft. high. It will be erected east of the company's present elevator and work house, and will give an additional 1,250,000 bush. capacity. The work, it is anticipated, will be completed by Nov. 15.

The British Empire Grain Co., Ltd., has been incorporated with a capital of $500,000 and office at Winnipeg, to own, operate and carry on a grain, milling, elevator and warehouse business, and to construct, own and operate all or any conveyances necessary for transportation of products by land and water. The provisional directors are: A. P. Stuart, E. S. Jaques, G. R. Crowe, P. J. Montague, W. S. Boyd, Winnipeg.

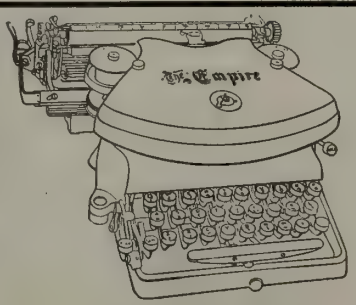
The Export Grain Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of $200,000 and office at Brandon, Man., to carry on a general grain and flour manufacturing business, and in connection therewith to build and operate grain elevators, warehouses, etc. The provisional directors are: J. H. R. Gillespie, C. H. Lamontagne, C. E. McKay, W. Peacock, J. R. Brodie, Brandon, Man.

The Manitoba Grain Growers Association had another interview recently with the Manitoba Premier on the subject of the Government control of elevators. The association is circulating forms of petition respecting the Provincial ownership of interior and the Dominion ownership of terminal elevators throughout the province, with the view of having them presented to the Governments in December. The inter-provincial council has decided to engage counsel to appear before the Board of Railway Commissioners in support of the claim for a reduction of the storage charges at terminal elevators.

Black and Muirhead, Ltd., has been incorporated under the Ontario Companies' Act, with a capital of $100,000 and office at Fort William, to deal in cereals and cereal products, and in connection therewith to construct, purchase or otherwise acquire and operate elevators, machinery, appliances, warehouses, wharves, docks, etc., and to carry on the business of navigation for the purposes of the company, for which it may own and operate steam and other vessels, etc. The provisional directors are: D. W., E. C. and J. L. Black, W. D., and L. Muirhead, Fort William, Ont. A contract has been let to Barnett and McQueen Co., Fort William, for the erection of an elevator there, which will be accessible by three railways.

The question of handling grain at Vancouver was dealt with by the Board of Trade, at a meeting held there July 13.

The Board of Railway Commissioners heard the application of the Dominion Millers' Association, July 7, asking that the elevator rates charged by the C.P.R. at Fort William and Port Arthur, Ont., be reduced to the same scale as those charged at Owen Sound and other lake points. Some time ago the C.P.R. imposed ¼c. a bushel as an extra charge to cover the cost of insurance, but it was alleged that the company by that extra charge more than covered the cost of insurance. The company, however, showed that taking into account its capital investment of $2,500,000 and the cost of operation, no money was being made, if a reasonable amount was written off for depreciation of plant. It was claimed that the C.N.R. was clearing 8% on its elevator operation expenses, which were 33 1-3% of the gross receipts, whereas the C.P.R. expenses were 60% of the gross receipts. The C.P.R. accounted for this by saying that while it was operating five small elevators, the C.N.R. was running one large elevator. Chief Commissioner Mabee, in dismissing the application and holding the present rates as reasonable, said that it made no difference how badly the C.P.R. managed its business so long as the loss fell on the stockholders and not on the public, and so long as the charges were reasonable, it did not matter to the public if the C.N.R. was making money and the C.P.R. losing it, on the same basis.



THE
EMPIRE TYPEWRITER
PRICE $60.00 ONLY
Perfect in Construction
Permanent Alignment
Hardened Steel Type
Visible Writing
Made in Canada
BUILT FOR HARD WORK
Will Outlast any Standard Machine made, irrespective of price.
Agents Wanted in every part of Ontario
Communicate Direct with us.
THE WILLIAMS MANUFACTURING CO., LIMITED
P. O. Box 2424 - MONTREAL, P. Q.

ELECTRIC RAILWAYS.

Canadian Street Railway Association.

PRESIDENT, D. McDonald, Manager, Montreal St. Ry.; VICE-PRESIDENT, J. Anderson, Manager, Sandwich, Windsor and Amherstburg Ry.; SECRETARY TREASURER, Acton Burrows, Managing Director, Railway and Marine World.

ASSOCIATION'S OFFICE, 157 Bay St., Toronto.

EXECUTIVE COMMITTEE:—P. Dubee, Secretary, Montreal St. Ry.; E. A. Evans, General Manager, Quebec Ry. Light and Power Co.; R. J. Fleming, General Manager, Toronto Ry.; H. M. Hopper, Secretary-Treasurer, St. John Ry.; J. E. Hutcheson, Superintendent and Purchasing Agent, Ottawa Electric Ry.; C. B. King, Manager, London St. Ry.

ASSISTANT SECRETARY, Aubrey Acton Burrows, Secretary and Business Manager, Railway and Marine World.

Projects, Construction, Betterments, Etc.

Aroostook Valley Rd.—A Boston, Mass., despatch says:—The Aroostook Valley Rd. has been organized and is planning to build a first unit of track between Presque Isle and Washburn, Me., 12 miles, with an ultimate extension of 110 miles more, north to the St. John River. On the south the new road will connect with the C.P.R.. Its route will lie through the heart of the Bangor and Aroostook territory. The C.P.R. has agreed to guarantee interest for 20 years at 4½% on A.V.R. bonds up to $25,000 a mile. By virtue of a law conferring monopoly within its territory, the Bangor & Aroostook Rd. is protected from the invasion of steam railways, and the new road is therefore to be an electric one for both passengers and freight.

British Columbia Electric Ry.—The contract for the Fourth Avenue west extension of the Vancouver lines, from Granville St. to the west city limits, has been let to T. R. Nickson & Co. Plans have been approved by the Vancouver city council for several extensions of lines in the city.

A power house is in course of erection in Victoria. The contractors are Malcolm & Disdale. (July, pg. 521.)

Calgary, Alta.—The street railway constructed by the city council in Calgary was opened for traffic July 5. The section opened extends from First Street to the Fair grounds, and, as it was Fair time, a five-minute service was operated by two cars. The fares taken on the first day amounted to over $450, representing over 9,000 fares. (July, pg. 522.)

Dunnville, Wellandport and Beamsville Electric Ry.—Work was temporarily suspended July 10 on this projected railway between Dunnville and Beamsville, Ont. Five miles of the grading is reported to have been completed. H. Lloyd has been in charge of the work.

The townships of Gainsboro and Maulton refused to pass by-laws last year giving bonuses to the company, but after further negotiations it was decided to re-submit the by-laws. The voting took place July 26. (June, pg. 447.)

Fort William, Ont.—The question of the crossing of the C.P.R. and the C.N.R. by the Mission extension of the street railway in Fort William, Ont., is under consideration by the Board of Railway Commissioners. The necessary material has been purchased, and the Mayor says that all that is required to allow of the starting of construction is the signing by the General Manager of the G.T. Pacific Ry. of the agreement for the right of way through the company's

C.P.R. LANDS

The Canadian Pacific Railway Company have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally)	8.00 to per acre.
Map No. 5 South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160	Acres at	$ 8.00	per acre,	cash payment	$191.70	first year's interest	$ 65.28	and nine instalments of	$160.00
"	"	9.00	"	"	213.70	"	"	"	73.46	"	"	180.00
"	"	10.00	"	"	239.70	"	"	"	81.62	"	"	200.00
"	"	11.00	"	"	263.60	"	"	"	89.78	"	"	220.00
"	"	12.00	"	"	287.60	"	"	"	97.96	"	"	240.00
"	"	13.00	"	"	311.55	"	"	"	106.10	"	"	260.00
"	"	14.00	"	"	335.60	"	"	"	114.32	"	"	280.00
"	"	15.00	"	"	359.50	"	"	"	122.44	"	"	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

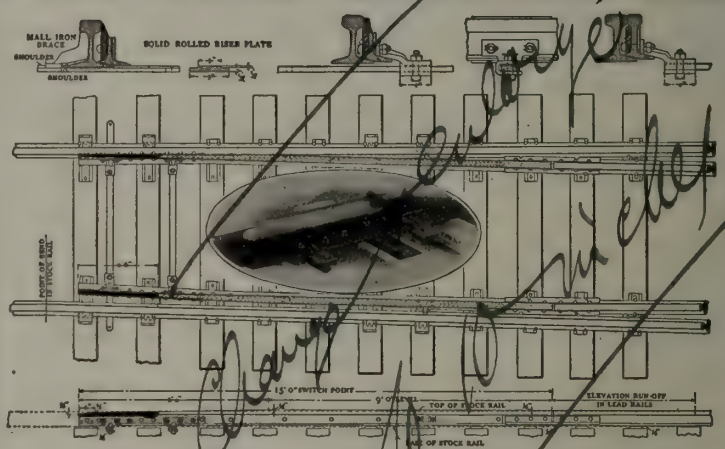
F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-selected districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

FOR HARD SERVICE, USE THE



It Will Save You Both Labor and Money

Correspondence Solicited

RAMAPO MANGANESE POINTED SWITCH.- STYLE No. 13

MANUFACTURED BY

CANADIAN RAMAPO IRON WORKS, Limited

NIAGARA FALLS, ONT.

354 Main St., WINNIPEG, MAN.

605 Eastern Townships' Bank MONTREAL, QUE,

DOMINION BUREAU

ROBERT W. HUNT & CO.

ENGINEERS

BUREAU OF INSPECTION TESTS AND CONSULTATION

Chemical and Cement Laboratories, Montreal

NORFOLK HOUSE, CANNON ST., LONDON

CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

Mission property. The route of the extension will be along the river, and it is hoped in time to carry it to the islands and back to the city over a bridge which is to be constructed at some future time by the C.P.R. (Jan., pg. 53.)

Goat River Water Power and Light Co.—The British Columbia Legislature last session passed an act incorporating a company with this title, with power among other things to construct a railway, to be operated by steam or electricity, and to carry passengers and freight, within a radius of 10 miles of Goat River Canyon, and to connect with the C.P.R. line from Creston to Kootenay Landing. The capital stock is to be $1,000,000, with power to increase as the shareholders may deem necessary. The head office of the company is to be at Creston, B.C., and the provisional directors are E. V. Bodwell, J. H. Lawson, Jr., H. G. Lawson, Victoria, B. C. (April, pg. 247.)

Hamilton, Waterloo and Guelph Ry.—The Board of Railway Commissioners, July 6, approved of the location plans of this projected railway from Sheffield to Galt, Ont. (Nov., 1908, pg. 817.)

Lacombe and Blindman Valley Electric Ry.—The Alberta Legislature last session incorporated a company with this title with power to construct a railway, "to be propelled by electricity or by any other motive or mechanical power approved of by the Minister of Public Works," from Lacombe westerly to Bently, thence northwesterly to Rimbey. The company is authorized to carry passengers and freight, to establish works for the supply of electricity as motive power, and to sell the surplus power to the public; to maintain poles, etc., on highways and streets, subject to the consent of the municipal councils interested; to acquire townsites, and to acquire and hold real estate for development. The capital is fixed at $500,000; it may issue bonds for $14,000 a mile, and may construct telephone and telegraph lines as may be necessary; make agreements with other companies; and may issue paid-up shares in respect of the purchase of right of way, plant or materials, and also for the service of engineers, etc. The provisional directors are: W. B. McPherson, C. A. Putland, C. H. Whitworth, J. H. Morrison, L. E. Cole, J. H. Damron, of Bentley, Alta.; H. Thorp, T. A. Iddings, F. Symonds, R. B. Hilborn, S. D. Reed, F. Lee, of Rimbey, Alta.; F. Vickerson, G. H. Hubton, J. I. Poole, A. M. Campbell, R. J. Scott, W. Wiese, of Lacombe, Alta.

Lacombe, Bullocksville and Alix Electric Ry.—A company with this title was incorporated at the Alberta Legislature's last session for the purpose of constructing a railway to be operated by electricity or any other motive or mechanical power from Lacombe south-easterly to Red Deer River in tp. 38, range 23, west of the 4th meridan, thence north-easterly to Alix. The various sections of the act give it similar powers, with the like provisos, to the Lacombe and Blindman Valley Electric Ry. The provisional directors are: Hon. P. Talbot, H. M. Trimble, W. R. Wilson.

Nipissing Central Ry.—A contract has been let to the Lindsay Construction Co., Sydney, N.S., for the construction of a line of five miles from Cobalt to Haileybury, Ont. The line will run from the square at Cobalt, past the athletic field, along the Argentite road, crossing the Temiskaming and Northern Ontario Ry. by an overhead bridge midway between the two terminal points; through the centre of North Cobalt, along Lakeview and thence to Haileybury. The contract calls for the completion of the line ready for operation by Nov. 1. We were advised July 13 that nearly half of the grading had been completed, ready for the ties. C. G. Henry is the company's engineer in charge of construction. (July, pg. 523.)

Ottawa Electric Ry.—An inspection of the route of the proposed extension to the cemeteries, through Clarkston, was made June 30 by the members of the Eastwood Village council, and a special committee of the Ottawa city council. It is expected that the route will be approved at an early date. (July, pg. 523.)

People's Ry.—The taxpayers of Wellesley tp., Perth county, Ont., gave a majority, July 14, in favor of a by-law to take $15,000 of stock in this company. Engineers are making a survey of a route for the section of this projected line between New Hamburg and Stratford. (June, pg. 449.)

Quebec Ry. Light and Power Co.—The new directors of the company made an inspection of the lines and plant July 9 and 10. W. G. Ross, Montreal, the new President, said it was too early to give any definite idea as to the contemplated improvements to the entire system. However, these would be of a sufficiently progressive character to make the company's line an up-to-date one. R. Forget, who was the principal financial mover in bringing about the change of control, said a large sum of money would be spent in putting the whole system in perfect condition an in enlarging its present facilities. J. K. Greenshields stated that the whole system would be greatly improved; there would be an extension of lines and additional second tracking, and larger cars would be provided; that it is also intended to double the elevator capacity at Montmorency Falls to the Kent House. (April, pg. 283.)

The Toronto Suburban Ry. has completed considerable repairs to its tracks between West Toronto and Lambton, Ont. The roadbed has been improved, the tracks raised, and additional ballast put in. (June, pg. 450.)

Windsor, Essex and Lake Shore Rapid Ry.—An inspection of the company's line was made by representatives of British capitalists, July 8. It is possible that the inspection may result in the introduction of additional capital so as to enable the company to undertake the construction of an extension to Chatham, Ont. The line, it is hoped, will ultimately be extended to London, Ont. (Feb., pg. 137.)

Drinking Water on Interurban Railways.

The Ontario Railway and Municipal Board has passed the following regulation:—Every electric railway company in Ontario, subject to the Board's jurisdiction, shall provide in each passenger car which runs 20 miles or more, a suitable receptacle for water with a cup or drinking utensil attached upon or near such receptacle, and shall keep such receptacle, while the car is in use, constantly supplied with cool drinking water for the use of passengers and the conductor and motorman in charge of such car. This regulation shall not apply to street railways in towns or cities.

Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for May, $197,802; operating expenses, $116,000; net operating earnings, $81,802; renewal funds, $13,958; net earnings, $67,844; approximate income from investments, $13,550; net income, $81,394; against $161,212 gross earnings; $95,643 operating expenses; $65,569 net operating earnings; $10,750 renewal funds; $54,819 net earnings; $11,036 approximate income from investments, $65,855 net income for May, 1908. Aggregate gross earnings for 11 months ended May 31, $2,098,154; net earnings, $942,925; against $1,805,197 gross and $851,644 net for same period 1907-08.

Cape Breton Electric Co.—Gross earnings for 4 months ended Apr. 30, $67,196.77; expenses, $46,001.48; net earnings, $21,195.29; against $74,394.82 gross earnings; $6,743.41 expenses; $27,651.41 net earnings for same period 1908. This company owns a half share of the Sydney and Glace Bay Ry., half of the earnings of which are included in the figures quoted.

Edmonton Radial Ry.—The Alberta Legislature passed an act at its last session amending the charter of the city of Edmonton in various details. To Schedule A of the ordinance of 1900 two sections are added. The first provides that "works constructed or maintained under this ordinance" shall be construed to mean all municipal revenue earning works, within and without the city, including those acquired or constructed under the Strathcona Radial Tramway Ordinance of 1894, or the Edmonton Radial Tramway Act; and the second declares that sections 30 to 56 extends the borrowing powers so as to include the raising of money for street railway purposes. The sections of the Edmonton Radial Tramway Act of 1908 relating to borrowing are amended. The corporation may issue bonds to the extent of $10,000 a mile of railway, in denominations of not less than $100, bearing interest at not more than 6%. The other sections refer to the form of bond, mortgage, registration, etc. The borrowing powers under these sections are by sec. 17 "not to interfere with the general borrowing powers of the city."

Halifax Electric Tramway Co.—Gross earnings for June, $17,300.48, and for 2 weeks ended July 14, $8,648.09, against $16,215.65 and $8,995.10 for same periods 1908.

Kingston, Portsmouth and Cataraqui Electric Ry.—A letter was received by the Kingston City Council, July 8, stating that if no readjustment of the present condition of affairs can be made the company will discontinue giving a service. The company will not take a bonus to operate the line, but is prepared to sell at a price. If nothing can be arranged the service will be given up, and the company will take its loss to date.

London St. Ry.—Gross earnings for June, $21,366.69; operating expenses, $14,162.72; net earnings, $7,203.97; against $20,634.52 gross earnings; $14,131.43 operating expenses; $6,503.09 net earnings for June, 1908. Aggregate gross earnings for 6 months ended June 30, $111,175.94; operating expenses, $81,408.86; net earnings, $29,767.06; against $106,991.42 gross earnings; $81,060.02 operating expenses; $25,931.40 net earnings for same period 1908.

Montreal Central Terminal Co.—A meeting of shareholders has been called to be held Aug. 9, to authorize the issue of first mortgage bonds and to authorize agreements with other companies.

Montreal St. Ry.—Gross earnings for June, $354,917.59; expenses, $190,320.38; net earnings, $164,597.21; city percentage on earnings, $33,120.71; interest on bonds and loans, $14,514.96; rent leased lines, $498.67; surplus, $116,462.87; against $331,211.91 gross earnings; 166,083.56 expenses; $165,128.35 net earnings; $28,895 city percentage on earnings; $19,652.21 interest on bonds and loans; $443.43 rent leased lines; $116,135.83 surplus for June, 1908. Aggregate gross earnings for 9 months ended June 30, $2,791,973.27; expenses, $1,714,403.30; net earnings $1,977,569.97; total charges, $309,891.20; surplus, $767,678.77; against $2,672,763.53 gross earnings; $1,651,707.09 expenses; $1,021,056.44 net earnings; $319,563.57 total charges; $701,492.87 surplus for same period 1907-08.

St. John, N.B., Ry.—The question of the assessment of the company's lines was under consideration by the city council July 5, and was referred to the general committee, with power to engage expert assistance.

Southwestern Traction Co.—D. B. Hanna, Third Vice President Canadian Northern Ry., went over this line recently, which gave rise to a report that it was likely to be acquired in Mackenzie, Mann & Co.'s interests. The bonds are held in England, and it is altogether likely that they will change hands in the near future, in which case the company would probably be reorganized.

Toronto Ry.—The city council is claiming $1,320.30 from the company for arrears of mileage on account of 4,281 ft. of double track on Roncesvalles Ave. The company contends that this is merely a stub track and not part of the general system, and therefore exempt.

Gross earnings for May, $323,723; expenses, $149,565; net earnings, $174,158; against $296,209 gross earnings; $152,835 expenses; $143,374 net earnings for May, 1908. Aggregate gross earnings for 5 months ended May 31, $1,483,749; net earnings, $715,760; against $1,373,306 gross earnings, and $584,445 net earnings for same period 1908. Approximate gross earnings for June, $330,207.72, against $301,842.19 for June, 1908.

Winnipeg Electric Ry.—Gross earnings for May, $189,500; expenses, $96,000; net earnings, $93,000; against $167,300 gross earnings, $89,700 expenses, $77,600 net earnings for May, 1908. Aggregate gross earnings for 5 months ended May 31, $1,017,000; net earnings, $503,500; against $848,000 gross earnings, and $425,200 net earnings for same period 1908.

Electric Ry. Position Wanted.

WANTED.—Position with Canadian Electric Railway to take charge of traffic transportation or employment and inspection department. Capable of organizing and installing modern system in either. Fifteen years experience. At present employed by one of the largest American Electric Railway properties. References from present and past employers. Canadian citizen. Box 4325, care The Railway and Marine World.

THE CLIFTON HOTEL

NIAGARA FALLS, CANADA.

Rates $4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

The only Hotel that Commands an Unrivalled View of Both Falls.

HOW TO REACH THE CLIFTON HOTEL.

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes. Arriving on Michigan Central Rd., Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make Canada plain in the address.

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited

MONTREAL, CANADA

BARE AND INSULATED ELECTRIC WIRE

Electric Light Line Wire Incandescent and Flexible Cords,

RAILWAY FEEDER AND TROLLEY WIRE

Americanite, Magnet, Office and Annunciator Wires,

Cables for Aerial and Underground Use.

NIAGARA NAVIGATION COMPANY

STEAMERS CONNECTING

Toronto-Niagara Falls-Buffalo

6 trips daily (except Sunday).

Write for illustrated booklet. Dining service on all steamers.

B. W. FOLGER, General Manager, Toronto

Height of Electric Car Steps.

The Ontario Railway and Municipal Board's decision on Dr. Helen MacMurchy's application respecting the height of car steps was published in full in our last issue. The Board has passed the following regulations to give effect to the judgment:—

"The steps on all cars hereafter constructed and used by the Toronto Ry. Co. and all other street and electric railways under this Board's jurisdiction shall hav steps conforming to the following regulations:

"On closed single truck cars the height of the first step above the ground shall be not less than 12 nor more than 15 in.

"On closed double truck cars the height of the first step above the ground shall be not less than 14 nor more than 16 in.

"On open single truck cars the height of the first step above the ground shall be not less than 12 nor more than 15 ins., and the distance between the first and second steps and the second step and the floor of the car shall measure 12 and 9 in. respectively.

"On open double truck cars the height of the first step above the ground shall be not less than 14 nor more than 16 ins., and the distance between the first and second steps and the second step and the floor of the car shall measure 12 ins. and 14 ins. respectively."

Ontario Electric Railway Merger.

There are good reasons for believing that negotiations have been going on for some time with a view of creating a merger of electric railway interests in a large portion of Ontario. It would appear that if the scheme contemplated can be carried to a successful issue the Toronto Railway will be the pivotal system, including the Toronto & York Radial Ry., which it also owns, and the Toronto Suburban Ry., which is believed to be owned by Mackenzie, Mann & Co.'s interests. The Niagara, St. Catharines & Toronto Ry. passed under the control of these interests some time ago. The proposed merger would probably embrace the following lines, or as many of them as can be secured:—Hamilton Radial Ry., Hamilton St. Ry., Hamilton & Dundas Ry., Hamilton and Brantford Ry., and Hamilton, Grimsby & Beamsville Ry., all of which are now controlled by the Dominion Power & Transmission Co.; the Grand Valley Ry., the London St. Ry., Southwestern Traction Co., Chatham, Wallaceburg and Lake Erie Ry., Windsor, Essex and Lake Shore Rapid Ry., and Sarnia St. Ry. and the Berlin and Bridgeport Electric St. Ry. This includes all the electric railways in Western Ontario except the Guelph Radial Ry. and the Berlin and Waterloo St. Ry., which are municipally owned; the Galt, Preston and Hespeler Ry., which is owned by the C.P.R., and the Sandwich, Windsor and Amherstburg Ry., which is part of the Detroit United System. East of Toronto, the Oshawa Ry., the Peterborough Radial Ry. and the Kingston, Portsmouth and Cataraqui Electric Ry. would also probably be secured.

The merger may not be accomplished, but that work has been going on for some time for the purpose of carrying it out we do not doubt. Its accomplishment would mean a valuable addition to the power users of the Electrical Development Co. of Ontario, which passed under Mr. Mackenzie's control recently, a more economical management, especially of the smaller companies, by bringing them under one general management and by standardizing rolling stock, etc., and in the end a public benefit by increased efficiency of service and a vigorous policy of betterment and extension.

Sandwich, Windsor and Amherstburg Ry.

The Ontario Railway and Municipal Board recently heard the case of the Town of Sandwich against the Sandwich, Windsor and Amherstburg Ry. Co. The town alleged that a proper service had not been furnished by the railway company, and asked that an agreement between the town and the company be construed. As the case developed it became apparent to the Board that the crucial question to be determined was the duration of the franchise, or the right of the company to operate its railway on the streets of Sandwich. The town alleged that the company's rights depend upon an agreement, dated May 27, 1891, between the town and the company, and that under it the company has merely a yearly license to occupy the streets, or in the alternative, that the franchise is controlled by the provisions of the Street Railway Act in force at that time, and extends only 20 or 25 years from the date of the agreement. The company alleged that there was an agreement anterior to May 27, 1891, which gave it a perpetual right to operate its railway on the town streets, and that it was not limited in its right to occupy the streets to 20 or 25 years.

The Board in its judgment held that the town did not grant the company a perpetual franchise; that the evidence, such as it was, was the other way; that the town had no power to grant a perpetual franchise, and that the company's right to use and occupy the streets of Sandwich with its railway and poles and wires will expire on Dec. 15, 1912. In order to give the company an opportunity to test this opinion in the Court of Appeal, the Board adjourned, sine die, the trial of the alleged breaches of the agreement to a date to be fixed, on the application of either party, on ten days notice to the other.

The Ontario Railway and Municipal Board will not sit again until Sept. 2. The Chairman, J. Leitch, K.C., has left Toronto for a rest. During the vacation one of the other members of the Board, A. B. Ingram or H. N. Kittson, will be available to attend to urgent applications.

Electric Railway Notes.

The Edmonton Radial Ry.'s double truck pay-as-you-enter cars were described in our Feb. issue. An illustration of one of the four built at Preston, Ont., is given on this page.

The Toronto city police force is now responsible for the direction of street car traffic at intersections, under a city by-law, which came in force July 1. The Toronto Ry., as a result, has withdrawn its roadmasters from these points.

The question of the payment for uniforms, which has been agitating the minds of Toronto Ry. employes for some time, has been settled. A conference was held July 15, when it was decided that the money paid by the men be refunded.

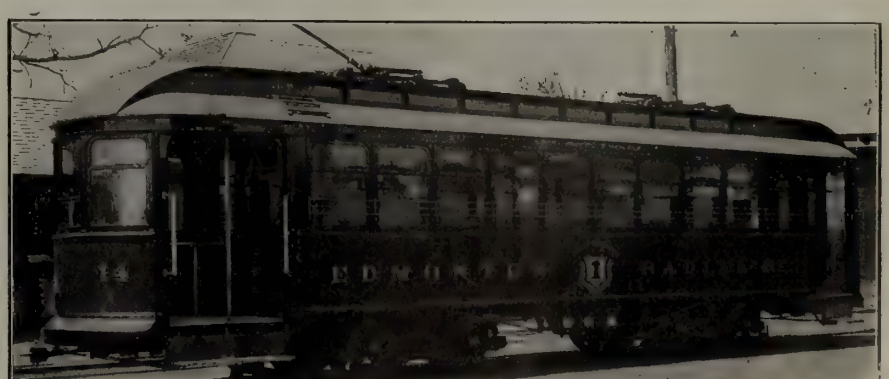
The Toronto Ry.'s officials, including roadmasters, inspectors, etc., were given an outing by the company, July 15. They visited the power plants at Niagara Falls, and went on to Buffalo, N.Y., where they had a special trip over the city electric lines.

A Vancouver, B.C., jury has awarded a painter, who was permanently injured in a collision on the B.C. Electric Ry. in September, 1908, $11,500 damages. He had previously earned $24 a week, and is now not able to do any manual work, by reason of his injuries, and his lack of education prevents him taking a clerical position.

The Niagara Falls Park & River Ry. has appealed to the Ontario Court of Appeal against the Ontario Railway and Municipal Board's judgment published in our June issue, which ordered the company to reduce its fares from 10c. to 5c. when the distance travelled did not exceed three miles. The appeal will probably be heard in September.

With respect to the offer of a London, Eng., firm to construct a system of underground tube railways in Toronto, the City Council, June 29, appointed a special committee to look into the question. The committee decided to obtain an engineer's report on the matter, and the Council, July 15, voted $500 for the preparation of a report, and decided to employ J. W. Moyes to prepare it.

The City of Hamilton applied to the Ontario Railway and Municipal Board recently to enable it to recover from the Hamilton St. Ry. Co. $2,418.45 for repairs to asphalt pavement on certain streets for 2 ft. outside the company's rails. The Board, in its judgment, holds that it has not the power to award damages and leaves the question of its jurisdiction to be settled by the Court of Appeal.



Edmonton Radial Railway Pay-as-you-enter car.

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.

BRIDGES

TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

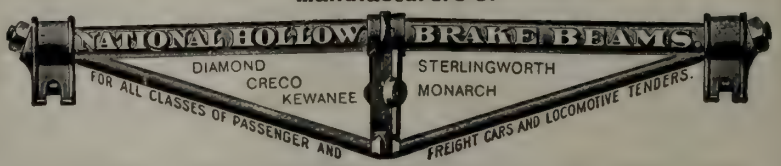
E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES
46th, Robey and Lincoln Streets.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.

Manufacturers of



DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:
22 St. John Street
MONTREAL, QUEBEC

I. A. YOUNG,
AGENT

Sternpost Repaired in 35 Hours

This repair was made last month on a 4,000 ton ocean liner. The vessel went into drydock at 7.30 a.m. and at 6.00 p.m. the following day the sternpost had been welded and the boat was ready for service. If the repair had been made by any other method than the THERMIT PROCESS, the vessel would have been out of commission for weeks.

We weld sternposts, rudder stocks, rudder frames, crank shafts, anchors, locomotive frames, etc., and effect a big saving in time and expenses.

Write for Pamphlet No. 20-N.

GOLDSCHMIDT THERMIT CO.
103 Richmond St. West, Toronto, Ont.
General Offices: 90 West St., New York.
Pacific Coast Branch, 432-436 Folsom St., San Francisco

GENERAL RAILWAY SIGNAL COMPANY

ROCHESTER, N.Y.

DESIGNERS AND MANUFACTURERS OF

Signaling Appliances

For Steam and Electric Railways

Electric and Manual Interlocking Systems
Automatic and Controlled Manual Block Systems
Telephone Selectors, Relays, Indicators, Circuit Controllers, Locks, Crossing Gates, Derails.

Catalogues, Estimates and Plans on Request.

Chicago — 1339 Monadnock Bldg.
Montreal — 305 Eastern Township's Bank
New York — 708 Night and Day Bank

OCEAN STEAMSHIP OFFICES

AMERICAN LINE

Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.

Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE

New York—London

Sailing from New York Saturdays.

WHITE STAR—DOMINION LINE

Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Docks (Bristol and Antwerp)

RED STAR LINE

New York—Dover—Antwerp
Sailing from New York Saturdays.

WHITE STAR LINE

New York—Liverpool—Queenstown
Sailing from New York Saturdays

N.Y.—Plymouth—Cherbourg—Southampton

Sailing from New York Wednesdays.

Boston—Queenstown—Liverpool
Regular Departures.

NEW YORK AND BOSTON MEDITERRANEAN SERVICE

To Italy via Azores—Gibraltar

Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured.

H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO
41 KING ST. EAST, TORONTO.

Care of Interburban Electric Railway Tracks.

By G. C. Royce, Manager Toronto Suburban Railway Company.

The maintenance of the earlier and more cheaply built tracks has demonstrated the fact, that it is economy to have tracks built with the best material, to have them well ballasted, ties and rails put in perfect condition of surface and alignment, and to preserve them in such condition. A poorly laid track poorly maintained, will be a source of menace to public safety, keep the claims agent busy and destroy rolling stock. An attractive right-of-way is an inducement to traffic, a rough slovenly track causes public comment and impairs traffic. The keeping of the track in perfect condition includes drainage, care of switches, bridges, culverts and crossings, the clearing of weeds in summer, snow and ice in winter, and track greasing.

An interburban track should be patrolled daily by a skilled trackman, whose duty it should be to see that bolts and spiking are in adjustment, switches and rails in order, drainage open, and, in fact, be a general inspector. Small defects can be easily remedied in this way, and accidents due to roadbed defects eliminated, and in a measure the safety of passengers and cars assured. The track foreman should be skilled in track work, and the handling of men, and should employ the best help obtainable for the work. Poor track help means a loss to the company employing it. Where the length of track warrants it, it should be divided into sections, and competition between the efficiency of sections should be encouraged.

Only first-class material should be purchased for track maintenance. Ties should be up to the standard, bolts the proper size and length. Much time can be wasted by placing unnecessarily large ties and bolts with too much thread. Up-to-date tools in good order should be used and the track foreman made responsible for them. A properly constructed tool box in which they can be locked away when not in use is a convenience in this respect. An up-to-date hand-car provides a quick way of getting both men and tools to the work, and of carrying light material.

It is hardly necessary for me to state that the proper bonding of a track is of vital importance and should be well looked after. On the smaller roads this work should be thoroughly understood by the track foreman, while on larger roads this can be included in the overhead line department. Periodical tests should be made. Tracks laid on a public highway suffer from defective bonding much more in the winter than in the summer, owing, both to the contraction of the rails and frozen condition of the ground. These defects show up especially during the heavy snow clearing operation, and frequently cause loss of time and interruptions to traffic during this process.

Track clearing includes the removing of snow, ice, mud and water, each more or less according to conditions. The modern practice for snow clearing in moderate storms is by the aid of scrapers attached to the cars, which if intelligently used are very effective. For heavy storms, a sweeper with proper flanging appliances is necessary. But it appears the only effective means of keeping a track open under the more severe conditions is by the use of a rotary plough, which properly equipped, will clear a very heavy fall of snow and break through heavy drifting. They are expensive and require a heavy supply of power for operation. A small road unable to afford such an expensive equipment, should have an up-to-date snow plough, and where express and freight business is handled, adjustable nose ploughs can be attached to the express cars whereby some very good results have been obtained. However, a great deal of snow fighting difficulties can be avoided by properly placed snow fences, and where it is possible they should be made permanent. Snow should not be allowed to pile close to the right-of-way, but should be well flanged back, and if this is well looked after, little trouble should be experienced in keeping the track open. Cuttings should be cleared out after each storm.

Under certain condition, weeds on the track are a nuisance, and expensive to destroy, they cause skidding of the wheels and catch drifting snow. Weeds can be destroyed in different ways; by manual labor, with grub, hoe and shovel, patent weed destroyers, by dragging long chains after a car, and where conditions warrant, by a weed burning car. Where roads are fortunate enough to be associated with gas companies, a cheap weed destroyer is obtained by using a by-product, namely: the light tar that is collected from the scrubbers and drips. This liquid can be applied with a common watering can, and also makes an excellent dust layer. Another good weed preventer is a liberal supply of soft coal ashes to be used as ballast. This also makes first-class ballast and is not affected by the frost, as the water sinks away from it very fast, this also makes a good filling for low spots in the track.

The removal of ice and frozen mud effects only such track as is laid on the travelled portion of an unpaved street or roadway. Many appliances have been tried, but I fail to find any to replace the pick.

All curved switches and points require greasing, and the general opinion appears to be that it pays to do this work. Personally speaking, I am satisfied it pays by the reduction of wear on the track and wheels, and saving in power.

Daily reports accurately kept are of value not only as to cost of work and material used, but for reference. Whenever necessary, these reports may be sub-divided into different parts, such as work on ties, steel, ballast, ditching, crossings, etc.

International Ry. and Development Co.—A company with this title has been incorporated under the B.C. Companies Act with a capital of $1,000,000 to construct and operate single or double track aerial or other tramways, with the necessary side tracks and turnouts for the passage of cars and other vehicles capable of being used on tramways, etc., to utilize any motive power now used or that may be discovered, for the operation of such tramways, to build, purchase, or otherwise acquire and operate steam and other vessels for the general transportation of passengers, etc.

The ratepayers of the townships of Moulton and Gainsboro, Ont., have passed by-laws granting a bonus of $5,000 in each case, to the Dunnville, Wellandport and Beamsville Electric Ry.

MARINE DEPARTMENT.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade. Montreal.

Dominion Marine Association.

PRESIDENT, C. J. Smith, Montreal; COUNSEL, F. King, Kingston, Ont.

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

The St. Lawrence Route Upheld.

Capt. Alex. McDougall, of Duluth, Minn., wrote one of the members of the Shipping Federation of Canada recently as follows:—

"I have just arrived home from a trip to Liverpool, and then a trip up the Great Lakes and their connecting rivers, and I made a careful study of the trip to Montreal, and a comparative examination of the route through to Duluth, for the latter part of which I have a pilot's license. I had often read and heard of the St. Lawrence route being so dangerous or difficult to navigate as compared to the route from New York, which to some extent is so, for the New York route is exceptionally favorable the year round. In the navigation of the Gulf for its season, I could not see the reasons for so much dread of it, much of which I think will disappear as the shipping increases and the aids to navigation improve, and more men get better acquainted with the objectionable features in its navigation. I had been on the lower St. Lawrence before, and with some experience in dispatching ships in and out of the Gulf, so while on the s.s. Megantic on her first voyage as passenger to Montreal, I heard her officers say that she was the largest ship (565 ft.) that could navigate the St. Lawrence, and that a 600 footer would be too long for the narrow, crooked channels to Montreal. I asked the Captain to grant me the privilege to investigate the charts, and to allow me in a prominent place in the ship to best see the channel. I looked into the matter very carefully, and when I got to Montreal I was of the opinion that there was a channel that a ship 1,000 ft. long could navigate much better than our numerous 600-footers of the upper lakes can navigate the Detroit and St. Mary's Rivers, which in their whole length require about 1,200 buoys, beacons and aids to navigation, to show or tell how to enter and pass the intricate channels and bends of the route. From Buffalo to Duluth, 1,000 miles, where steamships of more than 600 ft. are more numerous than are the different kinds of craft on the St. Lawrence, they run and pass each other night and day in the present channels of our rivers and bays, sometimes drawing 19 or 20 ft., and only two or three inches to spare over the rocky bottom of the channel. Many of those 600-footers make from 20 to 25 round trips from May 1 to Dec. 10, and the captains and mates are the only pilots and also attend to all the other duties belonging to the ships' officers, and I think they could navigate ships 1,000 ft. long in our channels of the rivers that connect our lakes and bays, and which are not nearly so good as the channel

THE CANADIAN BRIDGE CO., LIMITED

WALKERVILLE, ONTARIO

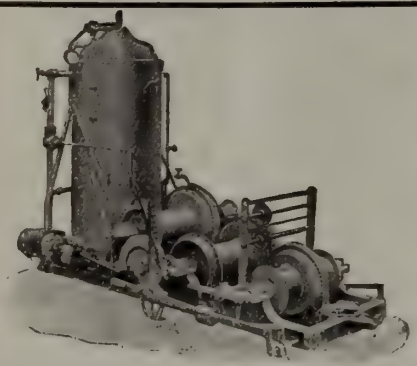
LOCOMOTIVE TURNTABLES ROOFS STEEL BUILDINGS

Manufacturers of

Railway and Highway

BRIDGES

STRUCTURAL IRON WORK OF ALL DESCRIPTIONS



M. Beatty & Sons, Limited

Welland, Ont.

Dredges - Ditchers - Derricks

Steam Shovels

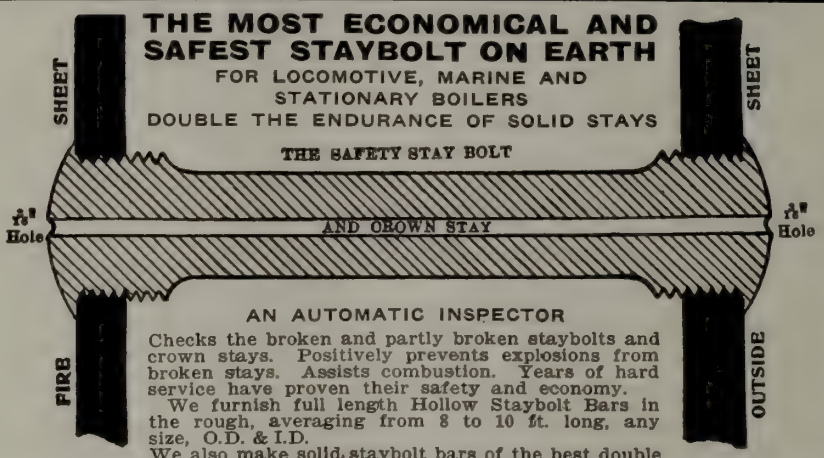
Steel Dump and Deck Scows

Submarine Rock Drilling Machinery
Mine Hoists, Hoisting Engines
Centrifugal Pumps, Clam Buckets
Steel Skips, Coal and Concrete Tubs
and other Contractors' Machinery.

THE MOST ECONOMICAL AND SAFEST STAYBOLT ON EARTH

FOR LOCOMOTIVE, MARINE AND STATIONARY BOILERS

DOUBLE THE ENDURANCE OF SOLID STAYS



AN AUTOMATIC INSPECTOR

Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

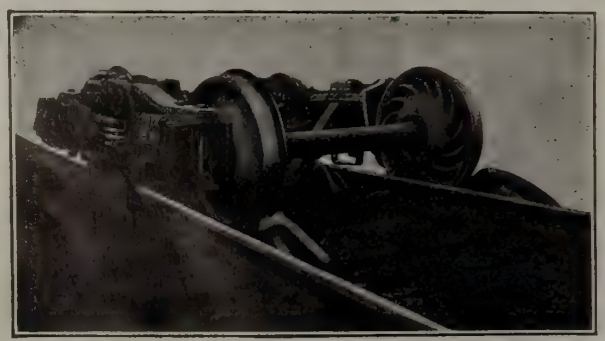
We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO

Representatives Dominion of Canada: Brydges Engineering and Supply Co., Winnipeg, Canada; Mussens Limited, Montreal, Canada.

The Alexander Car Replacer



60,000 PAIRS IN USE.

Manufactured at Montreal, Que., and Scranton, Pa.,

of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY

F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

The man who buys an Underwood Typewriter does not bring the price into discussion.

He does not buy the Underwood on a price basis. He knows that to pay less is to get less—a great deal less.

He knows that in buying an Underwood he will get full value for every cent of the cost. And for this reason, Underwoods in Canada outnumber all other makes of typewriters combined.

UNITED TYPEWRITER CO. LTD.

Adelaide St. East, TORONTO.

from Montreal to the sea, and our fog, snow and thick weather is as bad or worse than on the St. Lawrence outlet. I think that if a committee of your Harbor Commission and pilots would make a trip of investigation and look over the route from Buffalo to Port Arthur or to Duluth, and see our channels night and day in the latter part of the season, when the traffic is greatest, and nights the longest and darkest, they would learn some points of interest to themselves, and of great value to Montreal. I think the Canadian Government has been doing splendid work improving the lower St. Lawrence, which work will be moderately permanent, for the St. Lawrence has but little or no sedimnet. If I were a citizen of Montreal I would endeavor to stop the general shipping gossip that the channel is not good enough for larger ships, and I would urge the Government to still improve the good work it had been doing. About a month ago I was on the bridge with the pilot going up and down the River Scheldt to Antwerp, where not long ago a great deal of talk in shipping circles against that channel was hurtful to the port. But of late, I am told, as they improve the channel the shipping is increasing, and there is a much better sentiment for the port, as I hope you will soon have for Montreal, for I think you will be the outlet for an enormous tonnage in the future."

The Pellat-Hanlan Collision.

L. A. Demers, Acting Dominion Wreck Commissioner, has given the following judgment re the collision between the s.s. H. M. Pellatt and the steamboat John Hanlan at Toronto, June 30. "By the evidence adduced, it is found that the second engineer being on duty, under the impression that the captain, who was then on deck in charge of the ship, had finished with the engine-room, he left the oiler, Joncas, in charge of the engine, while he personally attended to the closing of the exhaust valve, claiming that his attention was necessarily required to it at the time. All the witnesses agree that the second engineer is a capable man and thoroughly sober, and has always performed his duties satisfactorily in the past. Although every testimonial was given in his favor, the court cannot condone his action in leaving the engine-room or his post under the impression that his duties were probably no longer required at the throttle valve. If proper steps had been taken to educate the assistant, the oiler, to attend to the closing of this exhaust valve, which appears to be a necessity every time the vessel comes into harbor, and the winches are working, the engineer would have been found at his post, and the mistake, which was absolutely that of the oiler to put the lever ahead instead of astern, according to the signals, would probably not have occurred. In view of the fact that the engineer left his post when he should have been attending to the working of the engines, the court holds him guilty of culpable error of judgment, and therefore, suspends his certificate for three months, from July 17 to Oct. 17, 1909. No fault is found with the captain, who seems to have acted in seamanlike fashion, taking every means and measures to prevent a casualty."

The second engineer who has been suspended is O. Lamoureux.

Northern Navigation Co.'s s. s. Hamonic.

The Northern Navigation Co. of Ontario has issued a booklet illustrating the various steps in the construction of the Hamonic, from the assembling of the materials and the laying of the keel, to the actual placing of the vessel in service. In addition to the various illustrations, which include several showing the elaborately fitted interior, a number of interesting facts relative to the actual construction of the vessel are given. The keel was laid May 26, 1908, and the hull was launched Nov. 26, in the same year; the first trial trip took place May 12, 1909; speed and endurance trials, May 24; owner's official trial trip, June 12, and the first regular trip, June 23. The steel used in building weighed 2,000 tons; the weight of the vessel when launched was 3,000 tons, and when completed, 4,000 tons. The boiler plate is 1¾ ins. thick, and the total steel used in the boilers is 320 tons. The engines are 37 ft. long, 25 ft. high, and weigh 220 tons. The propeller wheel is 16½ ft. diar., and weighs 12 tons. The dimensions of the vessel are: length, 365 ft.; beam, 50 ft.; depth, molded, 27 ft.; tonnage, 5,240 gross; horsepower, 7,000.

Stranding of the s. s. Campana.

An investigation was held at Quebec June 26 and July 2 and 3 before Capt. L. A. Demers, F.R.A.S., Chief Examiner of Masters and Mates, assisted by R. Baquet, President Quebec Corporation of Pilots, and Capt. Bain, into the circumstances attending the grounding and eventual abandonment and total loss of the s.s. Campana near Pointe St. Michel, St. Lawrence River. The court found that Capt. L. Lachance was guilty of a culpable error in judgment and therefore adjudged that his certificate be suspended for 9 months from July 3, 1909, to April 3, 1910.

The Department of Marine has issued lists of the lights and fog signals on the inland waters of the Dominion and on the Pacific coast, corrected to Apr. 1.

Notices to Mariners

The Department of Marine has issued the following:—

No. 52. June 22. 133.—Ontario, Canadian list of lights and fog signals, new edition. 134.—Ontario, Lake Erie, Port Stanley, gas beacon established on breakwater.

No. 53. June 23. 135.—British Columbia, Canadian list of lights and fog signals, new edition. 136.—British Columbia, Strait of Georgia, Gabriola reefs, non-existence of rock north-east of. 137. — British Columbia, Vancouver Island, east coast, Baynes Sound, Grassy Point, beacon replaced by buoy. 138.—British Columbia, Chatham Sound. Prince Rupert harbor approach, Ellinor rock, change in character of buoy.

No. 54. June 30. 139.—General, Canadian list of lights and fog signals, new edition. 140.—Nova Scotia, south coast, Madame Island, Petit de Grat inlet, bell buoy replaced by gas and bell buoy. 141.—Newfoundland, west coast, Cow Head, lighthouse established.

No. 55. July 6. 142.—Ontario, Lake Ontario, Point Peter, change in fog alarm. 143.—Ontario, Lake Erie, Port Burwell, bell on platform buoy. 144.—Ontario, River St. Clair, east of St. Clair middle ground, position of gas buoy. 145.—Ontario, Georgian Bay, east side, Kennedy bank, gas buoy established.

No. 56. July 7. 146.—Ontario, Lake Huron, Goderich, gas beacon established on outer breakwater.

No. 57. July 12. 147.—Quebec, River St. Lawrence below Quebec, lettering on Red Islet lightship. 148.—Quebec, River St. Lawrence, Saguenay River entrance, Lark Islet, light discontinued. 149.—Quebec, River St. Lawrence below Quebec, Traverse off St. Roche, lower end, gas buoy placed near site of lower traverse pier.

No. 58. July 12. 150.—British Columbia, Chatham Sound, Prince Rupert harbor, Kitson bank, buoys established. 151.—British Columbia, Chatham Sound, off Porpoise harbor, buoys established.

No. 59. July 13. 152.—Quebec, River St. Lawrence, Cape Dogs, lighthouse established.

SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie Canals in June :

Articles.			Canadian Canal	U. S. Canal	Total
Copper	Eastbound	Net tons	175	12,943	13,118
Grain	"	Bushels	1,063,031	1,154,487	2,217,518
Building stone	"	Net tons	.....	430	430
Flour	"	Barrels	219,942	553,253	773,195
Iron ore	"	Net tons	1,415,477	3,629,396	5,044,873
Pig iron	"	"	.....	3,482	3,482
Lumber	"	M. ft. B.M.	586	83,095	83,681
Wheat	"	Bushels	2,101,938	2,713,949	4,815,887
General merchandise	"	Net tons	5,076	13,937	19,013
Passengers	"	Number	1,925	2,013	3,938
Coal, hard	Westbound	Net tons	30,900	157,437	188,337
Coal, soft	"	"	145,169	911,166	1,056,335
Flour	"	Barrels	10	250	260
Grain	"	Bushels	.....	500	500
Manufactured iron	"	Net tons	5,265	54,378	59,643
Iron ore	"	"	3,474	.....	3,474
Salt	"	Barrels	2,758	76,281	79,039
General merchandise	"	Net tons	28,147	95,242	123,389
Passengers	"	Number	1,859	1,999	3,858
Vessel passages		Number	455	1,895	2,350
Registered tonnage		Net	1,171,610	4,426,566	5,598,176
Freight—Eastbound		Net tons	1,528,667	3,960,689	5,489,356
" —Westbound		"	213,348	1,229,701	1,443,049
Total Freight		"	1,742,015	5,190,390	6,932,405

No. 60. July 14. 153.—New Brunswick, east coast, Northumberland Strait. Kouchibouguac bay, Black Lands gully, range lights discontinued. 154.—New Brunswick, east coast, Northumberland Strait, Kouchibouguac bay, Kouchibouguacsis River, range lights established.

No. 61. July 15. 155.—Nova Scotia, north coast, Northumberland Strait, Pugwash harbor, range lights established.

No. 62. July 19. 156.—New Brunswick, Northumberland Strait, Tormentine reefs, bell buoy replaced by can buoy. 157. Prince Edward Island, south coast, Northumberland strait, Tryon shoal, whistling buoy, replaced by conical buoy. 158. Prince Edward Island, Northumberland Strait, gas and whistling buoy established in mid straits between Tryon shoal and Tormentine reefs.

No. 63. July 20. 159.—Nova Scotia, Cape Breton Island, south coast, L'Ardoise, range lights established.

No. 64. July 21. 160.—New Brunswick, east coast, Northumberland Strait, Richibucto harbor entrance, change in the positions of the bar range lights. 161. New Brunswick, east coast, Kouchibouguac bay, Kouchibouguac River, change in the positions of the bar range lights. 162. Prince Edward Island, south coast, Bedeque bay, Miscouche shoal, change in position of gas buoy.

Can Ship at Once

Bucyrus 70 ton Steam Shovel, modern (2) @	$7,000
Bucyrus 65 ton Steam Shovel, No. 503	5,900
Marion 70 ton Steam Shovel, Model 60; modern	6,500
Marion 90 ton Steam Shovel, 3½ yard; modern	8,500
Thew No. 1 Full Circle Shovel, 1 yard (Traction)	3,650
Traction Shovel "Little Giant," 1 yard	2,500
Austin "New Era" Grader; new belt	650
50 tons 20 lb. Steel Rail and splices (per ton)	23

We solicit the enquiry of Contractors in the Dominion, assuring them of prompt attention. The released equipment we offer is dependable. We have special bargains in locomotives, dump cars, air compressors, drills, crushers, hoisting engines, concrete mixers, etc., and we issue a printed list of our offerings with prices and location given. Send for it and let us know your requirements in our line.

WILLIS SHAW MACHINERY COMPANY

No. 171 La Salle St., Chicago, Ill.

JAMES THOMSON, Pres. and Mang. Director. J. G. ALLAN, Vice-President. JAMES A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED

MANUFACTURERS OF

CAST IRON PIPE

3 Inches to 60 Inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER

HAMILTON, ONT.

GASOLINE ENGINES

The "STICKNEY" ENGINE is something unique

The most ECONOMICAL ENGINE for RAILWAY PUMPING

The GOVERNOR is so sensitive that it never wastes fuel

Constructed without any useless frills but made to stand hard work.

Sizes from 1 H.P. to 25 H.P.

We state size of Cylinder, and are prepared to guarantee power developed.

ONTARIO WIND ENGINE AND PUMP CO. LIMITED

WINNIPEG, MAN. TORONTO. MONTREAL, QUE.

The "DILLON" is a Hinge-Stay fence made of extra quality wire, either all No. 9, or lighter if required.

"MONARCH" fence is made of No. 9 Hard wire throughout, and is of the regular straight-stay style

ENQUIRY SOLICITED

The Owen Sound Wire Fence Co. LIMITED

OWEN SOUND, ONTARIO

SESSIONS-STANDARD
Friction Draft Gear
Simplest and Best

Both Made by Standard Coupler Co.
2 RECTOR STREET NEW YORK

STANDARD STEEL PLATFORMS
Used by all Canadian Railways

Atlantic and Pacific Ocean Marine.

The Reford Line's s.s. Spheroid, which recently grounded between Montreal and Three Rivers, was released without damage.

The barkentines Rachel Emery and Allan Wylde, which arrived at Montreal, July 4, from Porto Rico, are the first ocean-going sailing vessels to enter the port of Montreal for some years.

R. M. Coulter, Deputy Postmaster General for Canada, who went to Australia and New Zealand, on behalf of the Government in connection with the proposals for the establishment of the "all red route," has returned to Canada.

The Donaldson Line s.s. Cassandra, which arrived at Montreal July 13, was the first passenger boat to pass the Straits of Belle Isle this season. Several freight vessels had already taken this route, inward, but the Cassandra was the first passenger vessel to arrive by the northern route.

The White Star-Dominion Line s.s. Megantic, which arrived at Montreal re-

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING JUNE, 1909.

Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Anthemis	126,487	Magog, Que., 1909	Screw 16 n. h. p..	86.5	17.8	6.7	95	50	Montreal.	E. G. Penny, Montreal.
Bartlett	124,268	Grangemouth, Scotland, '08.	" 98 " ..	124.9	25.1	13.3	328	41	"	Montreal Transportation Co., Ltd., Montreal.
Biegel	126,435	Vancouver, B. C., 1907	" 1 " ..	26.0	7.5	3.6	7	5	Vancouver, B. C.....	Mrs. C. Duffy, Eburne, B. C.
Blanche B. ..	126,438	Steveston, B.C., 1909.....	" 2 " ..	33.8	9.5	4.0	18	12	"	C. Thomson, Vancouver, B. C.
Bunting	126,015	Annapolis Royal, N.S., 1909	" 3 " ..	32.2	8.6	3.1	10	7	Annapolis Royal, N.S.	C. W. Mills, Annapolis Royal, N. S.
Chickadee ...	126,491	Tetraultville, Que., 1909....	" 4 " ..	35 5	9.1	6.5	9	6	Montreal.....	C. G. Coristine, Montreal.
Cluaran.....	126,486	Gananoque, Ont., 1905.....	" 2 " ..	34.0	7.9	6.3	8	6	"	J. T. McMillan, Montreal.
Embree	126,433	Port Hawkesbury, N.S., 1909	" 3 " ..	31.5	10.0	4.4	9	6	Vancouver, B. C.....	McNair Fraser Lumber Co., Ltd., Vancouver, B. C.
Enilada ..	126,432	Vancouver, B.C., 1909.....	" 6 " ..	64.0	16.0	7.8	57	39	"	J. Hendry, Vancouver, B. C.
Fast	126,451	Sorel, Que., 1909	" 23 " ..	81.5	11.0	4.8	58	40	Sorel, Que.....	W. Paul, Sorel, Que.
Gætan	126,489	Grenville, Que., 1909.....	" 2 " ..	35.0	9.0	4.8	15	9	Montreal.....	G. Dansereau, Grenville, Que.
Gretna.....	126,431	Vancouver, B.C., 1909	" 3 " ..	36.9	7.5	3.4	9	6	Vancouver, B. C.....	E. G. Johnson, Vancouver, B. C.
Gwilym	126,430	" " "	" 6 " ..	32.7	9.8	5.0	14	10	"	W. R. Jones, Vancouver, B. C.
Hamonic.....	122,553	Collingwood, Ont., 1909....	" 364 " ..	349.7	50.0	24.0	5265	3295	Collingwood, Ont....	Northern Navigation Co. of Ontario, Ltd., Collingwood, Ont.
Harrison.....	126,053	Owen Sound, Ont., 1909.. .	" 46 " ..	120.0	22.2	10.6	222	149	Owen Sound	J. Harrison & Sons Co., Ltd., Owen Sound, Ont.
Iloilo.....	126,246	Seattle, Wash., 1905.....	" 6 " ..	51.5	11.4	4.0	23	14	Victoria.....	R. P. Butchart, Victoria.
J. O. Gravel..	126,490	Dumbarton, Scotland, 1909..	" 54 " ..	94.5	24.0	12.6	197	4	Montreal.....	Sincennes-McNaughton Line, Ltd., Montreal.
John R	126,461	Kingston, Ont., Rebuilt 1909	" 6 " ..	170.4	25.6	5.6	225	175	Kingston, Ont.....	J. H. Davis, Kingston, Ont.
Johnson.....	126,427	Port Essington, B.C., 1909..	" 4 " ..	38.5	10.0	4.0	12	8	Vancouver, B. C.....	D. Burns, Vancouver, B. C.
Keego	126,411	Toronto, 1905	" 24 " ..	63.0	10.6	6.0	23	16	Toronto.....	Temagami Steamboat & Hotel Co., Ltd., Temagami, Ont.
Lady Van....	126,426	Vancouver, B.C., 1909.....	" 2 " ..	33.0	9.5	4.6	10	7	Vancouver, B. C.....	H. D. Hulme, Vancouver, B. C.
Lambton.....	126,409	Sorel, Que., 1909	" 89 " ..	108.0	25.1	12.7	323	182	Ottawa	Minister of Marine and Fisheries, Ottawa.
Lasata.....	107,427	New York, N.Y., 1905.....	" 17 " ..	82.4	14.6	6.8	50	40	Brockville, Ont.....	A. C. Hardy, Brockville, Ont.
Lorancia.....	126,485	Valleyfield, Que., 1909.....	" 27 " ..	112.0	22 2	7.7	346	205	Montreal.....	Z. Leroux, Valleyfield, Que.
Madrona	126,243	Victoria, 1909	" 2 " ..	28.0	9.0	4.2	8	4	Victoria.....	J. Douglas, Victoria.
Meander.....	126,428	Vancouver, B.C., 1909.....	" 2 " ..	35.0	8.6	3.7	11	7	Vancouver, B. C.....	J. D. Magee and A. D. Drummond, Victoria.
Minawa	126,047	Lake Nipigon, Ont., 1908 ..	" 23 " ..	105.0	24.0	6.0	172	100	Port Arthur, Ont.....	Revillon Bros., Ltd., Montreal.
New Success.	126,255	Burnt Church, N.B., 1909 ..	" 11 " ..	78.0	25.0	5.0	77	38	Chatham, N. B..... .	J. Anderson, Burnt Church, N. B.
Oakesella....	121,819	Digby, N.S., 1909.....	" 7½ " ..	23.3	6.3	3.3	5	3	Digby, N. S.... .	E. M. Dunham, Digby, N. S.
Port Wade...	126,014	Weymouth, N.S., 1909.....	" 3 " ..	43.0	12.0	5.0	17	13	Annapolis Royal, N.S.	J. E. Keans, M. O., Port Wade, N. S.
Pulp.....	126,436	Vancouver, B.C., 1909.....	" 2 " ..	31.5	9.2	4.0	11	7	Vancouver, B. C.....	E. Easthope, Vancouver, B. C.
Quesnel.....	126,245	Quesnel, B C., 1909	Paddle 3 " ..	70.0	16.2	3.7	130	77	Victoria.....	P. Marion, Quesnel, B. C.
Quinnat	126,437	Port Nelson, B.C., 1909 .	Screw 4 " ..	40.5	11.8	4 7	16	11	Vancouver, B. C.. ..	Port Nelson Canning & Salting Co., Ltd., Vancouver, B. C.
Sam Brisbin..	122,554	Collingwood, Ont., 1909....	" 4 " ..	47.5	11.0	4.5	26	7	Collingwood, Ont....	H. H. Ross, The Pass, Sask.
See Em Oh ..	126,027	Glace Bay, N.S., 1908 ...	" 3 " ..	26.3	6.4	2.2	4	3	Sidney, N. S.....	C. M. O'Dell, Glace Bay, N. S.
Sen't'r Jansen	126,272	New Westminister, B.C.,'09	Paddle 9 " .	112.0	24.0	3.0	230	93	N. Westminster, B. C.	Fraser River Lumber Co., Ltd., Fraser Mills, B. C.
Stella Marion	126,284	Oromocto, N.B., 1909 ...	" 6 " ..	71.5	15 0	5.0	63	40	St. John, N. B.....	R. Smith and M. Currier, Oromocto, N. B.
Vedder.....	126,275	New Westminster, B.C , '09	" 3 " ..	75.0	16.0	3.3	103	61	N. Westminster, B. C.	A. E. Yates, M. O., New Westminster, B. C.
Waubic	122,555	Collingwood, Ont., 1909	Screw 67 " ..	134.1	25.0	9.5	504	244	Collingwood, Ont.....	Northern Navigation Co. of Ontario, Ltd., Collingwood, Ont.
Wawana	126,055	Owen Sound, Ont., 1908	" .. " ..	60.0	13.0	4.6	31	15	Owen Sound, Ont....	H. Manley and W. Butchart, Meaford, Ont.
Wendigo.....	126,444	Kenora, Ont., 1908.....	" 2 " ..	52.0	11.0	4.0	33	22	Kenora, Ont	Rat Portage Lumber Co., Winnipeg.
Westover. ..	126,434	North Vancouver, B.C., 1909	" 3 " ..	34.5	8.6	4.6	10	7	Vancouver, B. C.....	W. R. Spencer, Vancouver, B. C.
White Swan Flyer	126,244	Victoria, 1909	Paddle 4 " ..	65.0	13.6	3.5	30	16	Victoria.....	R. W. Buller, Victoria.
The Wisawasa	126,408	Sturgeon Falls, Ont., 1907..	" 14 " ..	60.0	16.0	5.2	62	46	Ottawa.....	J. R. Booth, Ottawa.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING JUNE, 1909.

Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
Alberic A.....	126,452	Notre Dame de Pierreville, Que., 1909.....	Sloop ..	110.0	23.3	7.1	124	Sorel, Que.	A. A. Mondon, Pierreville, Que.
Arab Boy.. ...	126,378	Mahone Bay, N. S., 1907....	" ..	29.5	8.8	4.5	5	Halifax	F. G. Zwicker, Halifax.
Arthur J. Parker .	126,286	Cumberland Bay, N. B., 1909	Schr....	84.5	27.3	7.6	119	St. John, N. B.	T. W. Parker, Cumberland Bay, N. B.
Beatrice Donavan	126,028	Ingonish, N. S., 1909	" ..	39.0	12.5	6.2	18	Sydney, N. S.	J. Donavan, Ingonish, N. S.
Emilien Burke ...	122,584	Yarmouth, N. S., 1909	" ..	81.0	22.4	9.5	90	Yarmouth, N. S.....	H. Lewis, M. O., Yarmouth, N. S.
Guido.....	126,223	Manitowoc, U. S. A., 1856 ...	" ..	114.9	24.9	7.3	95	Sarnia, Ont..... ...	W. G. Atkinson, Whitby, Ont.
H. C. Corson.....	126,026	Dingwall, N. S., 1909.....	" ..	65.2	18.0	6.3	38	Sydney, N. S.....	W. O'Brien, Victoria.
Hazel Levy.....	126,374	Owl's Head, N. S., 1909.....	" ..	41.8	11.5	5.4	14	Halifax	C. Levy, Owl's Head, N. S.
Horrigan.....	126,441	Keewatin, Ont., 1909.....	Scow ..	75.0	20.0	5.6	73	Kenora, Ont.....	J. Horrigan and R. Beagle, Port Arthur, Ont.
Ideal..	126,373	Sambro, N. S., 1909.....	Schr. ..	42.0	11.8	6.5	16	Halifax	C. W. Schnare, M. O., Pennant, N. S
Inita.....	85,407	Magdalen Islands, Que., 1909	" ..	69.9	22.0	8.3	67	Magdalen Isl'ds, Que.	A. T. Arsenan, Magdalen Islands, Que.
Ketrina.....	126,285	Rothesay, N. B., 1909.....	Yawl ..	50.2	14.6	7.5	28	St. John, N. B...	W. R. Turnbull, Rothesay, N. B.
Kite II.....	126,375	Halifax, N. S., 1909..... .	Sloop .	29.0	9.0	5.0	6	Halifax	R. L. Lessel, Halifax.
Mildred.....	122,314	Lunenburg, N. S., 1907.....	Schr. .	107.0	27.0	10.8	166	Sydney, N. S.....	W. C. Job, St. John's, Nfld.
Moose.....	126,443	Keewatin, Ont., 1909.....	Drdge..	80.0	30.0	6.0	233	Kenora, Ont..... ...	J. Horrigan and R. Beagle, Port Arthur, Ont.
Muriel	103,758	Lunenburg, N. S., 1897.	Schr. ..	104.6	25.2	10.2	110	Lunenburg. N. S.....	C E. Whidden, Antigonish, N. S.
Olinda.....	107,275	Liverpool, N. S., 1899	" ..	110.0	28.5	10.6	199	Liverpool, N. S.....	W. S. Monroe, St. John's Nfld.
P. A. No. 1.....	126,429	New Westminister, B. C., 1909	Scow ..	51.0	22.0	6.0	40	Vancouver, B. C.....	A. R. Best, Vancouver, B. C.
Spar.....	126,442	Keewatin, Ont., 1909.....	" ..	75.0	20.0	5.6	73	Kenora, Ont.....	J, Horrigan and R. Beagle, Port Arthur, Ont.
Tuareg	126,377	Brooklyn, N. S., 1907.....	Sloop ..	26.8	7.8	3.0	3	Halifax	A. F. Haliburton, Halifax.
W.J.P.Co., No. 8	126,364	Sorel, Que., 1908.....	Scow ..	69.6	19.2	7.0	75	Montreal.....	W J. Poupore Co., Montreal.
" " 9	126,365	Morrisburg, Ont., 1896.	" ..	79.5	22.2	7.7	115	"	" "
" " 10	126,366	" " "	" ..	79.6	22.2	7.4	112	"	" "
" " 11	126,367	Sorel, Que., 1908..... ...	" ..	72.7	17.8	6.8	72	"	" "
" " 12	126,368	" "	" ..	72.3	17.7	6.5	68	"	" "
" " 14	126,369	Pembroke, Ont., 1897.	" ..	49.4	21.0	4.2	36	"	" "
" " 15	126,370	Bout de l'Ile, Que., 1903.....	" ..	39.8	10 6	2.0	6	"	" "
" " 16	126,481	Sorel, Que., 1908.....	" ..	48.7	16.7	3.4	22	"	" "
" " 17	126,482	Montreal, 1903.....	" ..	78.4	24.8	4.4	71	"	" "
" " 18	126,483	Bout de l'Ile, Que.. 1903.....	" ..	47.0	15.1	3.4	19	"	" "
" " 19	126,484	Montreal, 1903.....	" ..	80.2	19.2	6.0	74	"	" "
" " 20	126,133	Sorel, Que., 1909	" ..	85.5	22.1	7.5	117	"	" "
Wylo.....	126,570	Mahone Bay, N. S., 1908.....	Sloop ..	21.7	6.5	3.4	4	Halifax	A. L. Patrick, Halifax.

THE INTERNATIONAL MARINE SIGNAL CO.

OTTAWA, CANADA

Manufacturers of

Automatic Acetylene Gas Buoys, Beacons and Fog Signals

Mariners describe our lighted buoys as "floating lighthouses."

WE MAKE

"WILLIAMS BOLTLESS RAIL JOINTS"
"20TH CENTURY STEEL TIES"

AND

"AUTOMATIC CAR SEALS"

ALSO HANDLE

"Hercules" and "Little Giant" Bumping Post
Hold Fast Spike, Automatic Nut Lock,
Steel Trolley and Signal Poles.

WILLIAMS BOLTLESS RAIL JOINT MANUFACTURING CO.
315 Dearborn Street, Chicago, Ill.

RAILWAY SPRINGS

Locomotive, Tender and Passsenger Car Springs of every description

Equalizing, Draw-bar, Buffer and Spiral Springs of all kinds

Street Railway Springs from the largest to the smallest

Manufactured by

B. J. COGHLIN & CO., 432 St. Paul St., Montreal, Can.

NEW AND RELAYING

RAILS

FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.

LOCOMOTIVES, CARS AND OTHER EQUIPMENT.

John J. Gartshore
83 Front Street West - TORONTO

SHERIFFS

MANUFACTURING CO.

MILWAUKEE, WIS., U.S.A.
ESTABLISHED 1854

RAILWAY AND STEAMSHIP PRINTING

SUCCESSORS TO
THE MAIL JOB PRINTING CO.

Kingston and Pembroke Railway Company.

Notice to Shareholders.

The Annual General Meeting of the Shareholders of this Company will be held on Wednesday, 11th day of August next, at the Head Office of the Company in Kingston at eleven o'clock a.m. for the purpose of electing Directors and transacting other business.

The Stock Transfer Books will close in New York on Saturday, 31st day of July, 1909, at 1 p.m. All books will be re-opened on Thursday, 12th day of August, 1909.

ARCHIBALD McNAUGHTON,
Secretary and Treasurer.

Kingston, July 10th, 1909.

cently on her maiden voyage, completed the voyage from Liverpool in 7 days, 9 hrs. 27 mins., having been delayed twice by fog. She was not pushed at all, the highest speed in one day reaching 17½ knots an hour.

The Montreal Harbor Commissioners' revenue for June was $51,329.84, and from the opening of navigation to June 30, $88,054.68, against $54,491.20 and $89,710.71 for same periods 1908. Up to June 30 this year, 224 vessels of a tonnage of 622,649 arrived at the port, against 246 vessels of a tonnage of 655,155 for the same period 1908.

The schooner Drusie, of Paspebiac, Que., is reported to have been wrecked while homeward bound from the Barbadoes, July 11. The crew were rescued by an Italian liner and taken to New York, while the wreck was set on fire. The Drusie was built at Liverpool, N.S., in 1905, her dimensions being: length, 100.3 ft.; breadth, 25.5 ft.; depth, 9.5 ft.; tonnage, 99 register.

The Osaka Marine Court (Japan) has given judgment in the enquiry into the stranding of the C.P.R. s.s. Empress of China, in the Japan Sea, holding that the pilot, Capt. J. S. Stevenson, was guilty of negligence in not taking soundings when the vessel was carried out of its course owing to the abnormal set of the current, and, in addition to reprimanding him, ordered that he pay the costs of the hearing.

The Thomson Steamship Line is about to increase its service, by the addition of passenger vessels, to operate between Montreal and Naples during the summer, and between some other port, not yet selected, and Naples in the winter. An order has been placed on the Tyne for the construction of the first vessel for this service, to be named Tortona, and the first sailing from Montreal, it is announced, will take place in Nov.

The Hudson Bay Co.'s s.s. Pelican on her annual voyage from England to Hudson Bay ports, arrived at Montreal recently, and subsequently sailed for the north. During the next four months she will be engaged in delivering stores at the company's various stations. The first stop after leaving Montreal will be Cartwright, about 200 miles north of Belle Isle Straits, after which calls will be made at Rigollette, Davis Inlet and York Factory.

The Department of Trade and Commerce has decided that the subsidy of $100,000, half of which is paid by Canada, and half by New Zealand, to the R. A. Alley Steamship Line for a service between the Pacific coast and New Zealand, be discontinued at the end of the present agreement. The New Zealand Government has declined to renew its share in view of the existing trade conditions, and the Canadian Government does not think it advisable to maintain the service alone.

The appeal of the Allan Steamship Line against the decision of the British Admiralty Court, in the case of the collision of the company's s.s. Corinthian with the s.s. Malin Head last fall, was heard before the Court of Appeal in England recently, and the judgment of the lower court, whereby the Corinthian was held to be solely responsible for the accident, was varied, and the blame was distributed between both vessels. Each side was directed to pay its own costs of the litigation, and each will have to pay a moiety of the other's assessed damages.

It is reported that the Allan, Thomson and Donaldson Steamship Lines have recently drawn up a schedule of rates for the carriage of grain to Glasgow, Scotland, each company binding itself not to accept cargoes at a lower rate than named in the schedule. The rate on wheat is said to be 1s. 3d. a quarter, which is quoted against the rate of 9d. a quarter to Glasgow from Boston and New York. This, it is claimed has affected the shipments of grain from Montreal to Glasgow, to a considerable extent, and the Montreal Board of Trade has taken the matter up with the Government.

Sir Thos. G. Shaughnessy, President C.P.R., who arived at his summer home, St. Andrews, July 11, in the course of an interview with the representative of a St. John paper, regarding new steamships for the C.P.R. Atlantic service, is reported to have said that the company had had in mind some radical changes. Its Pacific trade was demanding a larger and better type of steamer, and it was contemplated to transfer some of the large boats from the Atlantic. The character of the new vessels which would be placed on the Atlantic to take the place of those transferred would be of the best, with a capacity of about 20 or 21 knots an hour. The company did not care to make any change in this respect until it found out what the policy of the Governments concerned was regarding the future of the Atlantic service. It might turn out that after the company had entered upon the project, that the Governments would give a subsidy to a competing line, and for this reason the C.P.R. had not made any move in the direction of ordering larger vessels.

Maritime Provinces and Newfoundland.

C. H. Harvey has been appointed agent Department of Marine at Halifax, succeeding J. F. L. Parsons, who died there recently.

The sinking the fourth crib in the construction of the South Rodney wharf extension at St. John, N.B., was completed July 5.

F. Curran, F. Ferguson, W. E. Forbes and R. O'Leary have been appointed Pilotage Commissioners for Richibucto district, N.B.

The U.S. schooner Arthur Binney, which stranded at Fourchu, N.S., recently, is to be sold by auction, the efforts to release her having failed.

The s.s. King Edward, which ran ashore at Anticosti Island, last fall, and was subsequently abandoned to the underwriters, was raised and floated off, July 6.

The work of constructing ice piers at Annapolis Royal, N.S., is proceeding. The contractors are the Nova Scotia Construction Co., Sydney, and the total amount of the contract is $46,736.

The Quebec Steamship Co.'s s.s. Trinidad has replaced the recently wrecked s.s. Campana, and sailed for Gaspe, Charlottetown and Pictou for the first time, July 5.

The St. John, N.B., city council has instructed the city engineer to report on the condition of the ferry steamboat Ludlow's machinery, on receipt of which tenders may be called for for the necessary repairs.

Capt. W. Livingston, who died at Bras d'Or, N.S., recently, aged 74, sailed on his first voyage in 1854 in the brigantine Carradock, which he had assisted his father to build. He subsequently served through the Indian Mutiny and the American Civil War, and after engaging in transatlantic business for some years, he settled in the coasting trade in which he was engaged for 30 years.

Arrangements are reported to be in progress for the construction, at Harbor Grace, Nfld., of a dock consisting of two marine railway slips, 24 ft. apart, each divided in two, making four sections, each to accommodate a vessel. Two sections will take boats of from 95 to 110 tons, and the other two, vessels of from 50 to 60 tons. The cost is estimated at about $40,000, and it is stated that the Government will guarantee 5% interest on the stock for 10 years.

The order in council discontinuing the coasting privileges granted to foreign vessels came into force July 1. According to Halifax reports, the effects of the partial embargo upon foreign coasting have already been felt in the province. It is stated that vessels which have been laid up for some time are now being utilized, and Canadian bottoms engaged elsewhere have been attracted home and a number of new vessels are being built, the first steel vessel ever built in the maritime provinces being now under construction at Yarmouth, N.S.

L. Coste, of the Department of Public Works engineering staff, was in St. John, N.B., July 6, in connection with the proposed transfer of foreshore lots at Sand Point, for railway connections with the wharves. Among the new points to be incorporated in the transfer is that the spur lines to be constructed in connection with the proposed facilities shall be regarded as common property and that the terms of the lease shall provide that any railway desiring to connect with the wharves may obtain the use thereof. It was also announced that the G.T.P.R. would construct terminal facilities on the St. John side of Courtenay Bay.

In referring to the recent announcement regarding the tariff preference to British manufactured goods, which is to apply only to such goods as are shipped direct to Canadian ports, the Minister of Public Works said recently at St. John, N.B.: "This announcement is in accordance with the settled policy of the Government approved by Parliament in 1907, when a clause was inserted in the tariff act providing that after a date to be fixed by the Governor General in council the British preference shall be limited to importations to Canada in vessels direct to Canadian ports. At the time the act was passed, the Premier announced that the date for bringing it in force would be when the National Transcontinental Ry. was completed, and I presume that the Minister of Marine intends by his announcement to refer to the date of completion of the railway as the time when this policy will be carried into effect. I regard this as a matter of the very greatest importance for the development of Canadian ports and more especially the ports of the Maritime Provinces, which in the winter season suffer keen competition with Portland, Boston and New York. It would be one of the greatest levers that could be brought to bear in directing Canadian trade through Canadian channels."

CRUCIBLE SAW AND SHEET STEEL

MADE BY

JESSOP STEEL CO.
Washington Pa., U.S.A.

TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools.

Jessop's "Ark" High Speed Air Hardening Steel

is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings.

WILLIAM JESSOP & SONS, Limited, SHEFFIELD, ENG.
CHAS. L. BAILEY, Agent, 80 BAY STREET, TORONTO, ONTARIO

STEEL, PEECH & TOZER

Limited,
SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada

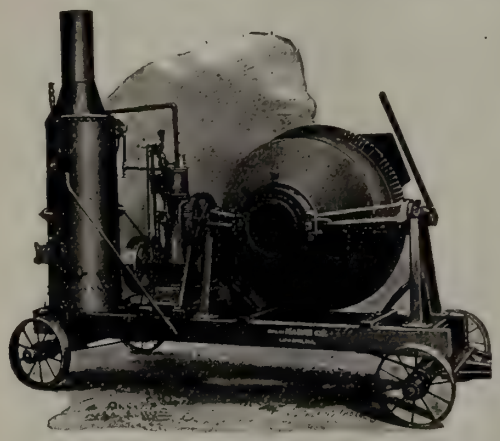
Sole Agents:
James Hutton & Co., Montreal

FOR STREET PAVING MATERIAL

SCORIA BLOCKS are the cleanest, most noiseless and, durability considered, the cheapest yet discovered. And the supply is unlimited.

FOR ALL INFORMATION ADDRESS
W. H. KNOWLTON
Aberdeen Building, Toronto,
or Merchants Bank Building, Montreal

Marsh Concrete Mixers



Simplest, Lightest, Most Durable and sold at Popular Prices.

Especially adapted to Canadian business.

Write for catalogues.

Marsh Co.
Old Colony Bldg.,
Chicago, Ill.

CARS

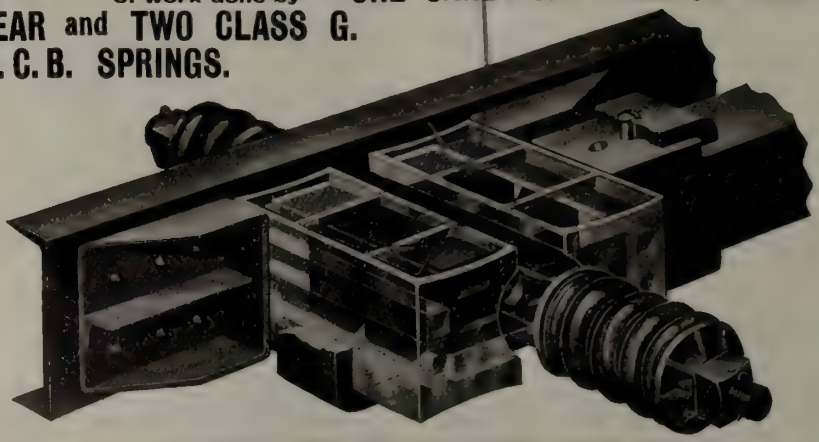
NEW and REBUILT
Box, Flat, Gondola and Tank

Steam Shovels, Rails, Locomotives and Contractors' Equipment

Immediate and Prompt Deliveries
Correspondence Solicited

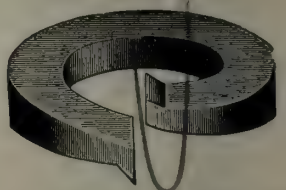
ROBT. M. BURNS & CO.
Railway Exchange
CHICAGO

35 to 1 is the relative amount of work done by ONE CARDWELL FRICTION DRAFT GEAR and TWO CLASS G. M. C. B. SPRINGS.



CARDWELL FRICTION DRAFT GEAR—MADE BY
UNION DRAFT GEAR CO., CHICAGO, ILL.

THE POSITIVE LOCK WASHER
Is the BEST Nut LOCK for all purposes



We also make plain coils and tail nut locks.
The Positive Lock Washer Co.
Sole Mfrs., Newark, N.J.
F.H. HOPKINS & CO., Agts., Montreal

FOR TICKET CASES AND COMMERCIAL FURNITURE
of all descriptions to stock or special design, apply to
The Canadian Office & School Furniture Co. Limited
Preston Ontario

JAMES PLAYFAIR, Pres. & Gen'l Mgr. D. L. WHITE, Vice-President. J. W. BENSON, Sec'y-Treas.

MIDLAND TOWING & WRECKING CO., LIMITED, MIDLAND, ONT., CANADA

FIRST-CLASS TUGS FOR WRECKING, RAFT TOWING, ETC.
STEAM PUMPS, DIVERS, JACKS, HAWSERS AND LIGHTERS

Province of Quebec Marine

Montreal reports state that freights for outgoing vessels are, up to the present, very light, and that about half of the longshoremen are unemployed.

The Dominion Government, some years ago, obtained $135,717.20 of Quebec harbor debenture stock, which, notwithstanding that the investment has been unremunerative, has been carried in the public accounts as an asset at par value. This amount has been eliminated, as a result of the investigation into Dominion assets by a committee appointed by the House of Commons last session.

The Montreal Harbor Commissioners' floating crane, Montreal No. 1, was tested, in the harbor, July 10, by F. W. Cowie, Chief Engineer. This is the crane which broke adrift from the tug which was towing her from England last year. The letting of the contract for the towing of her across the ocean this year to a Dutch firm, has given rise to some severe comment in England.

The Erne Shipping Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $32,000, and office at Montreal to purchase, build, or otherwise acquire and operate steam and other vessels, and to carry on the business of common carriers on the high seas and inland waters. The provisional directors are:—N. M. Ward, Orange, N.J.; G. I. Dewar, Ottawa; W. A. Taft and W. A. Taft, jr., Arlington, Mass.

The King Edward Park Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $1,000,000 and office at Montreal, to establish pleasure parks, etc., and in connection therewith to build, purchase, or otherwise acquire and operate steam and other vessels for the transportation of passengers and merchandise. The provisional directors are:—J. Gravel, E. C. dit Saint-Amour, L. A. Taillon, J. W. Blanchet, Montreal; N. M. Cantin, St. Joseph, Ont.

The steel screw tugboat Sin-Mac, illustrated on this page, and which has been built for the Sincennes-McNaughton Line, Montreal, by Archd. McMillan & Son, Dumbarton, Scotland, was launched there May 12, and, after having her machinery fitted on board, proceeded on trial on June 3, when a speed of 14¼ miles per hour was attained, which was considered very satisfactory. The vessel is of the following dimensions:—Length, 138 ft.; breadth, 26 ft.; depth, 14 ft. She is fitted with triple expansion engines, having cylinders 17½", 28" and 46" x 30" stroke, supplied with steam at 185 lbs. pressure from one large boiler fitted with forced draught. She has all latest improvements for quick handling of vessels under tow, including a large steam towing winch, and is also fitted with salvage apparatus as well as appliances for extinguishing fires in harbors. The accommodation is of a very superior nature, the rooms being large and well furnished, and she is fitted throughout with electric light. Water ballast is arranged for in cellular double bottom under engine space and also in fore and after peaks. This is the second and larger of two such vessels built by McMillan & Son for the same owners. The Sin-Mac arrived at Montreal recently, and has been put into service. Her first tow was performed by bringing up the first sailing vessels to enter Montreal for several years.

Ontario and the Great Lakes.

The Hamilton longshoremen struck work, July 8, for an increase of pay from 25c. to 37c. an hour.

The Inland Navigation Co.'s steamboat Dunelm, bound from Fort William to Montreal, ran aground at Presqu'Ile Bay, July 9.

The Farrar Transportation Co.'s steamboat Collingwood was docked at Collingwood, July 6, for bottom repairs, after grounding at Michipocoten harbor.

Representatives of the Belgian Government visiting Canada inspected the Welland Canal, July 9, paying particular attention to the operation of the locks.

The coal handling record at Fort William was broken in May, when about 200,000 tons was handled at the C.P.R. docks. This is about 20,000 tons ahead of any previous month.

Capt. John Ellison, well known on the lakes as a builder of vessels, wharves and harbors, and as a vessel captain, died at Port Stanley, recently, aged 66. He was a Fenian Raid veteran.

The C.P.R. s.s. Assiniboia is again on her route after being overhauled and having 17 plates and 7 frames straightened. The damage was caused in the recent accident at the Sault Ste. Marie locks.

F. King, Counsel Dominion Marine Association, has been apointed a member of the Great Lakes and St. Lawrence Navigation and Improvement Association, which is taking up the question of deepening the Welland and other canals on that route.

The Northern Navigation Co.'s s.s. Hamonic was presented with a Canadian ensign in silk, and the captain with an illuminated address, on her arrival at Port Arthur recently on her maiden trip. Civic welcomes were accorded at Port Arthur and Fort William.

An order in council has been passed exempting all Canadian fishing vessels, whilst employed exclusively in fishing, from paying side wharfage, and all fish, on being landed, whether fresh, partly or wholly cured, if of the ship's catch, from paying top wharfage..

The C.P.R. is pushing forward the construction of its docks at Victoria Harbor, and Government dredges are at work there. It is anticipated that though the work will not be completed this year, that sufficient will be done to enable grain to be handled by this route in the fall.

Frank Plummer and C. H. F. Plummer have formed a partnership as Plummer & Plummer, vessel owners, etc., to manage The Canadian Lake Transportation Co., Ltd., The Canadian Lake Line and other steamship interests. Their offices are at 18 Wellington St. East, Toronto.

The C.P.R. upper lake service, which was put in full force July 4, consists of the Assiniboia, Keewatin, Manitoba, Alberta and Athabasca. A five days a week service is being operated each way between Owen Sound and Fort William, an increase of two sailings each way over previous service.

The Lake Carriers Association has issued a notice that the dredging plant operating in the middle Neebish Channel is now engaged in the south channel, or west of the centre line, between Mud Lake and Hay Lake, and cautioning vessels to keep in the east half of the channel, as indicated by lights and buoys along the centre line.

The Minister of Public Works, at a meeting of the Canadian Club at Fort William, recently, said that the harbor would be dredged to a depth of 25 ft., so that the largest lake vessels would be able to use it without danger, and that a deep channel to the G.T.P. elevator on the Mission River would be completed by September.

The Hamilton Ferry Co., which operates a summer park at Oaklands, will run the steamboats John R. and Ivan R. across Hamilton bay during the season. The John R., which has recently been reconstructed, is, according to a Toronto daily paper, to run between Toronto and Hamilton, but we are advised that she cannot operate outside Hamilton bay.

Following is a list of the vessels operated this season by the Upper Ontario Steamboat Co., together with the captains and chief engineers:—

Adrelexa	— Harris	P. Soul
Aileen	R. Hansen	J. McCaw
Britannia	H. A. Cartwright	T. Arbin
Gipsy	W. Hamilton	— Stoner
Lena May	H. P. Lawson	E. Spurway
S. & Y.	W. R. Reynolds	— Adams
St. Antoine	R. Rowlandson	G. Mongrain
Wenona	A. McLeod	C. Carrier

The effect of the wreck of the locks in the Sault Ste. Marie Canadian canal, early in June, is shown by the traffic returns given on another page. The num-

Steam Tug Sin-Mac of Sincennes-McNaughton Line.

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA

A PURELY CANADIAN COMPANY

JOHN EMO, General Manager — H. W. PEARSON, Secretary-Treasurer — D. MURPHY, President

AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

Delaware & Hudson

"The Leading Tourists' Line"

Shortest, Quickest and Best Line between

MONTREAL AND NEW YORK

Through Pullmans

Trains leave Montreal 7.00 p.m. daily, 8.01 p.m. daily, 7.16 a.m. daily, and 10.05 a.m. Sunday.

Perfectly equipped trains. Handsome, large steamers on Lake Champlain and Lake George connect with trains for Saratoga Springs, Albany and New York.

A. A. HEARD, G.P.A., Albany, N.Y.

Ticket Agents — Please Note

ILLINOIS CENTRAL RAILROAD — CENTRAL MISSISSIPPI VALLEY ROUTE

Where ILLINOIS CENTRAL RAILROAD COMPANY has through car service both Coach and Sleeper and Free Chair Cars.

Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California.

NEW ORLEANS ROUTE TO THE PACIFIC COAST.

Special low rates to Canadian Northwest and Yukon-Alaska Exhibition at Seattle, all summer, via St. Paul or Omaha.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Pass'g'r Agent. 305 Ellicott Square, Buffalo, N.Y.

Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

JAMES T. GARDNER

RAILWAY EQUIPMENT

615 Railway Exchange

CHICAGO, ILL.

Has on hand at all times

First-Class Freight and Passenger Locomotives

Also

Contractors' Locomotives Cars, Rails, Etc.

Specifications with Prices on Application

E. L. DREWRY

REDWOOD BREWERY

WINNIPEG, MANITOBA

MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE, EXTRA STOUT AND REDWOOD LAGER

Also the **GOLDEN KEY BRAND**

AERATED WATERS

NOVO SUPERIOR

THE NEWLY-INVENTED

HIGH SPEED STEEL

HARDENS IN

WATER—OIL—AIR BLAST

The Steel accounts of which were so extensively published in the Trade Journals, Periodicals and Papers.

CUTTING Power and Durability many times greater than that of present high speed steels.

Hermann Boker & Co.

332 ST. JAMES ST. - - MONTREAL

JOHN DATE

MANUFACTURER OF

DIVING APPARATUS

FOR SALE OR HIRE

Brass Founder & Coppersmith

152 Craig St. West, Montreal

Schools of the Sisters of the Church

(ANGLICAN)

36 Walmer Road, Toronto

330 Kent St., Ottawa

VISITORS: The Lord Bishop of Toronto and the Lord Bishop of Ottawa.

Boarding and Day School for Girls. Kindergarten, Primary, Secondary and Collegiate Departments. Preparation for Matriculation. Next School year will begin Thursday Sept. 9th. Apply to

Sister in Charge.

1909

Ontario Jockey Club

Woodbine Park, Toronto

AUTUMN MEETING

September 18th to 25th

Racing and Steeplechasing

JOS. E. SEAGRAM, President

W. P. FRASER, Sec'y and Treas.

ber of vessel passages through the Canadian canal during June was 455, and through the U.S. canal, 1,895, against 688 and 1,264 respectively, for June, 1908. The total freight, however, shows a large increase, being 1,742,015 tons, against 988,384 tons for June, 1908.

An order in council has been passed, defining the limits of the port of Sarnia, as follows:—All the waters of the River St. Clair east of the international boundary line from a point on the beach, 500 yds. north of the north wall of the G.T.R. passenger station on the north, to the several outlets of the said river into Lake St. Clair on the south, including the whole of Sarnia bay, as well as any dredged channels at the mouths of the rivers.

The Canadian Lake and Ocean Navigation Co.'s steamboat H. M. Pellatt, which is being operated this season by the Merchants' Mutual Line, while docking at Toronto, June 30, collided with and sank the Toronto Ferry Co.'s steamboat John Hanlan, which was moored to the wharf. The John Hanlan was built at Port Dalhousie, Ont., in 1884, and has been on the Toronto ferry route since 1890. It is said that she is insured for about $5,000, representing half her value.

C. J. Smith, Manager Richelieu and Ontario Navigation Co., and President Dominion Marine Association, has been added to the committee of the Association of Passenger Steamboat Lines, which is investigating the workings of a co-operative insurance plan for vessels operating on the Great Lakes, etc., similar to that recently adopted by the lake freight lines. A report on the matter will be presented at the association's winter meeting at Washington, D.C.

The Mathews Steamship Co.'s steamboat Haddington, operated by the Merchants Mutual Line, Toronto, in passing through the Rapids to Montreal, recently, lost her rudder and shoe. She was towed to Kingston, where she was docked and a new rudder and shoe supplied by the Polson Iron Works, Toronto, were applied. A considerable time in completing the repair was saved by adopting the Goldschmidt Thermit process in effecting the adjustment.

T. J. Stockwell, Kingsville, Ont., recently sued the Doty Engine Works, Goderich, in conection with the sale of the steamboat Lincoln. The defendants had sold the steamboat to the plaintiff for $12,000, of which it was claimed $900 had been paid on account. It was also claimed that defendants had not carried out their contract as to rebuilding; that the workmanship was inferior and that the vessel had been seized and re-sold for $10,000. The claim was dismissed with costs.

The U.S. Lake Survey reports the stages of the great lakes for June in feet above tidewater as follows:—Superior, 601.93; Michigan and Huron, 581.07; Erie, 573.21; Ontario, 247.30. It was anticipated that, during July, Superior would rise 2¾ ins., Michigan and Huron, 2 ins.; Erie, ½ in., and Ontario, ½ in. Compared with the average June stages for the past 10 years, Superior was 9 ins. lower, Michigan and Huron, ¼ in. higher; Erie, 5¼ ins. higher, and Ontario, 7¾ ins. higher.

Capt. A. W. Crawford, who was connected with lake transportation for many years, died at Toronto, July 3, aged 55. Between 1893 and 1903 he was captain at different times of the Hamilton Steamboat Co.'s steamboats Macassa and Modjeska. He was one of the organizers of the Turbine Steamship Co., and brought the s.s. Turbinia over from England, and was the first commander. He retired from navigation business a few years ago. His son, H. Crawford, is manager Argyle Steamship Co.

The Prescott and Ogdensburg Ferry Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $50,000, and office at Prescott, Ont., to acquire and operate steam and other vessels and transfer plant for the purpose of conveying passengers, freight, railway cars with passengers and freight, mails and other traffic on the River St. Lawrence between Prescott, Ont., and Ogdensburg, N.Y., and for other purposes. The provisional directors are: J. E., F. W., E. M. and J. Dubrule, Jr., J. K. Dowsley, Prescott, Ont.

An order in council has been passed providing rules for the regulation of traffic at the Lime Kiln Crossing in the Lower Detroit River. The Lower Detroit River is defined to include all the limits of the port of Amherstburg, which shall be in charge of the harbor master, and the rules provide that no freight boat down-bound shall pass or approach another freight boat bound in the same direction, nearer than one-quarter mile, between the north limit of the port and the lower end of Bois Blanc Island; no passenger boat down-bound shall pass another boat down-bound between the south gas buoy 2, Ballard Reef channel, and the head of Bois Blanc Island; no vessel shall pass another going in the same direction or in the opposite direction, in the narrow portion of the channel at Lime Kiln Crossing, during the widening of the channel. Other provisions relate to the slowing down, signalling, etc., of vessels and the powers of the harbor master of the port.

Manitoba, Saskatchewan and Alberta.

Following are the vessels operated by the Northern Fish Co., Selkirk, Man., this season, with the names of the captains and chief engineers:—

Alert	J. Olson	A. Paquette
Balmoral	F. Joyce	B. Reid
Chieftain	J. Stevens	A. Sinclair
Highlander	W. P. Simpson	J. Black
Idell	S. Stefanson	W. Jarvis
Tempest	W. R. Thomas	J. Dewar
Wolverine	T. E. Pollock	J. Seaman

A suggestion was recently made by J. Conmee, M.P., that a canal should be constructed from the head of the lakes, by way of the Kaministikwia River and other waters, to the Saskatchewan River, thus connecting the Great Lakes with the foothills of the Rockies. He stated that the canal would be 2,000 miles long, with very little restricted water, and would be the cheapest canal for its length ever constructed.

The Hyland Navigation and Trading Co.'s steamboat Winnitoba was launched from J. L. Hyland & Co.'s yard, near the mouth of the Seine, St. Boniface, Man., July 6. The actual dimensions of the vessel are: length, 187½ ft.; breadth, 44 ft.; beam, 30 ft.; depth, 9 ft.; light draught, 5 ft.; loaded draught, 6½ ft. She is equipped with two 250 h.p. engines, for a speed of 19 miles an hour; lighted with electricity supplied by 25 kilowatt direct connected apparatus. She will be able to accommodate 1,500 river passengers, or 1,000 lake passengers, and has berth accommodation for 225. She will be operated on the Red River and Lake Winnipeg.

B.C. and Pacific Coast Marine.

The name of the schooner Selma has been changed by order in council to Elsie Bradford.

An order in council has been passed declaring Prince Rupert to be a port of registry for ships, etc.

Capt. D. McPhaiden, shipping master at Vancouver, and a well known coast seaman, died there recently, aged 81.

The steamboat Leebro sailed from Victoria recently with men and material for the construction of a second order lighthouse at the mouth of Quatsino Sound.

Capt. C. W. Seal, for many years chief officer of the C.P.R. s.s. Empress of Japan, died at Vancouver, recently, aged 56. He retired from the sea some years ago.

Nothing has, as yet, been done regarding the construction of the steel passenger steamer, which the C.P.R. recently decided to build for its Pacific coast service. The matter is said to be in abeyance.

An agreement is said to have been reached between the Nelson council and the C.P.R., whereby the company takes over the city dock at an annual rental, with a reasonable tariff for all users.

The Dominion Warehouse and Cartage Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $50,000, to carry on the business of warehousemen in all its branches, and in connection therewith to build, purchase or otherwise acquire and operate steam and other vessels and to carry passengers and goods.

The C.P.R. s.s. Princess Charlotte has been equipped with a system of wireless telegraphy, and it is stated that a portable equipment has been constructed for the s.s. Princess Royal, to be placed on the upper deck, but which can be transferred from vessel to vessel.

The North Vancouver City Ferries, Ld., has been incorporated under the B.C. Companies Act with a capital of $250,000, to carry into effect an agreement made with the city of North Vancouver, and in connection therewith to purchase, lease or otherwise acquire steam and other vessels for the conduct of ferries, etc., and to act as general carriers, shipowners, stevedores, forwarding agents, etc.

The Royal City Navigation Co., Ld., has been incorporated under the B.C. Companies Act, with a capital of $25,000, to build, purchase or otherwise acquire and operate steam and other vessels for the conveyance of passengers and merchandise and to carry on generally the business of carriers by land and water. The company, it is announced, has decided to acquire or build a steamboat to take the place of the Ramona on the up-river run.

During May, 6 employes were killed and 13 injured in the course of their work of navigation in Canada. Of the fatalities, 4 were due to drowning, and one each to a fall and to fire. Of the other accidents, 4 were due to a fire, 3 each to falling material and to falls, 2 to an explosion of gasolene and one to machinery.

WIRE ROPE

BALLAST PLOUGH ROPES
WRECKING ROPES
SWITCH ROPES
DERRICK ROPES
SEMAPHORE STRANDS
STANDARD AND LANG'S PATENT LAY, ETC.

THE B. GREENING WIRE CO., LIMITED
HAMILTON, ONT. MONTREAL, QUE.

REAMERS ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

MALLEABLE IRON CASTINGS
of Superior Quality

GALT MALLEABLE IRON CO., LIMITED, - GALT, ONT.

NICKEL
THE CANADIAN COPPER COMPANY
NICKEL FOR NICKEL STEEL
THE ORFORD COPPER COMPANY
WRITE US FOR PARTICULARS AND PRICES
General Offices: 43 Exchange Place, NEW YORK

HEADLIGHTS-WE MAKE THEM

For OIL, for Pyle ELECTRIC equipment or SPECIAL to Blue Print, and carry a large stock of standard headlight reflectors, burners, burner parts, felt wicks and chimneys.

The HIRAM L. PIPER CO., Limited
17 to 23 Normand Street, Montreal.
Get our No. 30 Catalogue. (Between St. Peter and McGill Sts.)

THE CANADIAN BRONZE COMPANY, LTD.
Brass Wearing Parts for Locomotives.
Journal Bearings for Freight and Passenger Service.
BABBITTS. Miscellaneous Brass Castings for Railroads.
Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

DUNER CAR CLOSET
ENAMELED IRON WET OR DRY CLOSET
DUNER CO. 116 SO. CLINTON ST., CHICAGO

IMPERIAL BANK
OF CANADA
Capital Authorized - - $10,000,000.00
Capital Paid Up - - - 5,000,000.00
Reserve Fund - - - - 5,000,000.00
HEAD OFFICE - - - - TORONTO
AGENTS—London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.
Sterling exchange bought and sold. Letters of credit issued available in any part of the world.
A general Banking business transacted. Branches throughout the Dominion of Canada.
SAVINGS DEPARTMENT—Interest allowed on deposits from date of deposit.

LEHIGH VALLEY RAILROAD
BEST LINE FROM TORONTO AND ONTARIO POINTS
— TO —
NEW YORK, PHILADELPHIA AND SOUTH
For particulars, write to or call on
MR. ROBERT S. LEWIS
Canadian Passenger Agent
54 King St. East - - - - Toronto

THE IMPERIAL GUARANTEE AND ACCIDENT INSURANCE CO.
46 King St. West, TORONTO
Capital Subscribed $1,000,000
ACCIDENT AND SICKNESS Insurance protects your income in case of disablement.
GUARANTEE BONDS protect you against loss from dishonest employees.
Write us if you need a Bond or want an Accident Policy.

WOOD PATTERNS
—ALL KINDS—
High Grade. Right Prices. Prompt Delivery.
THE HAMILTON PATTERN WORKS
HAMILTON, ONT.

Standard Paint & Varnish Co. Limited
Makers of High Grade Varnishes, Japans, Paints, Colors & Enamels.
Windsor Ont.

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS MACHINERY, address
THE ROBERTSON MACHINERY CO.
WELLAND, ONT. Limited

The Parry Sound Lumber Co.
Limited
..13-15 Traders Bank Bldg., Toronto..
Manufacturers of
PINE, HEMLOCK, LUMBER, BRIDGE TIMBER, RAILWAY TIES, TELEGRAPH POLES, LATH, SHINGLES, BOX SHOOKS.

St. Andrew's Lock and Dam.

The Minister of Public Works made an inspection trip over the works in connection with the construction of St. Andrew's lock and dam on the Red River, near Winnipeg, July 3. He announced that the work would be completed and in readiness for operation by the opening of navigation in the spring. The lock is similar in type to those on the Welland canal, and will accommodate a vessel 215 ft. long, 45 ft. wide, and having a draught of 9 ft. After the inspection, the minister said, that a warm tribute was due to the ability and zeal of the department's engineer in charge of the work, Mr. Dufresne, and to the contractors, Quinlan and Robertson, between whom and the department there had never been the least friction. What this work would mean to Winnipeg no man could estimate, for the great north land bordering Lake Winnipeg—the fifth largest lake in America—held resources as yet unknown. Something was known of the supplies of fuel, lumber, building stone, iron ore and gypsum, which then could be tapped, and it was pointed out that the saving of $1 a cord to the consumer on the cordwood likely to be brought up the river would alone represent a sum equal to the interest on the cost of the work. Exclusive of the sums spent in earlier years, prior to the abandonment of the work, the lock and dam had cost $1,100,000, and the speaker thought the character of the work before them, and the results likely to accrue, quite justified the expenditure of this sum. The change from stone work to concrete had been a good one, due to this it had been possible to push the work forward all winter, and the quality of the concrete in the piers before them was obviously of the finest. The placing in position of the rolling curtain dam would have the effect of raising the water level at Winnipeg 2 ft., giving 9 ft. of navigable water at that point. The dam before them was 800 ft. long and 25,000 cubic yards of concrete had entered into its construction. Some idea of the magnitude of the undertaking at St. Andrew's may be gained from the fact that upwards of 360 car-loads of cement have been used on the work and cement forms only about one-eighth part, by bulk, of the concrete, so that 100 trains of 30 cars to the train would be required to haul the dry matter, cement, sand, gravel and rock, that has entered into the concrete work alone. The steel superstructure is a feature of the present work. It is of the two-deck type. The lower level is for use in connection with the movable curtain dams. An electric travelling crane for raising and lowering them will run on this level, while the upper level will be used as a traffic bridge to connect the two sides of the river.

Statistics of Canadian Shipping.

The total number of vessels of all kinds on the Canadian register at Dec. 31, 1908, was 7,602, with a gross tonnage of 702,324 tons, an increase of 74 vessels and 3,636 tons over 1907. The number of steam vessels on the register is 3,084, with a gross tonnage of 483,031 tons, which at an assumed average value of $30 a ton, represents a total value of $21,069,720. The number of new vessels built and registered during 1908 was 304, with a register tonnage of 28,983 tons, which at an average value of $45 a ton shows a total value of $1,304,235 for new vessels. This shows a slight falling off as compared with 1907, as shipbuilding in Canada in 1908, as in other countries, was not so active as in the previous year. During 1908, 281 vessels were removed from the register. Of these, 12 were sold to foreigners, 29 wrecked, 12 stranded, 17 lost, 125 broken up, 7 abandoned, 2 wrecked in collision, 2 missing, 6 foundered, 17 burnt, 4 condemned, 15 transferred to Newfoundland, 12 transferred to Barbadoes, and 21 were reported out of existence. During the same period, the names of 20 vessels were changed by orders in council. The number of vessels and their tonnage, according to provinces, is as follows:—

	Sailing Ships and Steamers.	Steamers.	Gross tonnage of steamers.	Net tonnage of sailing ships and steamers.
Ontario	2,028	1,474	187,264	192,970
Quebec	1,384	432	114,711	172,975
Nova Scotia	2,053	236	31,153	164,919
Brit. Columbia	939	642	81,473	87,056
New Brunswick	938	184	54,295	66,402
P. E. Island.	154	20	4,492	10,387
Manitoba	87	79	6,149	4,341
Yukon District.	16	14	3,213	2,984
Saskatchewan	4	3	281	290
Totals	7,602	3,084	483,031	702,324
Totals, 1907.	7,528	3,007	471,795	698,688

The ports of registry are distributed as follows:—Ontario, 38; Nova Scotia, 21; New Brunswick, 7; Quebec, 6; British Columbia, 3; Prince Edward Island, Manitoba, Saskatchewan and the Yukon District, 1 each, while in Alberta no provision has been made for the registration of vessels. The ports having a net tonnage of 10,000 tons and over are:—

	Vessels. Sailing.	Steam.	Net. Tonnage.
Montreal	434	253	124,297
St. John, N.B.	232	101	51,282
Victoria	110	156	46,479
Quebec, Que.	463	161	42,826
Toronto	83	315	39,214
Windsor, N.S.	72	14	33,460
Ottawa	155	246	32,302
Vancouver, B.C.	113	375	29,409
Lunenburg, N.S.	272	11	22 686
Halifax	321	86	20,374
Parrsboro, N.S.	86	7	19,120
Yarmouth, N.S.	280	29	18,328
Kingston, Ont.	62	136	17,975
Collingwood, Ont.	3	77	11,832
Midland, Ont.	3	24	11,459
New Westminster, B.C.	74	111	11,168
Charlottetown, P.E.I.	134	20	10 387

In 1906 there were only 7 vessels on the register of 3,000 gross tons, or over, and in 1907 there were 24, while during 1908 the number was increased to 27. The new vessels built during 1908 are as follows, by provinces:—

	Vessels.	Tons.
Ontario	46	8,695
Quebec	62	7,279
Nova Scotia	80	6,600
British Columbia	76	4,778
New Brunswick	32	1,288
Prince Edward Island	5	254
Yukon District	2	80
Manitoba	1	9
Totals	304	28,983

The names, dimensions, etc., of these vessels were published in our columns monthly, during the year, and lists of the vessels registered during the current year are also appearing monthly, together with the names and tonnage of the vessels removed from the register, and the causes therefor.

Quebec Transportation Club. — The members of the club were the guests of the Richelieu and Ontario Navigation Co., July 3, when a party went by boat to Murray Bay, where they were met by H. W. Paterson, representing the company. Dinner was served at the Manior Richelieu, and was followed by a dance. The return to Quebec took place July 5. Among those present were: J. Mathews, City Agent, I.C.R.; F. M. Spaidal, General Superintendent, Canadian Northern Quebec and Quebec and Lake St. John Rys.; G. H. Stott, City Passenger and Ticket Agent, G.T.R.; W. J. Thompson, Manager Quebec and Levis Ferry Co.; J. A. Everell, Superintendent Quebec Ry. Light and Power Co.; F. S. Stocking, City Passenger and Ticket Agent, Quebec Central Ry.; M. P. Conolly, General Agent, R. and O. Nav. Co.; A. H. Davis, Chief Clerk, C.P.R.; W. Langford, Master Mechanic, J. S. Blanchet, Car Accountant, J. T. Cassels, Superintendent Overhead Construction, Quebec Ry. Light and Power Co.

The Purchasing Agents' Guide

To the Manufacturers of and Dealers in Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph Telephone and Contractors' Supplies, &c.

Aerated Waters
E. L. Drewry ..... Winnipeg.

Air Brakes and Fittings
Canadian Westinghouse Co. Hamilton, Ont.

Ales
E. L. Drewry.. .....Winnipeg.

Anchors, Ground
Ground Anchor Co. .....Montreal.

Angle Bars
Hamilton Steel & Iron Co...Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.

Anti Rail Creepers
The Holden Co., Ltd.....Montreal.

Automobiles
Polson Iron Works, Ltd.....Toronto

Axes
Hamilton Steel & Iron Co..Hamilton, Ont.
James Smart Mfg. Co.....Brockville, Ont.

Axles
James Hutton & Co.....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Beacons
International Marine Signal Co....Ottawa.

Bearings, Side
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co...Montreal.
Union Draft Gear Co. .....Chicago, Ill.

Blankets and Bedding
The Hudson Bay Co.....

Boilers
Babcock & Wilcox, Ltd.....Montreal.
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Boilers, Portable
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co, Ltd..Amherst, N.S.

Boilers, Stationary and Marine
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd..Amherst, N. S.
Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.
Boilers, Steam
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.
Boilers, Water Tube
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.
Bolsters
Dominion Car and Foundry Co..Montreal.
Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.
Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
Books
Engineering News Book Dept...New York.
Renouf Publishing Co.....Montreal.
Borers, Car Wheel
John Bertram & Sons Co.....Dundas, Ont.
Braces, Cross Arm
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
Brake Beams
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co..Montreal.
Brake Shoes
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.
The Holden Co., Ltd.....Montreal.
Brake Shoes, Electric Ry.
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Brake Shoes, Locomotive Driver
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.
Brass and Copper Cloth
The B. Greening Wire Co..Hamilton, Ont.
Bridge Numbers
Acton Burrows, Limited .....Toronto.
Bridges
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.
Buckets, Coal, Ore and Concrete
Brown Hoisting Machinery Co. Cleveland.
Buildings, Steel
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.
Bumping Posts
The Holden Co., Ltd..... .....Montreal.
McCord & Co. .....Chicago, Ill.
Buoy Lighting
Safety Car Heat. & Light. Co..New York.
Buoys
International Marine Signal Co....Ottawa.
Cables, Electric and Feeder
E. F. Phillips Electrical Works....Montreal.
The Wire and Cable Co.....Montreal.
Car Loaders, Box
Mussens, Ltd. .....Montreal.
Car Movers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Cars
American Car & Equipment Co....Chicago.
R. M. Burns & Co.....Chicago, Ill.
Canada Car Co., Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Dominion Car and Foundry Co....Montreal.
J. T. Gardner.....Chricago, Ill.
Hart-Otis Car Co., Ltd.....Montreal.
Hicks Locomotive and Car Works. Chicago.
Ottawa Car Co. Ltd.....Ottawa.
Preston Car and Coach Co., Ltd..Preston.
Rhodes, Curry & Co.....Amherst, N.S.
Silliker Car Co., Ltd.....Halifax, N.S.
Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
Standard Steel Works Co..Philadelphia, Pa.
Castings, Brass
Canadian Bronze Co.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.
Tallman Brass & Metal Co., Ltd.Hamilton.
Castings, Car
American Brake Shoe & Fdry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.
Castings, Iron
Canada Car Co., Ltd.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.
Castings, Iron and Steel
American Brake Shoe & F'dry Co.Mahwah.
Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.
Castings, Manganese Steel
Montreal Steel Works, Ltd.....Montreal.
Castings, Steel
Canada Iron Corporation, Ltd....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.
Chains
B. J. Coghlin & Co.....Montreal.
Closets, Car
Duner Co.....Chicago, Ill.
Compressors, Air
Canadian Rand Co.....Montreal.
Concrete Mixers and Rock Crushers
F. H. Hopkins & Co. .....Montreal.
Mussens Limited.....Montreal
Toronto Pressed Steel Co..... .Toronto
Contractors' Supplies
F. H. Hopkins & Co.....Montreal
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.
Conveyors, Coal and Ash
Babcock & Wilcox, Ltd.....Montreal.
Copying Presses
James Smart Mfg. Co.....Brockville, Ont.
Couplers, Car and Locomotive
Dominion Car and Foundry Co..Montreal.
McConway & Torley Co....Pittsburgh, Pa.
National Malleable Castings Co..Cleveland
Taylor & Arnold.....Montreal.
Cranes
Brown Hoisting Machinery Co..Cleveland.
Cranes, Electric
Babcock & Wilcox.....Montreal.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.
Cranes, Locomotive
American Hoist and Derrick Co..St. Paul.
Cranes, Wrecking
Mussens Limited.....Montreal.
Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
Curtains and Fixtures, Car
The Holden Co., Ltd.....Montreal.
Cuts
Acton Burrows, Limited.....Toronto.
Derailing Devices
Hayes Track Appliance Co..Geneva, N.Y.
Derricks
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Mussens Limited.....Montreal.
Dies
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Ditchers
M. Beatty & Sons.....Welland, Ont.
Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.
Doors, Steel Rolling
Mussens Limited.....Montreal.
Door Signs
Acton Burrows Limited.....Toronto.
Draft Gear
Farlow Draft Gear Co.....Baltimore, Md.
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.
Union Draft Gear Co. .....Chicago, Ill.
Waugh Draft Gear Co.....Chicago, Ill.
Draughtsmen's Supplies
John A. Hart & Co.....Winnipeg.
Dredges
M. Beatty & Sons.....Welland, Ont.
Drills, Air
Canadian Rand Co.....Montreal.
Dry Goods
The Hudson's Bay Co.....
Dump Cars (Contractors')
Canadian Road Machine Co. Ltd.Hamilton.
F. H. Hopkins & Co.....Montreal.
Toronto Pressed Steel Co.....Toronto.
Dump Cars, Hand
Meaford Wheelbarrow Co., Ltd..Meaford.
Dust Guards
Harrison Dust Guard Co.....Toledo, O.
Dynamos
Northern Electric & Mfg. Co., Ld.Montreal.
Dynamo and Electric Castings
American Brake Shoe & F'dry Co.Mahwah.
Economizers
Babcock & Wilcox (Ltd.).....Montreal.
Electric Car Route Signs
Acton Burrows Limited.....Toronto.
Electric Apparatus
Northern Electric & Mfg. Co., Ld.Montreal.
Elevators, Grain
John S. Metcalfe Co.....Chicago, Ill.
Enameled Iron Signs
Acton Burrows Limited.....Toronto.
Engines, Automatic
Robb Engineering Co., Ltd..Amherst, N.S.
Engines, Corliss
Robb Engineering Co., Ltd..Amherst, N.S.
Engines, Gasoline
Ontario Wind Engine & Pump Co.Toronto.
Engines, Hoisting
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Robertson Mfg. Co. .....Welland, Ont.
Engines, Stationary and Marine
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.
Engines, Steam Steering, for Tugs
Sheriffs Mfg. Co.....Milwaukee, Wis.
Explosives
Standard Explosives Limited....Montreal.
Express Office Signs
Acton Burrows Limited.....Toronto.
Fencing
McGregor Banwell Fence Co..Walkerville.
Owen Sound Wire Fence Co..Owen Sound.
Fire Brick
Mussens Limited.....Montreal.
Flags
The Hudson's Bay Co.....
Flour
The Hudson's Bay Co.....
Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co..Cleveland.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton.
Standard Steel Works Co.Philadelphia, Pa.
Foundry Appliances
Goldschmidt Thermit Co.....Toronto.
Frogs
Canadian Ramapo Iron Wks.Niagara Falls.
Furnaces, Corrugated
Continental Iron Works....Brooklyn, N.Y.
Fuse Batteries
Standard Explosives Limited....Montreal.
Fuse Detonators
Standard Explosives Limited....Montreal.
Fuses, Electric
Standard Explosives Limited....Montreal.
Gaskets
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Gates
McGregor Banwell Fence Co..Walkerville.
Owen Sound Wire Fence Co..Owen Sound.
Gates, Crossing
General Railway Signal Co. Rochester, N.Y.
The N. L. Piper Ry. Supply Co..Toronto.
Gauges, Locomotive
Taylor & Arnold.....Montreal.
Generators, Electric
Northern Electric & Mfg. Co., Ld.Montreal.
Grates, Shaking
Babcock & Wilcox, Ltd.....Montreal.
Groceries
The Hudson's Bay Company.....
Guides and Outfitters
Otto Bros. ..... Field, B.C.
Hammers, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.
James Smart Mfg. Co....Brockville, Ont.
Handcars
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.
Hardware
The Hudson's Bay Co.....
Rice Lewis & Son..'.....Toronto.
Headlights
The N. L. Piper Ry. Supply Co..Toronto.
Pyle National Elec. Headlight Co..Chicago.
Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.
Heaters, Feedwater
Robb Engineering Co., Ltd..Amherst, N.S.
Heating, Car
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car Heating & L'ting Co.New York.
Hoists, Electric
American Hoist & Derrick Co....St. Paul.
Hoists (Pneumatic)
Taylor & Arnold.....Montreal.
Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co.Cuyahoga Falls.
Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.
Hydrants
Kerr Engine Co.....Walkerville, Ont.
Illustrations
Acton Burrows Limited.....Toronto.
Inspections
R. W. Hunt & Co. .....Montreal
Insurance, Accident
Canadian Ry. Accident Ins. Co....Ottawa.
Imperial Guarantee & Ac. Ins. Co.Toronto.
Insurance, Boiler
Canadian Casualty & Boil. Ins. Co.Toronto.
Interlocking Plant and Signals
General Railway Signal Co. Rochester, N.Y.
Montreal Steel Works.....Montreal.
Saxby and Farmer, Ltd.....Montreal.
Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton.
Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton.
Iron Signs
Acton Burrows Limited.....Toronto.

Among the Express Companies.

A. C. Egan has been appointed Travelling Auditor Canadian Northern Ex. Co., vice L. F. Muncey, who has been transferred to other duties.

J. H. O'Connor has been appointed agent Dominion Ex. Co., Winnipeg, succeeding W. M. Gordon, General Agent, appointed Superintendent Western Division.

A Montreal despatch says express companies' employees are forming a union, and that a demand will be made for the longest run for messengers not to exceed ten hours, for a 9 hour day for drivers, porters and clerks, and for 10 days holiday annually with full pay.

F. P. Brady, General Superintendent Canadian Government Railways, and member of the C.G.R. Managing Board, is reported to have been in conference with V. G. R. Vickers, Superintendent Dominion Ex. Co., Montreal, recently at St. John, N.B., as to the handling of express matter by the I.C.R.

The Board of Railway Commissioners heard a complaint from the Niagara district fruit growers, July 7, against the Canadian Ex. Co., regarding rates from Queenston, which, it was stated, had been advanced from 30c. to 40c. per 100 lbs. In delivering judgment, Chief Commissioner Mabee said that the whole matter of express rates is under consideration, and it was understood that while the matter was pending the existing rates would be maintained. He continued that the Commission has no power to compel the express companies to accept freight, but would issue an order confirming the 30c. rate. The order is given on another page.

The Interstate Commerce Commission has decided, in the matter of contracts of express companies for free transportation of their men and material over railways, that a railway company may lawfully transport the men and supplies of an express company without reference to any tariff provision when employed or used in the business of the express company upon the line of the railway itself, and in the same manner an express company may lawfully transport the packages of a railway company between points upon that line of railway without reference to its tariff rates, and further that a railway company may not lawfully transport men and supplies of an express company when employed or used in the business of that company at points not on the line of railway, and an express company may not lawfully transport for a railway packages between points on its route but not on that particular line of railway.

Marconi Wireless Telegraph Co.

The annual meeting of the shareholders was held in London, Eng., June 28, when the report for the year 1908 was presented. During the year the company made substantial progress. The fresh capital obtained enabled the directors to meet current engagements and to provide for the expenditure required to complete the transatlantic stations at Clifden, Ireland, and Glace Bay, N.S., and in addition allowed the carrying out of the scheme of reorganization of the works which were now on a thoroughly profitable working basis. As soon as the British Post Office authorities give effect to the agreement relative to the acceptance and delivery of Marconi transatlantic messages at all telegraph offices in the United Kingdom, G. Marconi will visit Glace Bay preparatory to the completion and duplication of that station. The directors regret that they are not able to declare a dividend, but feel that the prospects and position of the company are highly satisfactory and promising, and confidently anticipate that the dividend paying period will be speedily entered upon. In closing their remarks the directors mention the enormous service that wireless telegraphy renders to ships in distress, mentioning the loss of the s.s. Republic and also the wreck of the s.s. Slavonia.

Telegraph and Cable Matters.

C. Mackay, President Mackay Companies, has denied that his company has secured control of the Western Union Telegraph Co.

The directors of the Montreal Telegraph Co. at a recent meeting adopted a resolution expressing their sorrow at the death of A. T. Paterson, Vice President, and placing on record their appreciation of his services.

Sir Sandford Fleming, who sailed for England on the C.P.R. s.s. Empress of Ireland, July 2, will, it is reported, consult the British Government on the question of an additional, or cheaper, cable communication as discussed at the recent Imperial Press Conference there.

It is reported that satisfactory progress has been made with the extension of the Government telegraph line from Athabasca Landing, Alta., westward to Lesser Slave Lake. During last winter, poles were cut for the entire distance and the work of erecting them and stringing wires was commenced early in June, and about 20 miles completed about the middle of the month.

An experiment is reported to be contemplated to establish a wireless telegraph station on the Peel River, about 2,000 miles north of Edmonton, Alta., to provide direct communication between the Arctic circle east of the divide and other centres. The report states the communication will take place between Warn's Camp at Peel River and Seattle, Wash., by relays at Eagle, Valdez and Vancouver.

G. Marconi, in speaking at a meeting of the Marconi Wireless Telegraph Co. in London, Eng., recently, is reported to have said that no doubt a very great extension of the trans-atlantic service might be anticipated. As soon as the duplicate station in Canada was completed his company would be able to accept from 15,000 to 20,000 words a day.

The work of laying an extension cable of 300 miles from Newfoundland to join an existing Atlantic cable of the Commercial Cable Co. has been taken in hand. The cable ship Colonia is in charge of the operation. The company has completed an insurance in connection with the work of £185,000, which, added to the insurance already in force on the vessel, makes a total insurance of £300,000.

At the recent Imperial Press Conference in London, Eng., G. Marconi said that the cost of equipping two stations for communication over a distance, already tested, of 3,000 miles would be £100,000. The speed of transmission at present is 25 words a minute, but he hoped by duplexing to double it. His company, he stated, would, if the service increased, be prepared to reduce the cost of press messages to 2d. a word.

The Late O. S. Wood.

O. S. Wood, who recently died at Turner, N.Y., aged 91, was, in 1847, Superintendent Montreal Telegraph Co., and subsequently General Superintendent until 1866, when he engaged in similar work in the U.S. In referring to Mr. Wood's death, in the Telegraph Age, H. P. Dwight, President G.N.W. Telegraph Co., Toronto, writes as follows:—"I came as a very youthful operator to Mr. Wood, who had been appointed Superintendent of the Montreal Telegraph Co.'s line just erected between Montreal and Toronto, in August, 1847, and remained with him in the Montreal office until 1850, when he sent me to take charge of the Toronto office and the western extensions which were being started in different directions—the beginning of a system since grown to be a network of lines covering the Province of Ontario. Mr. Wood received his instructions as an operator directly from Professor Morse in 1844, and was his first pupil—an honor and privilege which his after life fully justified—and it may be properly said that every Morse operator living may feel honored in the memory of such irreproachable characters as those of Professor Morse and O. S. Wood, the first and chief progenitors of a business since grown to such a marvellous extent, and which has done so much to facilitate the business and promote the happiness of the world. Although it is half a century since Mr. Wood's retirement from the Canadian business and his return to the U.S., his memory is still cherished not only by the very few still living who had the honor of his personal acquaintance, but his name is still a familiar household word among the Canadian telegraph fraternity, who never saw him, and only know of him by tradition. I am sometimes called by the Canadian papers of these latter days 'the Father of Canadian Telegraphs,' but I never fail to tell my friends that whatever may be said in this respect, the Grandfather of the Canadian telegraph system was O. S. Wood."

Dominion Telegraph Company.

Following is the balance sheet for the year ended June 30, 1909, presented at the 40th annual meeting, at Toronto, July 14:—

ASSETS.

Capital expenditure	$1,281,819 47
Toronto, Grey and Bruce Ry. Co. 1983 bonds and interest thereon	1,596 24
Cash in bank and on hand	26,935 73
	$1,310,351 44

LIABILITIES.

Capital stock paid up	$1,000,000 00
Dividends unclaimed	1,399 90
Dividend payable July 15, 1909	15,000 00
Suspense	97 13
	$1,016,497 03
Balance at credit of profit and loss	293,854 41
	$1,310,354 44

The directors reported that payment had been made quarterly, in advance, for the past 30 years, of the guaranteed interest of 6% per annum on the capital stock of the company, by the Western Union Telegraph Co., lessees, and distributed quarterly to the shareholders. The lease is for 99 years from July 1, 1879, to June 30, 1978, inclusive.

The officers and directors for the current year are: President, T. Swinyard; Vice President, Sir Henry M. Pellatt; other directors, B. Brooks, T. F. Clark, R. C. Clowry, Æ. Jarvis, C. O'Reilly, and A. G. Ramsay; Secretary and Treasurer, F. Roper.

Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.
Jacks
H and E Lifting Jack Co..Waterville, Que.
F. H. Hopkins & Co, Ltd.....Montreal.
Montreal Steel Works, Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.
A. R. Williams Mchy. Co., Ltd....Toronto.
Japans
The Dougal Varnish Co. Ltd....Montreal.
Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.
Journal Boxes
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Journal Jacks
A. R. Williams Mchy. Co., Ltd....Toronto.
Lager Beer, &c.
E. L. Drewry.....Winnipeg.
Lagging and Covering, Locomotive
Taylor & Arnold.....Montreal.
Lamps, Arc
Northern Electric & Mfg. Co, Ltd.Montreal.
Lamps, Incandescent
Canadian Westinghouse Co..Hamilton, Ont.
Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Lamps, Switch
The N. L. Piper Ry. Supply Co..Toronto.
Lathes
John Bertram & Sons Co.....Dundas, Ont.
Launches
Polson Iron Works, Ltd.....Toronto.
Lighting, Car
Canadian Gold Car H'g & L'g Co.Montreal
Safety Car H't'g & L't'g Co..New York.
Lights, Contractors' and Wrecking
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Locomotives (Compressed Air)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co...Kingston, Ont.
Montreal Locomotive W'ks (Ltd.)..Montreal.
Locomotives (Electric)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Locomotive W'ks (Ltd.).Montreal.
Locomotives (Logging)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.
Locomotives (Rack)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.
Montreal Locomotive Works.....Montreal.
Locomotives (Steam)
American Car & Equip. Co....Chicago, Ill.
Burnham, Williams & Co. Philadelphia, Pa.
R. M. Burns & Co.....Chicago, Ill.
Canadian Locomotive Co....Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hicks Locomotive & Car Works..Chicago.
Montreal Locomotive W'ks. .....Montreal.
Vulcan Iron Works.....Wilkesbarre, Pa.
Lorries, Tracklaying
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
Lubricators
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.
Lumber
Parry Sound Lumber Co.....Toronto.
Machinery, Cement
Jas. W. Pyke & Co.....Montreal.
Machinery and Plant, Contractors'
American Hoist & Derrick Co....St. Paul.
M. Beatty & Sons.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
J. T. Gardner.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Willis Shaw Mchy. Co.....Chicago, Ill.
Toronto Pressed Steel Co.....Toronto.
Machinery, Hoisting
American Hoist & Derrick Co....St. Paul.
Brown Hoisting Machinery Co..Cleveland.
Machinery, Marine
Sheriffs Mfg. Co.....Milwaukee, Wis.
Machinery, Tracklaying
F. H. Hopkins & Co.....Montreal.
Machines, Boring and Turning
John Bertram & Sons Co.....Dundas, Ont.
Machines, Drilling
John Bertram & Sons Co.....Dundas, Ont.
Machines, Milling
John Bertram & Sons Co.....Dundas, Ont.
Machines, Planing and Shaping
John Bertram & Sons Co.....Dundas, Ont.
Machines, Radial Drilling
John Bertram & Sons Co.....Dundas, Ont.
Machines, Shaping
John Bertram & Sons Co.....Dundas, Ont.
Machines, Slotting
John Bertram & Sons Co.....Dundas, Ont.
Machine Tools
John Bertram & Sons Co.....Dundas, Ont.
Manhole Frames and Covers
American Brake Shoe & F'dry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.
Marine Repairs
Goldschmidt Thermit Co.....Toronto.
Marine Supplies
Rice Lewis & Son.....Toronto.
Metal, Anti-friction
W. Abbott.....Montreal.
Metal, Babbit
Tallman Brass & Metal Mfg. Co. Hamilton.
Metals
Goldschmidt Thermit Co.....Toronto.
Metal Work, Structural
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Montreal Locomotive W'ks (Ltd.).Montreal.
Jas. W. Pyke & Co.....Montreal.
Milepost Numbers
Acton Burrows Limited.....Toronto.
Motors
McCord & Co.....Chicago, Ill.
Motors, Electric
Northern Electric & Mfg. Co. Ld.Montreal.
Motors, Turntable
Taylor & Arnold.....Montreal.
Nickel
The Orford Copper Co.....New York.
Nickel for Nickel Steel
The Orford Copper Co.....New York.
Numbers
Acton Burrows Limited.....Toronto.
Nut Locks
Positive Lock Washer Co....Newark, N.J.
Nuts, Clevis
Cleveland City Forge & Iron Co..Cleveland.
Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
Oakum
The Hudson's Bay Company.....
Office Fittings
Can. Office & Sch'l Furniture Co..Preston.
Office Signs
Acton Burrows Limited.....Toronto.
Oils
Galena Signal Oil Co..Franklin & Toronto.
Packing
The N. L. Piper Ry. Supply Co..Toronto.
Paints
Standard Paint & Varnish Co., Ltd. .... Windsor, Ont.
Patterns
Hamilton Pattern Works....Hamilton, Ont.
Pile Drivers, Railway
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Pinch Bars
The N. L. Piper Ry. Supply Co..Toronto.
Pipe, Culvert (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.
Pipe, Gas (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.
Pipe, Sewer (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.
Pipe Stocks
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Pipe, Water (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.
Planers
John Bertram & Sons Co.....Dundas, Ont.
Platforms, Steel
Standard Coupler Co.....New York City.
Ploughs, Contractors'
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.
Ploughs, Grading
Meaford Wheelbarrow Co., Ltd..Meaford,
Porter
E. L. Drewry.....Winnipeg.
Powder, Blasting
Standard Explosives Limited.....Montreal.
Printing
Southam Press.....Toronto.
Propeller Wheels
Sheriffs Mfg. Co.....Milwaukee, Wis.
Pumps
S. F. Bowser & Co., Limited.....Toronto.
Ontario Wind Engine & Pump Co..Toronto.
James Smart Mfg. Co.....Brockville, Ont.
Pumps (Centrifugal)
M. Beatty & Sons .....Welland, Ont.
Rail Benders, Roller
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

BABCOCK & WILCOX
LIMITED

Patent Water-Tube Boilers

(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes = MONTREAL

BRANCH—TRADERS BANK BUILDING, TORONTO

The Purchasing Agents' Guide—Continued.

Rail Drilling Machines
A. B. Jardine & Co.....Hespeler, Ont.

Rails (new)
Dominion Iron & Steel Co....Sydney, N.S.
Drummond, McCall & Co. .....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co.....Montreal.

Rails (for relaying)
F. H. Hopkins & Co.....Montreal.
J. J. Gartshore.....Toronto.
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.

Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada....Montreal.
Williams Boltless Rail J'nt Mg. Co.Chicago.

Railway Supplies
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Rice Lewis & Son.....Toronto.

Ranges
Stearnes Steel Range Co.....Chicago, Ill.

Reamers
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Replacers, Car and Locomotive
Alexander Car Replacer Mfg. Co..Scranton.
The Holden Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.

Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Roofing, Car
Drake & Wiers Co.....Cleveland, O.

Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Company.....

Ropes, Coal Haulage
The B. Greening Wire Co..Hamilton, Ont.

Ropes, Derrick
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.

Ropes, Switch
The B. Greening Wire Co..Hamilton, Ont.
F. H. Hopkins & Co.....Montreal.

Scoria Blocks
W. H. Knowlton.....Toronto.

Scows, Dump and Deck
M. Beatty & Sons.....Welland, Ont.

Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Screw Plates
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Screws, Coach and Lag
Montreal Rolling Mills Co.....Montreal
Toronto Bolt and Forging Co.....Toronto.

Seats, Station
James Smart Mfg. Co....Brockville, Ont.

Semaphore Arms
Acton Burrows Limited.....Toronto.

Semaphores
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer Ltd.....Montreal.

Shafting, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Ships
Polson Iron Works.....Toronto.

Shops
The Hudson's Bay Co.....

Signal House Numbers
Acton Burrows Limited.....Toronto.

Signals
General Railway Signal Co. Rochester, N.Y.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer, Limited.....Montreal.

Signals, Fog
International Marine Signal Co....Ottawa.

Signs
Acton Burrows Limited.....Toronto.

Skylights
A. Edgcumbe Rendle.....Montreal.

Slack Adjusters
Chicago Railway Equipment Co..Chicago.

Sledges
James Smart Mfg. Co.....Brockville, Ont.

Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.
Rhodes, Curry & Co.....Amherst, N.S.

Solder
Tallman Brass & Metal Mfg. Co. Hamilton.

Spikes, Railway, Ship or Pressed
Hamilton Steel & Iron Co., Ltd.Hamilton.
F. H. Hopkins & Co.....Montreal.
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Spreader Cars
F. H. Hopkins & Co.....Montreal.

Spring Dampeners
McCord & Co.....Chicago, Ill.

Springs
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Station Name Signs
Acton Burrows Limited.....Toronto.

Staybolt Bars, Charcoal Iron
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolt Iron
Taylor & Arnold.....Montreal.

Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolts, Flexible
Flannery Bolt Co.....Pittsburg, Pa.

Staybolts, Locomotive
Falls Hollow Staybolt Co..Cuyahoga Falls.
Flannery Bolt Co.....Pittsburg, Pa.

Staybolt Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Steam Couplers
Safety Car H't'g & L't'g Co....New York.

Steam Hammers
John Bertram & Sons Co.....Dundas, Ont.

Steam Shovels
M. Beatty & Son.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Steamships
Polson Iron Works.....Toronto.

Steamship Signs
Acton Burrows Limited.....Toronto.

Steel
W. Abbott.....Montreal.
Hermann Boker & Sons.....Sheffield, Eng.
Wm. Jessop & Sons.....Sheffield, Eng.

Steel, Fire Box
Taylor & Arnold.....Montreal.

Steel for Axes
Montreal Steel Works.....Montreal.

Steel for Saws
Montreal Steel Works.....Montreal.

Steel for Springs
James Hutton & Co.....Montreal.

Steel, Speedicut High Speed
Montreal Steel Works.....Montreal.

Steel, Nickel, for Nickel
The Orford Copper Co.....New York.

Steel Plates
Jas. W. Pyke & Co.....Montreal.

Steel, Tool
W. Jessop & Sons.....Sheffield, Eng.
Montreal Steel Works.....Montreal.

Stokers, Mechanical
Babcock & Wilcox (Ltd.).....Montreal.

Stoves
James Smart Mfg. Co.....Brockville, Ont.

Superheaters
Babcock & Wilcox (Ltd.).....Montreal.

Switches
Canadian Ramapo Iron W's Ld.Niagara Fs.
Hayes Track Appliance Co....Geneva, N.Y.
Montreal Steel Works.....Montreal.

Switch Boxes
General Railway Signal Co. Rochester, N.Y.

Switch Stands
Canadian Ramapo Iron W's, Ld.Niagara Fs
Hayes Track Appliance Co....Geneva, N.Y.

Switch Targets
Acton Burrows Limited.....Toronto.

Tanks and Tank Fixtures
Ontario Wind Engine & Pump Co..Toronto.

Tanks, Oil
S. F. Bowser & Co., Limited.....Toronto.

Tapes, Measuring
Lufkin Rule Co.....Saginaw, Mich.

Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Telegraph and Telephone Apparatus
Northern Elec. & Mfg. Co., Ltd.Montreal.

Telegraph and Telephone Office Signs
Acton Burrows Limited.....Toronto.

Thermit
Goldschmidt Thermit Co.....Toronto

Ticket Cases
Can. Office & School Furniture Co.Preston.

Tie Plates
B. J. Coghlin & Co.....Montreal.
Hamilton Steel & Iron Co..Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.

Ties
Parry Sound Lumber Co.....Toronto.

Tires, Steel
James Hutton & Co.....Montreal
Jas. W. Pyke & Co.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Tools and Supplies
James Smart Mfg. Co.....Brockville, Ont.
A. B. Jardine & Co.....Hespeler, Ont.

Tools, Track
John Bertram & Sons Co.....Dundas, Ont.
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Mussens Limited.....Montreal.

Tools, Pneumatic
The Holden Co., Ltd.....Montreal.

Tools, Cast Steel Track
American Brake Shoe & F'dry Co.Mahwah.

Track Equipment
Canadian Ramapo Iron W's Ld.Niagara Fs.

Tramway Equipment
J. J. Gartshore.....Toronto.

Trolley Wheels
Tallman Brass & Metal Co., Ltd.Hamilton.

Trucks
James Smart Mfg. Co.....Brockville, Ont.

Trucks (Electric Car)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Steel Works.....Montreal.

Trucks (Railroad and Warehouse)
Toronto Pressed Steel Co.....Toronto.

Trusses, Roof
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Tubes, Boiler
Jas. W. Pyke & Co.....Montreal.

Turnbuckles
Cleveland City Forge & Iron Co.Cleveland.
Montreal Steel Works.....Montreal.

Turntables
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Typewriters
United Typewriter Co.....Toronto.

Valves, Brass Gate
Kerr Engine Co.....Walkerville, Ont.

Valves, Brass Globe
Kerr Engine Co.....Walkerville, Ont.

Valves, Iron Gate
Kerr Engine Co.....Walkerville, Ont.

Valves, Locomotive Pop
Taylor & Arnold.....Montreal.

Varnishes
The Dougal Varnish Co., Ltd....Montreal.
Standard Paint & Varnish Co., Ltd. ....
..... Windsor, Ont.

Vessels
Polson Iron Works.....Toronto.

Washers
Montreal Rolling Mills Co.....Montreal.

Waste
B. J. Coghlin & Co.....Montreal.
N.L. Piper Railway Supply Co....Toronto.

Water Softeners
Babcock & Wilcox, Ltd.....Montreal.

Welding
Goldschmidt Thermit Co.....Toronto.

Wheelbarrows
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Toronto Pressed Steel Co.....Toronto.

Wheels, Car
Canada Car Co., Limited.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.
Standard Steel Works Co..Philadelphia, Pa.

Wheels, Locomotive
Canada Iron Corporation, Ltd....Montreal.

Wheels, Rolled, solid forged
Standard Steel Works Co..Philadelphia, Pa.

Wheels, Steel tired
Standard Steel Works Co..Philadelphia, Pa.

Windmills
Ontario Wind Engine & Pump Co..Toronto.

Windows, Fireproof
A. Edgcumbe Rendle.....Montreal.

Wire and Wire Rope
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.
Mussens Limited.....Montreal.
The Wire and Cable Co.....Montreal.

Wire Cloth
The B. Greening Wire Co..Hamilton, Ont.

Wire, Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Electric
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Insulated Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire Rope Clips
American Hoist & Derrick Co.....St. Paul.

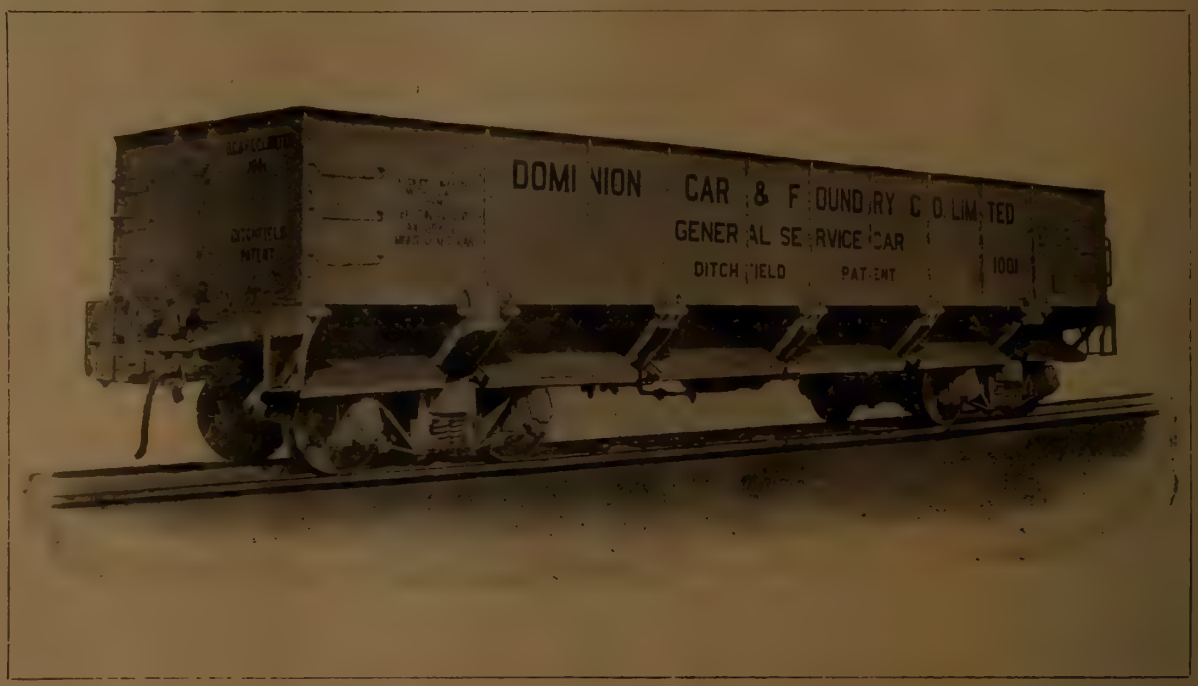
Wire, Telegraph and Telephone
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Transmission and Trolley
The Wire and Cable Co.....Montreal.

Wrenches, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.

Yachts
Polson Iron Works, Ltd.....Toronto.

DOMINION CAR & FOUNDRY CO.
LIMITED



FREIGHT CARS

(ALL-STEEL AND COMPOSITE)

CAR TRUCKS **STEEL UNDERFRAMES**

FORGINGS OF ALL KINDS

SIMPLEX

Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works---MONTREAL WEST

P. O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.

The Railway and Marine WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 221. New Series, No. 139. TORONTO, CANADA, SEPTEMBER, 1909. For Subscription Rates, See Page 669.

WIRES AND CABLES

FOR TELEPHONE, TELEGRAPH, ELECTRIC RAILWAY AND POWER PURPOSES

THE WIRE AND CABLE CO., MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL.

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

LUFKIN MEASURING TAPES
MADE IN CANADA AND THE BEST IN THE WORLD
SEND FOR CATALOG.
THE LUFKIN RULE CO. OF CANADA, LTD. WINDSOR, ONT.

WILLIAM ABBOTT
COLONIAL ANTI FRICTION METAL
50% Saving in Oil
334 St. James St., - Montreal

RENDLE'S GLAZING IMPROVED SKYLIGHT CONSTRUCTION
"Paradigm," "Duxbac" Brands, "Diablo" Asbestos Windows.
A. Edgcumbe Rendle, 260 St. James Street, Montreal. Works: LONDON, ONTARIO

THE HOLLENDEN
CLEVELAND
EUROPEAN PLAN
600 Rooms $1.50 to $5.00

The Canadian Casualty and Boiler Insurance Company
Head Office - TORONTO
ACCIDENT, SICKNESS AND BOILER CONTRACTS
Full particulars on application

THE WAUGH DRAFT GEAR
FRICTION SPRING CUSHION
200,000 lbs.—600,000 lbs. Capacity
MADE IN CANADA
Send for Catalog and Particulars
Waugh Draft Gear Co., Chicago, Ill.

STEARNES STEEL RANGE COMPANY
Our specialties are Dining, Private and Cafe Car Ranges and General Cooking Apparatus.
Fifth Ave. and Lake St., Chicago, Ill.

FOR DRAUGHTING SUPPLIES AND INSTRUMENTS
JOHN A. HART COMPANY
WINNIPEG

Enamelled Iron Signs
For Steam and Electric Railways, Express, Telegraph, Telephone and other Purposes.
ACTON BURROWS LIMITED
157 Bay Street, Toronto

THE OTTAWA CAR CO.
BUILDERS OF Limited
Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.
Office and Works: Slater St., OTTAWA

Additional safety and economy in
TRACK MAINTENANCE
has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen years' service, having a record of over 50,000 miles in use—the extent of which is evidence of their excellence.
THE RAIL JOINT CO. OF CANADA
See Page 648.

ARCTIC METAL
FOR COOL BEARINGS

TALLMAN
Brass and Metal Co.
Hamilton
Canada

MUSSENS LIMITED
Railway, Mining and Contractors' Supplies
See Advt. Page 634

The Dougall Varnish Co., Ltd.
Successors to McCASKILL, DOUGALL & COMPANY
Railway Varnishes, Japans and Enamels
MONTREAL
Medals Awarded.

WESTINGHOUSE
"AMM" Automatic Air Brakes

When buying new cars

insist upon their being equipped with Westinghouse "AMM" Automatic Brakes. A good car with an inferior brake is a poor investment. Safe, efficient operation demands a brake of absolute reliability. Such indispensable features as quick recharge, graduated release, quick service and high pressure in emergency are found only in Westinghouse "AMM" Automatic Air Brakes.

Described fully in Instruction Pamphlet T-5031

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO
439 Pender Street
VANCOUVER

For particulars address nearest office
HAMILTON
922-923 Union Bank Bldg.
WINNIPEG

232 St. James St.,
MONTREAL
158 Granville St.
HALIFAX

N. CURRY, President
N. A. RHODES, Vice-President

CAPITAL $1,000,000

J. M. CURRY, Sec.-Treas.

RHODES, CURRY & CO.
LIMITED

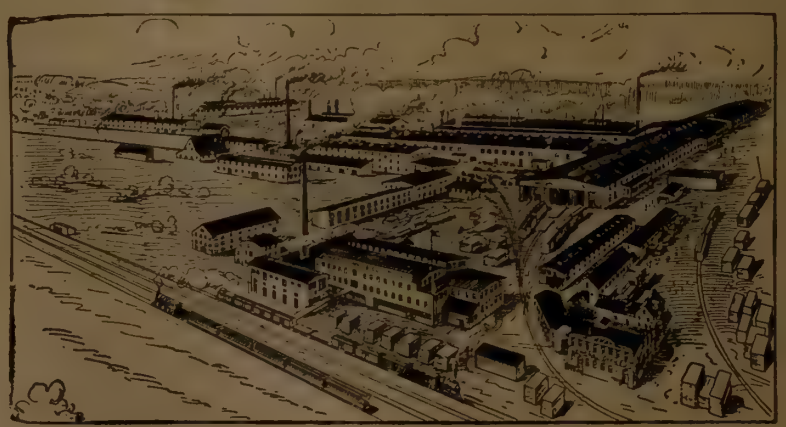
AMHERST, NOVA SCOTIA

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels



Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

See Purchasing Agents' Guide on page 705 :: :: :: ::

See Alphabetical Index to Advertisements on page 669

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 221.
New Series, No. 139.

TORONTO, CANADA, SEPTEMBER, 1909.

For Subscription Rates, See page 669.

Instruction of Railway Shop Apprentices.

By S. J. Hungerford, Superintendent C.P.R. Winnipeg Shops

Apprenticeship in connection with wood and iron working trades has existed in some form from time immemorial, probably ever since men first began to fashion these materials into articles for use and comfort. During the middle ages it was thoroughly established as an institution and very stringent regulations were adopted in some countries to ensure the proper observance of their obligations by the apprentices, and heavy penalties were provided for any violation on their part, but as a rule they did not bear very heavily on the employer when he was at fault. The usual term of apprenticeship was seven years, and during that time the apprentices were subject to the will of the master in almost everything, and they generally lived in his house, as industrial establishments were for the most part small, employing but a few hands. This arrangement possessed the advantage of giving the apprentices the personal supervision of the master, who, having a direct financial interest in making the boys as efficient as possible, took great pains to instruct them carefully in the different processes of the trade.

With the advent of the steam engine and the industrial revolution that followed, this old system passed away. The establishments became much larger, so that it was no longer possible for the owner to give his personal attention to the minor details of the business, and the supervision of the apprentices was therefore delegated to the foremen, who, having no such financial interest in the ability of the boys to perform work efficiently, and generally looking upon them more as a source of bother to themselves than anything else, too frequently placed them at some work of a simple nature and left them at it, rather than incur the personal trouble of teaching them other lines of work. With the further growth of industrial establishments this unsatisfactory feature of the apprentice system became still more pronounced, and some employers went so far as to abolish the system altogether, while others merely tolerated it as a necessary evil. During the latter part of the last century some enterprising employers in Great Britain and on the European Continent began an effort to educate apprentices in their employ, this generally taking the form of a free night school, but it is only in recent years that the importance of the matter has been widely appreciated and any really serious effort made to meet the requirements.

In America apprenticeship systems have followed the same general lines as in Europe, but the rules and regulations have not been nearly as uniform, or as rigidly enforced, while the term has been somewhat shorter, ranging between three and five years. The same abuses and unsatisfactory features have existed here also, and many firms abandoned the system and had recourse to the plan of educating unskilled men to perform a single operation, or run one kind of machine, and then keeping them at that particular work for all time. By this means a class of operatives was developed that was highly efficient upon its special lines of work, and the whole proposition looked exceedingly attractive to employers, but with the exception of certain lines of work which may be said to be auxiliary to certain trades, the general effect was vicious in the final analysis. This, together with the general absence of proper systems for the education of apprentices, is probably responsible for the alleged deterioration among mechanics and the difficulty in obtaining men who are capable of doing everything connected with their respective trades, about which we have heard so much of late. It is likely that on the whole railways have suffered most in this connection, and within the past three or four years a few progressive railway managements have established more or less comprehensive educational systems, and this movement appears to be spreading rapidly at the present time, as all railway mechanical officers are agreed that special instruction outside the shop is necessary, there being only a diversity of opinion as to how this instruction should be given.

C. MURPHY

General Superintendent Eastern Division Canadian Pacific Railway.

About a year and a half ago the C.P.R. management established apprentice classes in the Angus shops at Montreal, and last winter a complete educational scheme was adopted at the Winnipeg shops, following the same general lines, the details being modified, however, to meet the local conditions and also where experience had shown that alterations might be made to advantage. The following is an outline of the system: All applicants are required to pass a physical as well as an educational examination before being engaged. All apprentices receive instruction in both practice and theory during working hours whilst under pay, which can be conveniently divided into two parts, viz., shop instruction and class instruction.

In the machine and erecting shops the boys are placed directly under the supervision of a shop instructor who is an expert machinist, and who personally instructs them how to perform the various operations properly, explains the reasons therefor and also looks after their general conduct. It is also his duty to see that their occupation is changed in accordance with an authorized schedule prepared by the management, this matter not being left to the convenience of the shop foremen, but adhered to as closely as circumstances will permit. The different foremen actually assign the work to them, the inspector merely directing their methods and conduct, and reporting concerning these matters to the supervisor of apprentices, who carefully re-

LOCOMOTIVES FOR ALL CLASSES OF SERVICE

Consolidation Type Freight Locomotive, Built for Eastern British Columbia Railway.

Total weight of engine in working order, 186,310 pounds. Weight on driving wheels, 166,100 pounds. Diameter of driving wheels, 51 inches. Boiler pressure, 210 pounds. Cylinders, 20 x 28 inches. Maximum tractive power, 39.200 pounds.

ATLANTIC STEAM SHOVEL

Direct wire rope hoist with but one sheave, instead of chain hoist with from five to seven sheaves, reduces delays and loss of time due to breakdowns, increases the efficiency of the engines, and reduces repair bills as well as fuel consumption.

Finished, interchangeable spare parts always on hand at works.

MONTREAL LOCOMOTIVE WORKS, LIMITED

BANK OF OTTAWA BUILDING, MONTREAL, CANADA

cords same and shows progress on charts which are posted up in the class room. In shops other than the machine and erecting shops, where the number of apprentices is comparatively small, the respective foremen are expected to supervise their work and follow as closely as possible the schedule prepared.

A large and well lighted class room is provided, suitably equipped with tables, stools, etc., where the boys are given instruction in arithmetic, free-hand sketching of shop objects, mechanical drawing, railway history and geography, the class work being intended to associate as closely as possible with their actual work in the shop. For convenience, the apprentices are arranged in classes in the usual way, being grouped together in accordance with their respective educational qualifications. Boys serving their first year are only required to attend one session, two hours in duration, per week, but those serving their second year or upwards must attend two sessions of the same length per week until qualified. It was thought by some that taking the boys from the shop during working hours would prove very awkward, as machines and operations would necessarily have to stop during the period, but this has not been found to be a serious matter in practice, and all concerned are now agreed that class work should be performed during working hours, while the boys are mentally and physically fit and subject to regular discipline, rather than in the evening when tired and usually desirous of finding different amusement.

This class work is under a special instructor, who devotes his entire time to conducting the classes, checking the boys' papers, preparing new matter and posting up the progress charts, which are open to inspection and show graphically the relative progress and standing of each one, thereby putting each boy into competition with every other boy. As far as possible, the classes sit during the first two working hours of the day, as this has been found to be the most satisfactory period. Instruction papers, stationery, etc., are furnished free of charge, and a set of drawing instruments, including tee and set squares, board, etc., are loaned to each one during his apprenticeship and are presented to him upon the completion of his term, if his services have been satisfactory. An apprentice supervisor has general charge of all apprentice matters and attends personally to the examination of applicants, application of discipline in shop and class, preparing of courses of study and posting of records.

On the whole the plan has worked out most satisfactorily as the boys have almost without exception taken the greatest interest in the work; the foremen and mechanics are sympathetic, and the increased efficiency of the apprentices in the shops has fully justified the management in incurring the initial expense, while the ultimate benefit, both to the future mechanics and the railway company, will undoubtedly be great.

A press report from Calgary, Alta., recently stated that the C.P.R., during the latter part of July, sold 100,000 acres of land in the irrigation belt, at an average of $25 an acre.

September Birthdays.

Many happy returns of the day to:—

G. W. Alexander, Local Treasurer G.T.R. Western Lines, Detroit, Mich., born at Lightcliff, Yorks, Eng., Sept. 10, 1859.

W. B. Bamford, District Freight Agent C.P.R., London, Ont., born at Belleville, Ont., Sept. 10, 1863.

W. D. Barclay General Manager Canadian Northern Quebec Ry., Quebec and Lake St. John Ry., Halifax and Southwestern Ry., and Inverness Ry. and Coal Co., Quebec, Que., born at Campbellton, N.B., Sept. 23, 1852.

G. T. Bell, Assistant Passenger Traffic Manager G.T.R., and G.T.P.R., Montreal, born there, Sept. 7, 1861.

W. H. Biggar, K.C., General Solicitor G.T.R., and Solicitor G.T.P.R., Montreal, born at the Carrying Place, near Trenton, Ont., Sept. 19, 1852.

E. R. Bremner, ex-Division Freight Agent G.T.R. Ottawa Division, Ottawa, born at Toronto, Sept. 9, 1875.

M. H. Brown, General Freight Agent C.P.R. Ontario Division, Toronto, born at Victoria Square, Ont., Sept. 2, 1866.

W. G. Brownlee, General Transportation Manager G.T.R., Montreal, born at Lawrenceville, Ill., Sept. 9, 1858.

J. R. Bruce, ex-Traffic Auditor Intercolonial Ry., Moncton, N.B., born at Portsoy, Banffshire, Scotland, Sept. 23, 1848.

W. B. Bulling, Assistant Freight Traffic Manager C.P.R. Eastern Lines, Montreal, born there, Sept. 16, 1858.

C. F. Burns, Auditor of Disbursements Intercolonial Ry., Moncton, N.B., born at Clements Port, N.S., Sept. 10, 1854.

A. D. Cartwright, Secretary Board of Railway Commissioners, Ottawa, born at Kingston, Ont., Sept. 20, 1864.

W. F. Egg, ex-City Passenger Agent C.P.R., Montreal, born at Plymouth, Eng., Sept. 7, 1859.

W. H. Estano, Traffic Auditor Intercolonial Ry., Moncton, N.B., born at Halifax, N.S., Sept. 29, 1874.

C. B. Foster, Assistant General Passenger Agent C.P.R., Vancouver, B.C., born at Kingston, N.B., Sept. 30, 1871.

L. A. Hamilton, ex-Land Commissioner C.P.R., born at Penetanguishene, Ont., Sept. 30, 1852.

D. W. Hatch, Travelling Agent Atcheson, Topeka and Santa Fe Ry., Montreal, born at Bedford, Que., Sept. 1, 1841.

L. B. Howland, President and General Manager Irondale, Bancroft and Ottawa Ry., Irondale, Ont., born at Lambton Mills, Ont., Sept. 2, 1869.

J. E. Hutcheson, Superintendent and Purchasing Agent Ottawa Electric Ry., born at Brockville, Ont., Sept. 15, 1858.

J. F. Kane, Fuel Agent C.P.R. Western Division, Calgary, Alta., born at Toronto, Sept. 8, 1884.

W. H. Kelson, ex-General Storekeeper C.P.R., now of the W. H. Kelson Co., Montreal, born at Bath, Eng., Sept. 5, 1850.

C. B. King, Manager London St. Ry., London, Ont., born at Galena, Ind., Sept. 12, 1871.

V. Kistler, District Freight and Passenger Agent Great Northern Ry., Grand Forks, B.C., born at Clyde, Ohio, Sept. 4, 1881.

R. E. Larmour, General Freight Agent C.P.R. Central Division, Winnipeg, born at Brantford, Ont., Sept. 26, 1868.

H. D. Lumsden, C.E., ex-Chief Engineer National Transcontinental Ry., Ottawa, born at Belhaire, Scotland, Sept. 7, 1844.

J. Bruce Macdonald, Director Niagara Navigation Co., Toronto, born at Glengarry, Ont., Sept. 19, 1850.

F. J. Mahon, Superintendent Telegraphs C.P.R. Atlantic Division, St. John, N.B., born at Montreal, Sept. 18, 1865.

J. F. Mundle, City Freight Agent C.P.R., Montreal, born at Prescott, Ont., Sept. 20, 1857.

B. S. Murray, Route Agent Canadian Express Co., London, Ont., born at Glenwood, N.Y., Sept. 17, 1856.

J. Oborne, General Superintendent C.P.R. Ontario Division, Toronto, born at Montreal, Sept. 19, 1861.

S. S. Oliver, Engineer of Maintenance Canadian Northern Quebec Ry., and Quebec and Lake St. John Ry., Quebec, Que., born there, Sept. 9, 1858.

S. N. Parent, Chairman National Transcontinental Ry. Commission, Ottawa, born at Quebec, Sept. 12, 1855.

J. Paul, General Freight Agent Niagara, St. Catharines and Toronto Ry., born in Euphrasia Tp., Grey Co., Ont., Sept. 13, 1858.

R. P. Perry, C.P.R. Ticket Agent, Bracebridge, Ont., born at Whitby, Ont., Sept. 2, 1850.

C. S. Richardson, District Freight Agent C.P.R., Buffalo, N.Y., born at New York City, Sept. 26, 1870.

W. D. Robb, Superintendent of Motive Power G.T.R., Montreal, born at Longueuil, Que., Sept. 21, 1857.

W. H. Rosevear, ex-General Car Accountant G.T.R., Montreal, born at Wadebridge, Cornwall, Eng., Sept. 26, 1837.

E. W. Taylor, General Freight Agent Reid Newfoundland Co., born at Carbonear, Nfld., Sept. 8, 1870.

W. Whyte, Second Vice President C.P.R., Winnipeg, born at Charleston, Scotland, Sept. 15, 1843.

H. A. Young, Traffic Manager Canadian Lake Line, Toronto, born at Brooklyn, N.Y., Sept. 1, 1864.

Assistance to Ladies Debarking.—F. P. Brady, General Superintendent Intercolonial and Prince Edward Island Rys., has issued the following circular:—"I notice almost entire neglect on the part of brakemen on passenger trains to assist ladies debarking from trains. In future brakemen will give lady passengers every possible attention, and will assist them with their children and hand baggage in getting on and off trains. Conductors will see that these instructions are carried out, and will advise the superintendent if there is any failure on the part of the brakemen."

The annual meeting of the American Association of General Passenger and Ticket Agents, which was to have been held Oct. 19, at Toledo, Ohio, will be held there, Sept. 14 and 15. G. T. Bell, Assistant Passenger Traffic Manager G.T.R., and G.T.P.R., Montreal, is President of the Association.

E. J. Chamberlin, Vice President and General Manager G.T.P.R., recently said that though labor had been plentiful all the season, he expected that railway construction operations would be almost paralyzed until harvesting was over, as farmers were offering higher rates of pay and inducing men to leave the railways.

Canadian Northern Winnipeg Shops.

The accompanying plan shows the layout of the C.N.R. shops completed recently at Winnipeg. The company has provided in the location and construction of the buildings everything in the line of convenience and facility for handling cars and locomotives, and the new shops are up to date in every respect. They are located on the company's main line, just west of Pembina St., Fort Rouge, Winnipeg, and within easy reach of the new Fort Garry terminal station in the city. They are built of concrete, brick and steel and of the latest type of fire resisting materials. The height of the buildings range from 20 to 60 ft., giving ample room for the handling of large locomotives, coaches, etc. All the buildings are provided with large iron and wired glass skylights, and the latest type of ventilators; also inside gutters to take off condensation, thus providing for the most essential features of railway shops, namely, ample light and ventilation. Space has been arranged for future extension of all buildings. The lighting throughout is electric. All machinery is electric driven with separate motors to each machine. The buildings throughout are heated by a vacuum heating system. The mains, air lines and returns are carried on overhead trestles and are therefore easily accessible at all points.

THE COAL CHUTES are operated by the gravity bucket system and are so constructed that locomotives may be coaled on either side of chute.

ASH PITS.—The two ash pits are each 80 ft. long with fire brick floor and walls. Through tracks are carried on cast iron pedestals with depressed tracks for handling cinders on either side.

THE ENGINE HOUSE has 21 stalls, which can be increased to a 40-stall capacity with annexes for repair rooms. The locomotive foreman's offices are situated near the incoming and outgoing tracks from locomotive house, giving complete oversight of incoming and outgoing locomotives.

THE MACHINE ERECTING SHOP is 164 ft. by 572 ft. long, with annexes for air brake equipment, tool room and lavatories, and is one of the most complete buildings of its kind, having all the facilities necessary for the complete overhauling and repairing of the heaviest type of locomotives. It has a capacity of 25 locomotives in the west bay in connection with the electrically controlled transfer table. On this side there is a 120-ton locomotive hoist, also five 2½-ton hand cranes running full length of building. The centre bay has a 7½-ton crane the full length of building, and the east bay has two 3½-ton cranes. These cranes are so arranged that all parts of a locomotive can be quickly distributed to the various repairing machines. Adjoining this shop, on the east side, is the tube shop annex complete with rumbler.

THE BLACKSMITH SHOP, 140 x 100 ft., is accessible to machine erecting shop and equipped with steam hammers, forges, etc. Forges are operated by forced draught.

THE FOUNDRY is 130 x 100 ft., and is situated east of the blacksmith shop. It contains a complete equipment for moulding, casting, brass work, etc., and is provided with a 10-ton crane in centre bay running full length of building.

THE STORES BUILDING, two stories and basement, is 150 x 90 ft. long, and is conveniently located for communication with all shops and transfer table so that all necessary material may be quickly distributed to the various departments. A portion of the main floor is laid out for General Storekeeper's offices. At the east of the building on the main floor is the oil supply room with large storage tanks for different kinds of oil in basement. The Bowser system, complete with pumps, gauges, etc., has been installed. Surrounding the stores building is a large storage and distributing platform 600 by 120 ft., complete with lorry tracks and turntables. Another special feature is the scrap bins which are located at the east end of the platform with storage and sales tracks on each side.

THE FREIGHT CAR REPAIR SHOP, 200 by 100 ft. is at west end of yard and connected with freight car repair tracks.

THE PLANING MILL, 145 x 100 ft., is situated between the freight car repair shop and power house, and is complete with wood working machines and shaving exhaust system connected to boilers in power house.

THE POWER HOUSE, including boilers and compressors, 125 x 55 ft., has two batteries of boilers equipped with economizers and forced draught system. The compressor room has motor generators, transformers, switch board and air compressor, etc.

WATER SUPPLY.—The water for tanks and general use throughout the shops is taken from the Red River, with hydrants throughout the yard, and fire hose connection in all shops, giving complete fire protection to both inside and outside of buildings. For drinking purposes there is an independent supply from the city to all shops, with emergency fire equipment and connections, so that yards and buildings have two complete systems of fire protection.

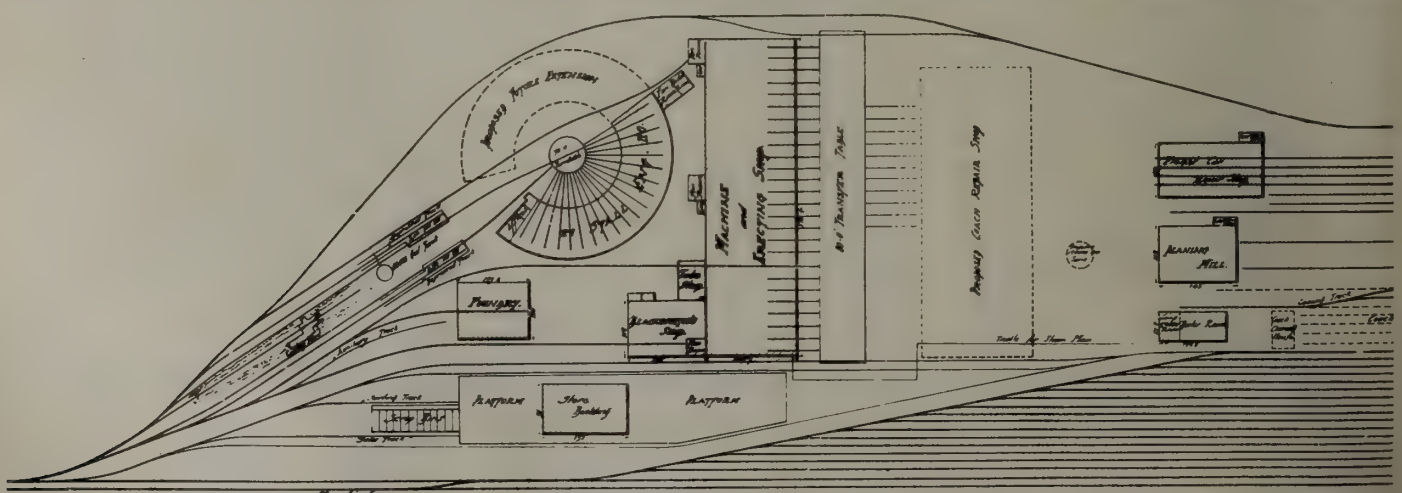
The proposed boiler, tank, coach, repair and paint shop will be situated on the west side of transfer table and so arranged that it can be served by transfer table adjoining machine erecting shop.

West of the shops are located the distributing and sorting yards for east and west bound freight, with ample grounds for future extension of yards.

The yard layout and shop were prepared and designed by R. B. Pratt, Railway Architect, and under the direction of M. H. MacLeod, General Manager and Chief Engineer.

H. & S. W. R. Ore-Handling Plant.

The Halifax and South-Western Ry., in conjunction with the Canada Iron Corporation, is about to construct a large ore-handling plant at Port Wade, N.S. The first part of the work consists of the construction of a branch line of 4 miles from Nictaux, a station on the line 4 miles from Middleton, on the old Nova Scotia Central Ry., to the Canada Iron Corporation Iron mines. The ore will be carried over the H. and S.W.R. to Port Wade, 47 miles from the mines, where it will be shipped. The ore handling plant, which it is proposed to erect at Port Wade, will be the largest and most modern in America, and will contain features not to be found in any other similar plant. It will consist of three parts, the storage pocket, the conveyor system, and the loading pocket. Generally speaking, it will be planned on the same principle as that operated by the Nova Scotia Steel and Coal Co. in Newfoundland. The storage pocket will be built on the shore, at the point where the Dominion Government pier commences. It will be a timber structure 150 ft. long, and will have a capacity of 7,800 tons. For filling this pocket a short spur will be constructed from the main line. This spur will have considerable curvature, but will not have a gradient of more than 1.5%. Leading from this spur to the top of the pocket will be two tracks,



CANADIAN NORTHERN RY. SHOPS AND YARDS, WINNIPEG. SEE CONTINUANCE OF PLAN ON PAGE 663.

laid with 28 lb. steel rails. When filled, the storage pocket will contain a body of ore 150 ft. long 50 ft. wide and 32 ft. high, above the ports leading to the conveyors. Running along the middle of the pocket, at the bottom, will be an A-shaped construction for taking the pressure of the ore from the ports leading to the conveyors. These ports will be 15 ft. apart, one on each side of the A. The A will be sufficiently large to permit a man to walk through, so that when loading is going on a man may be going backwards and forwards watching the process, and clearing away any blocking of ore there may be, through the port holes. The loading pocket is to be constructed at the angle of the wharf, which is to be considerably strengthened at this point to carry the weight. The pocket will have a capacity of 270 tons, and will be 50 ft. high from the floor of the wharf. It will be divided into three compartments, one above another, so as to permit loading to be carried on at all stages of the tide. It is in this feature that the divergence from any existing ore loading plant is apparent. The depth of water at the wharf at the lowest stage of the tide is 25 ft., and the tide has a rise and fall of 27 ft. Ore may be dropped into either of the compartments from the conveyor system, and the loading can be proceeded with from whichever compartment suits the state of the tide. Each compartment is to be provided with a loading port and an apron to connect it with the self-trimming loading chute. This chute may be raised or lowered as required, on a track running up and down the front of the structure. At low tide, the lowest port will be used, and at high tide the loading will take place from the topmost port. At the end of the chute there will be a steel trimmer, which may be so adjusted that the load in the vessel's hold may be trimmed without the necessity of employing men. The ore will be conveyed from the storage pocket to the loading pocket by means of two conveyors, which will run under the storage pocket in a tunnel, and will be carried along the wharf on the level for 150 ft., and then by a 33% gradient to the top of the loading pocket. The conveyor buckets will each be 3 ft. by 3 ft. 9 in. by 2 ft. 4 in. and will have a capacity of 11.2 cubic ft., or 1,680 lbs. of ore. The conveyors will carry from 2,400 to 3,400 tons an hour. The plant will be driven by engines to which steam will be delivered by boilers capable of developing 170 h.p.

The plans for the plant have been prepared by D. O. Lewis, of Mackenzie, Mann & Co.'s offices, Toronto. The details have been carefully worked out, and when completed the plant will be one of the most compact and substantial operated in conjunction with any ore-producing property. It has been designed to suit the capacity of the most modern of the Three Island elevated side tank ore-carrying steamers of which the Admiral Borensen is the latest type. The dimensions of this steamer are: capacity, 6,700 tons; loaded draught, 23 ft.; light draught, 7¾ ft.; length, 375 ft.; breadth, 50¼ ft.; width of hatch, 18 ft.; height of hatch above bottom, 32 ft.

No contracts have yet been placed for the construction of the line or the plant, but it is expected that tenders will be invited at an early date.

The Railway Grade Crossing Fund.

The Board of Railway Commissioners passed the following order 7591, July 29, which is of considerable importance, as it is the first order passed under the legislation of last session establishing a railway grade crossing fund:—Re the dangerous condition of crossing of Raglan St., Renfrew, Ont., by C.P.R. and Kingston and Pembroke Ry. tracks. Upon hearing what was alleged by counsel for the Town of Renfrew, and considering the reports of officials of the Board, it is ordered that the railway companies erect and maintain gates at their crossing of Raglan St., in said town; that the railway companies submit a plan of proposed gates for the approval of an engineer of the Board, on or before Aug. 10, 1909, and erect and commence to operate said gates within 30 days from the date of the approval of the plan by an engineer of the Board; that a gateman, to be employed by the railway companies, be in charge of said gates at all times; that 20% of the cost of the construction of the said gates be paid out of "The Railway Grade Crossing Fund," provided by 8-9 Edward VII., Cap. 32; that one-third of the wages of the men in charge of said gates be paid by the Town of Renfrew, accounts for same to be rendered quarterly by the railway companies; that the railway companies remove the bell at present in use at Raglan St. to Argyle St.

Uniform Code of Operating Rules.

The Board of Railway Commissioners passed the following order, July 27:—Re the memorial of the Trainmen's Association of Canada, for the adoption of certain regulations by the Board, having in view the protection of employes of railway companies subject to the Board's jurisdiction, upon the report of the Board's operating officials and upon hearing the representatives of the railway companies and of the employes, and in pursuance of the powers conferred upon it by sec. 30, 268 and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf, it is ordered that the train rules attached hereto marked "A" and designated as the proposed Uniform Code for Canadian Railways be approved.

We are advised that the proposed rules do not differ materially from the rules already in effect on railways using the Standard Code of rules, there being no radical changes in the Uniform Code adopted.

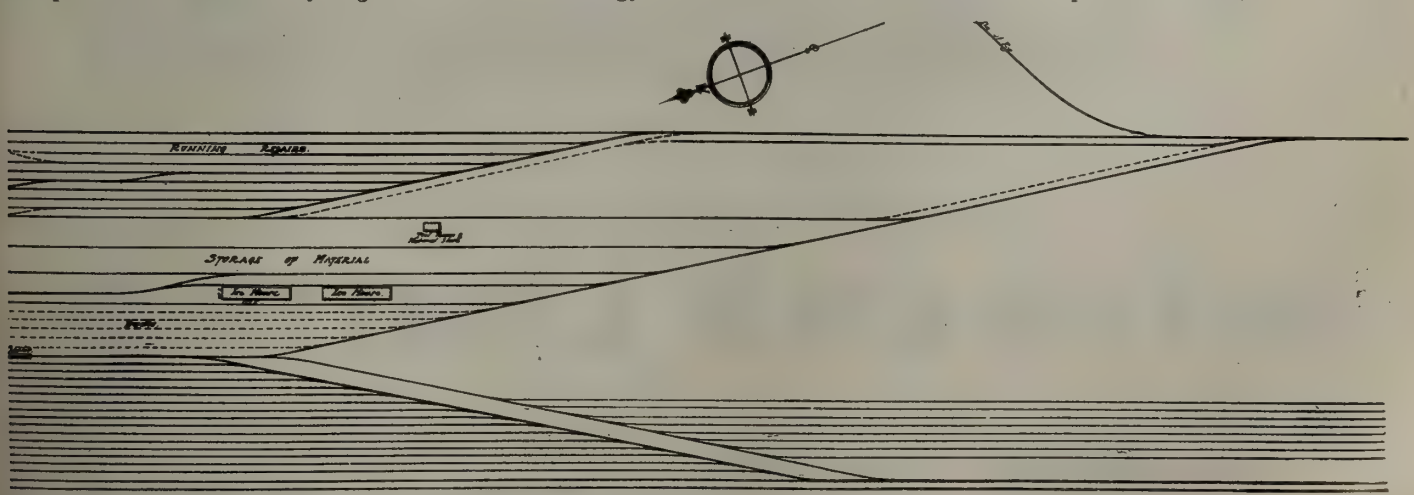
There is reason to believe that the Uniform Code will also be adopted on the Intercolonial Ry. and the P. E. Island Ry.

Railway Lands Patented.—Letters patent covering lands situated in Manitoba, Saskatchewan, Alberta, and British Columbia, were issued during May, as follows:

	Acres.
Calgary and Edmonton Ry.	4,135.00
Canadian Northern Ry.	3,959.32
Canadian Pacific Ry.	412.18
Grand Trunk Pacific Ry.	209.80
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.	247.00
Total	8,963.30

The Board of Railway Commissioners has approved of the Quebec Ry., Light and Power Co.'s Standard Local Passenger Tariff, C.R.C. 8, compiled on the basis of 2½c. a mile.

The conciliation board appointed to enquire into the differences between the G.T.P.R. and its employes, consisting of Hon. R. F. Sutherland, chairman, F. H. McGuigan, representing the company, and J. G. O'Donoghue, representing the men, has completed its work and submitted its report to the Minister of Labor. It is understood that the finding of the board will meet with the approval of all the parties concerned.

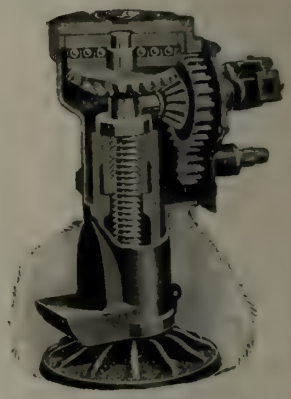


CANADIAN NORTHERN RY. SHOPS AND YARDS, WINNIPEG. SEE CONTINUATION OF PLAN ON PAGE 632.

Wheel Scrapers Pressed or Square Bowl, with Sandpro of Wood or Iron Hubs, also Drag Scrapers of all sizes and weights.

Diving Apparatus. Complete Outfits and Accessories in stock.

Sterling Roller Bearing Barrows and Concrete Carts.



Norton Ball Bearing Jacks. Also Cone Bearing and Ratchet.

Railroad Ploughs for Heavy Service

Write for Catalogue and Prices

MUSSENS LIMITED

Head Office.

MONTREAL

Branches { ***Toronto, 73 Victoria St.***
Cobalt, Hunter Block
Winnipeg, 259-261 Stanley St.
Vancouver, 614 Hastings St., W.

Alberta Railway and Irrigation Co.

In the case of the Cardston Board of Trade vs. the Alberta Ry. and Irrigation Co., J. P. Mabee, Chief Railway Commissioner, gave the following judgment recently:—The complaint in this matter alleges excessive passenger and freight charges, excessive express charges, want of proper train accommodation and facilities. The respondents operate a railway in Southern Alberta running southerly from Lethbridge; they own large areas of land that are being irrigated under an extensive system in course of construction by them; they own and operate coal mines and have large numbers of town lots in Lethbridge and Raymond. The present corporation is the result of an amalgamation in July, 1904, of four corporations, viz., The Alberta Ry. and Coal Co., The Canadian Northwest Irrigation Co., The St. Marys River Ry. Co., and The Alberta Ry. and Irrigation Co. At the hearing, the Board was furnished with but little information as to the financial position of the company, or of the organization, financial history, and capitalization of the four companies prior to the amalgamation. Since the hearing, the amalgamation agreement of July, 1904, and the directors' report for the year ended June 30, 1908, have been filed, and we have been left to spell out the position as best we may. The documents that have been given us, and such information as we were furnished with at the hearing, in no way present, with any minute detail, the financial history of this organization. Counsel told us at the hearing that all the outstanding stock, both common and debenture, represented actual cash invested. This may be quite true, and we have no doubt counsel was so instructed and fully believed to be the fact, but it is something that could be so easily proved and is of so much importance that we take the liberty of thinking should not have been left open to question. There are many complicated matters in the amalgamation agreement that do not explain themselves, and while desiring to studiously avoid in any way injuring the amalgamated corporation, it is difficult to approach a consideration of this matter without feeling that it is strange that there are so many points that have been left open and unexplained to the Board. Owing to the variety of the corporation's interests and its various sources of revenue, each having its own incidental expense of production, it was more than ordinarily necessary that the Board should be furnished with the fullest details.

The attack is made here upon the railway portion of the respondents' business. The report of June 30, 1908, has this item, "Net revenue from colliery, railways, canals, land sales, etc., $322,493.23." Earlier in the report it is stated that coal sales of the year amounted to 208,016 tons as compared with 122,947 for the previous year; the gross earnings of the railway were $228,775.07 as compared with $197,608.09 for the previous year; the land sales aggregated 125,202 acres and realized $712,644.00; there was also sold during the year 3,206 acres in which the company had an interest with the C.P.R. Co.; the profit from the sale of town lots was $9,594.00; also that in connection with land sales there was in reserve $941,574.31; the receipts for the year from water rentals were $24,635.41, as compared with $18,969.78 for the previous year. It is stated that on June 30, 1908, the company had on hand 427,981 acres remaining unsold, in addition to many lots in Lethbridge and Raymond. The following extracts are taken from this same report:—

"Generally the company's prospects are very encouraging. The crops of the district have proved most satisfactory; the lands sold by the company are being occupied and cultivated by well-to-do settlers, tending to increased railway earnings, to coal sales, and to enhancement of the value of the company's lands and town lots. The C.P.R. in its annual report this year, mentions that it has managed to secure such an interest in the company as will constitute a substantial control; and the report adds that their investment will prove a profitable one. Your directors congratulate the shareholders on the C.P.R. on having become largely interested in the company, thus securing the active co-operation of that powerful and successful corporation."

A statement sent to the Board subsequent to the hearing shows the earnings from the operation of the railway for the year ended June 30, 1908, to have been, including $10,046.69 earnings from "telegraph, telephone, and other sources," $204,094.07 and not $228,775.07, as shown in the directors' report, and this difference of $24,681.00 is to the extent of $23,914.41 explained in this way:—"The company, for the purpose of showing the railway earnings to better advantage, made a book-keeping entry debiting the colliery with the switching charge of 12½c. a ton on the total output for the year, and crediting the railway with the same." Now in one aspect of the situation this is an entirely domestic matter, and something that the public have no business to inquire about, but as it arises here, it ceases to be a private booking matter of the company and becomes one that the public is largely concerned in. The attack is that the freight and passenger tolls charged the public are too high; the answer is that the railway does not pay. It then appears that the railway hauls large quantities of coal, the property of the company, and that someone thought it was only fair to the railway to credit it with $23,914.41, being 12½c. a ton, as a "switching charge" for the coal output. We are not informed what this switching movement consisted of, and have no means of knowing whether 12½c. a ton is too much or too little, or whether there are other services that might properly be credited to the railway or not. This is given as an illustration of why, in a case like the present, it is so necessary to be informed of all details of the company's business, and we think the company should have furnished such information.

Again, we were not informed of the total capital that was invested in the railways and terminals, as a separate undertaking from the other branches of the company's activities. The absence of this and other information which will readily suggest itself as being useful, hampers the Board in disposing of this case. The report shows the company to be prosperous. A newspaper clipping was put in at the trial containing the following statement, to which no objection has since been taken:

"The following clipping is taken from the annual report of the C.P.R. Co. for the year ended June 30, 1908: 'The Alberta R. and Irrigation Co., owning 113 miles of railway in Southern Alberta, as well as an important colliery and about 425,000 acres of land, part of which is served by irrigation ditches, was operated by its owners as a close friendly connection of your company, yielding to our lines a large revenue from traffic interchanged, and furnishing the company and settlers along the railway a supply of coal. To insure a continuance of this desirable connection, your directors deem it prudent for the company to secure such an interest in the property as will constitute a substantial control, and they have arranged to do this at an approximate cost of $2,000,000. Apart from the traffic advantages thereby safeguarded, the investment itself will prove a profitable one.'"

This also indicates prosperity. Counsel told us at the hearing that "the things paying are being used for the support of the railway and irrigation ends that are not paying. That is the size of it. Land and coal cover the deficits." I endeavored as far as possible at the hearing to get at the bottom of the matter, and although I have again gone over the notes of argument and the documents subsequently filed, I am unable to find evidence that there are deficits in the operations of the "railway and irrigation ends." In the first place, we are not furnished with the figures showing receipts and expenditures of each of these enterprises separately, and until that is done, as well as an intimate knowledge of capitalization acquired, we can make no finding of fact as to which, if any, are the weak sisters in this family, and treated as a whole, both the directors of the respondent corporation, and the C.P.R., the recent purchasers of a controlling interest, regard the holdings as desirable; and treating the corporation as a whole, which is the way the matter is left upon our hands, we have no doubt that the views of the directors, and the purchasers of the stock, were well founded. At the hearing, I endeavored to get some idea of the amount of capital that was employed in this railway and its equipment, but was told no apportionment had ever been made, although the Department of Railways had repeatedly called for it, and the respondents have had much trouble from time to time over that matter. We regard the control acquired over this road by the C.P.R. Co., a very material factor in this case. It was stated at the hearing, not by counsel for the respondent, but by a gentleman who should know, that the C.P.R. Co. had acquired 66% to 70% of the stock. This, of course, would place it in "substantial control." Now, the only connection the respondent has in Canada is with the C.P.R., and it has always been much dependent upon that company for its existence.

In addressing the last annual meeting of the shareholders, the President of the respondent company said that the demand for coal throughout the country exceeded the company's productive capacity and that the tonnage sold depends wholly upon the C.P.R.'s car supply; and at the hearing the General Manager said the company had "seven locomotives, six passenger coaches, several cabooses and box cars and coal cars. As far as the equipment is concerned, through freight business, is usually carried in through cars, cars of foreign roads; we allow none of our equipment off our own road;" and again, when asked how many box cars the company had, he said, "we have probably 10 of our own; they are in service very little." It is naturally to be supposed now that the C.P.R is in control of the respondent corporation; that the facilities upon this railway will be greatly improved, and so far as the complaint covers deficient car service and insufficient passenger facilities, it may remain in abeyance, so that an op-

HART CONVERTIBLE CARS

are being used extensively by

Railroads and Large Contractors

The following illustrations show some of our "Hart" Cars in actual service throughout Canada.

"Hart" Cars are specially adapted for Ballast and Construction work

Built in steel or wood — 40 or 50 ton Capacity.

The Cars which are building the new Railroads of Canada.

The Cars which are maintaining the old Railroads of Canada.

THE HART-OTIS CAR CO., LIMITED

SUCCESSORS TO

DOMINION DUMP CAR CO., LIMITED

MONTREAL

portunity may be given for improvement by the management, and after, say, six months, upon application by the complainants, if they find the course necessary, the Board will send one of its operating officials over the road, and will be guided by his report in directing any changes or improvements in train service and otherwise that may be reasonable.

There is no separate express company operating over this railway, but express matter is handled by the company on its freight and mixed trains. No express tariffs have been filed, and it was said the same charges are made as are shown in the Dominion Express Co.'s tariffs. Express packages are gathered and delivered in Lethbridge by the Dominion Express Co.'s wagons, and respondents pay the latter for this service; the basis of such payments was not given to us. The company is in default regarding its express business. The law is imperative in its provisions regarding the filing of express tariffs, and provides that no goods shall be carried by express unless and until the tariff of express tolls has been submitted to and filed with the Board. And express toll means any toll, rate, or charge to be charged by the company, or any person or corporation other than the company to any persons for hire, or otherwise, for or in connection with the collecting, receiving, caring for, or handling of any goods for the purpose of being transported by express, or for any service incidental thereto. The whole express situation is now being considered by the Board, and its result will be applicable to this company's express business, and nothing more need now be said as to this feature of the complaint, except that the company must at once prepare and file its tariff of express tolls and comply generally with the Act's tariff clauses.

The questions then remain as to the complaints regarding charges made for transportation of passengers and freight. Prior to 1907, the company had been charging 5c. a mile, and by the Board's order of July 26, 1907, the company was directed to reduce its standard tariff to the basis of 4c. a mile with return fares at 1⅔ times the rate for the single journey, and I understand the company has since been charging upon that basis. On March 16, 1907, the Board's Chief Traffic Officer expressed the opinion that passenger fares should be reduced to 3½c. a mile, round-trip tickets to be one-sixth less. The passenger earnings for the year ended June 30, 1906, were $38,740.29; and for the year ending June 30, 1908, $52,516.85. The section of the country through which this road operates is rapidly being settled and the population is increasing, and we see no reason why the passenger fares south of Lethbridge over this line should be higher than those north of Lethbridge over the C.P.R.; the passenger fares must be reduced to 3c. a mile, round-trip tickets to be one-sixth less, and standard passenger tariffs must be at once filed carrying these reductions into effect.

The Board's Chief Traffic Officer reports that "the territory in which the A.R. & I. Co. operates is in all respects similar to that of the C.P.R. in Southern Alberta, and it is my view that the A.R. & I. Co.'s freight rates, both standard and special, should not exceed those in effect for similar distances, and on similar commodities on the C.P.R. between the Crow's Nest Pass and its connection with that company's main line near Medicine Hat." The impression I formed of the situation as developed during the argument, and from a perusal of the file, and the great amount of correspondence attached to it, as well as Mr. Hardwell's former reports, is in entire accord with his recommendation; and I have no doubt that it would have been much to the advantage of this company had it granted reasonable concessions upon some, at least, of the matters covered by the complaint.

The Board's order will be: That passenger fares shall not exceed 3c. a mile; round trip tickets to be sold by the company at one-sixth less. Standard passenger tariff to be filed carrying this direction into effect. That the respondent company be required, where it has not already done so, to publish and file special tariffs of freight rates between all its stations on bases that shall not exceed those of the C.P.R. for the same or similar distances and on the same commodities, as are or may be put into effect on the Canadian Pacific Ry. between the Crow's Nest Pass and Coleridge on its main line. That the respondent company be required to put into effect a special tariff of class rates from Lethbridge to all of its stations, which shall not be higher than the C.P.R. special class rate tariff from Lethbridge for the same or for the nearest equivalent distances. The foregoing tariff to be prepared, filed and published within 30 days. That the complaints relating to the express service and charges, furnished and made, by the respondents shall stand for disposition when the general express enquiry is dealt with; but the respondents must forthwith file their express tariff of tolls as required by the Railway Act. That if the complainants find such steps necessary, they may at the expiration of six months, renew their complaints regarding deficient car service and passenger facilities.

Loading Long Materials and Stone.

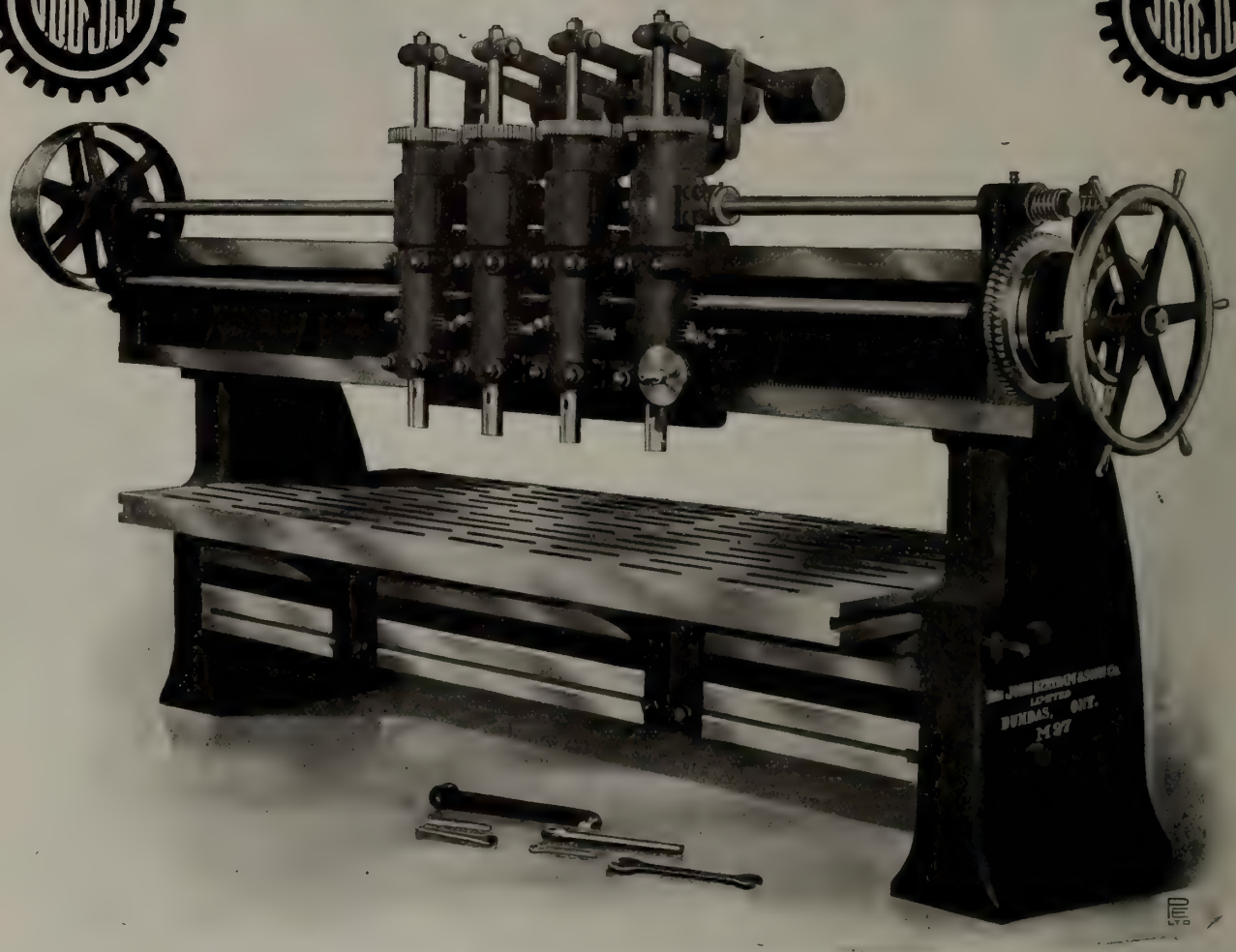
The Board of Railway Commissioners passed order 7599, July 24, as follows:—Whereas the Board's attention has been called to a number of accidents—in some instances fatal—caused by defects in flat and open railway cars used for shipments of long materials and stone, not affording proper safeguards for the handling of such traffic, it is ordered that every railway company subject to the legislative authority of the Parliament of Canada, operating a railway by steam power, shall strictly conform to the rules and regulations from time to time approved by the M.C.B. Association governing the loading of lumber, logs and stone on flat and open cars. That if the load on a car shifts in transit, the train crew shall see that it is re-adjusted in accordance with this order before the same is allowed to proceed. That shippers and the railway companies and their operators and employes shall see that all open and flat cars are loaded, and the loads protected in accordance with the terms of this order. That every such railway company shall be liable to a penalty not exceeding $50 for every failure to comply with the foregoing regulations. That every employe of such railway company, and every shipper, shall be liable to a penalty not exceeding $25 for every failure to comply with the foregoing regulations.

Commissioner McLean gave the following judgment:—The draft order proposing regulations in connection with the loading of long materials and stone in open and in flat cars was the outcome of various accident investigations which showed a lack of proper safeguards for the handling of such traffic. The matter had already been dealt with in order 5888, clause 8 of which provided that the M.C.B. Association's rules and regulations should apply in regard to the loading of lumber, logs, and stone in open cars, and the loading and carrying of structural material, plates, rails, and girders. Reference to the M.C.B. rules shows that all the matters covered by the present draft order and more are covered by these rules. The provisions of the draft order follow those of the M.C.B. rules with few variations; where there are variations these are in the nature of being more drastic. These changes are experimental, and as the correspondence on file shows, would in some instances work a hardship on the shippers. The M.C.B. rules on the other hand have been built up on a large body of experience which has continuously developed since 1890. Practically all Canadian railways are now operating under these rules. Representatives of the lumber shippers raised at the hearing, as well as in correspondence with the Board, the question of placing on the railways the expense of supplying stakes for the flat cars. This is a rate question which should if developed be dealt with aside from the order which is concerned with operating.

During the hearing, exception was taken by P. Johnson, Manager of the Dominion Bridge Co., to the provisions of clause 8 of order 5888, in so far as this clause deals with "structural material" and "girders." A method of loading used by his company and other bridge companies in Canada was illustrated by model. It was shown that this method had been in use for years. The method submitted by him appeared to be safe and satisfactory. But the Board must consider the advantage of uniformity. If we had any assurance that this was the only method of loading such material, outside of that prescribed by the M.C.B. rules, which would be offered, we might authorize its use. But we have no such assurance. The advantage of having uniformity of practice throughout Canada in this regard as well as the necessity of uniformity in regard to international traffic is so manifest that I am constrained, while recognizing merits in Mr. Johnson's contention, to hold the opinion that clause 8 of order 5888 should stand.

During June, 23 employes were killed and 26 injured, in the course of their work on Canadian railways. Of the fatalities, 11 were due to being run over, 6 to collisions, 2 to drowning, and one each to being struck by an object in passing, to a dynamite explosion, to electric shock and to a fall; while of the non-fatal accidents, 7 were due to falls; 4 each to collisions and to being run over, 3 to derailments, 2 each to being caught between cars, to falling material, to burns or scalds, and one each to being struck by a locomotive, and to machinery.

BERTRAM MULTIPLE DRILLS

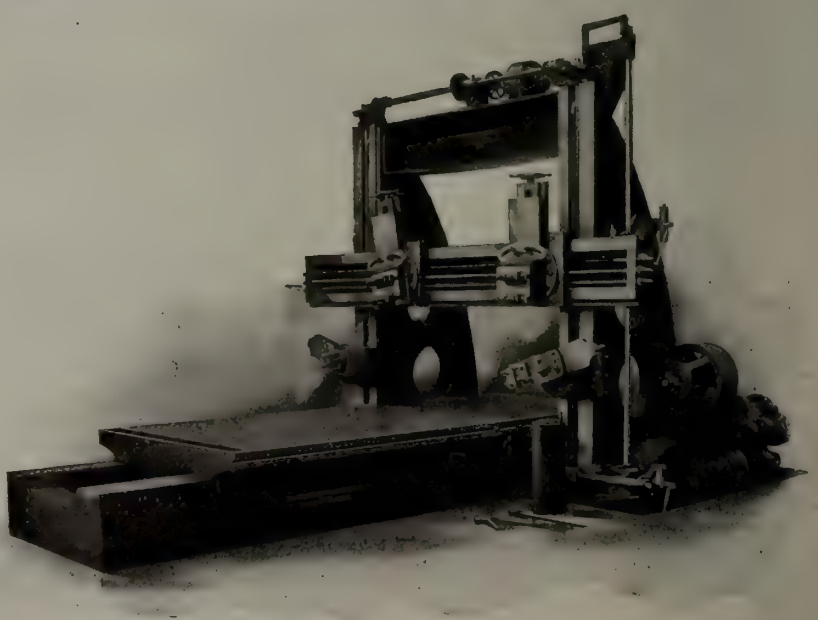


FOUR-SPINDLE MULTIPLE DRILLING MACHINE

For locomotive and other work.

This machine may be equipped with either one or two saddles.

The illustration shows the machine with four spindles, belt driven.



10 Ft. x 10 Ft. x 20 Ft. BERTRAM PLANER

With Four Cutting Heads, having quick power traverse, with direct-connected motor drive by pneumatic clutches.

THE JOHN BERTRAM & SONS CO. LIMITED - Dundas, Ontario, Canada

SALES AGENTS: THE CANADIAN FAIRBANKS COMPANY LIMITED

Offices:—Montreal, Toronto, Winnipeg, Vancouver, Calgary, St. John.

C. P. R. Betterments, Construction, Etc.

Tobique and Campbellton Ry.—J. E. Stewart, Andover, N.B., stated in St. John, Aug. 4, that the contract for the construction of this railway would be let early in the fall, and that work would be gone on with during the winter. The new railway is an extension of the Tobique Valley Ry., operated by the C.P.R., which now terminates at Plaster Rock, to Riley Brook, about 28 miles. A contract for its operation by the C.P.R. has been arranged and is ready for signature. The route is along the Tobique River valley through a thickly settled district, crossing the National Transcontinental Ry. a short distance from Plaster Rock. It is the company's intention to extend it at a future date to the International Ry. of New Brunswick. The bond issue, it is stated, has been arranged for, the Dominion Government has voted the usual subsidy, and it is expected that the N. B. Legislature will grant an additional subsidy.

Aroostook Valley Ry.—A company with this title has been incorporated in the State of Maine to construct a railway from Presqu'Ile to Washburn, Me., 12 miles, with the intention of extending it to the St. John River, a further 110 miles. The line will connect with the C.P.R. at Presqu'Ile, and will run through territory at present served by the Bangor and Aroostook Rd. We are advised that in consideration of a traffic agreement the C.P.R. has undertaken to guarantee the payment of the company's bonds to the amount of $300,000. It is stated that the Bangor and Aroostook Rd. is protected by law from the invasion of steam railways, and, therefore, the new line will be operated by electricity for both passenger and freight traffic.

Aroostook Jct., Me.—Press reports state that contracts have been let for the construction of various buildings at Aroostook Jct., Me., the company's new divisional point. A 6-stall engine house, a foundation for a turntable, and two cottages will be built by J. H. Hague, St. John, and a boarding house, with bunk quarters, by H. Post, Woodstock, N.B. The company's men will construct the new freight shed.

Sherbrooke, Que.—An agreement has been entered into between the C.P.R. and the city of Sherbrooke under which the company agrees to spend at least $130,000 upon improvements within the next 12 months. The improvements to be made consist of the erection of a new station and freight shed, a roundhouse, coal chutes, machine shop, etc., and the laying of some additional tracks in the yards. A contract was let for the work, Aug. 10, to the Sherbrooke Construction Co., and work was started on the following day.

Northern Colonization Ry.—The Board of Railway Commissioners has approved the revised location plans for the extension of this line from about 15 miles northwesterly from Nomining for 5 miles.

Branch lines at Lachine.—Application is being made to the Board of Railway Commissioners for authority to construct a branch line in Lachine, from the Lachine Canal South Bank branch of the company's line southwesterly along the canal about 5,100 ft.; and a second branch in the vicinity for about 1,440 ft.

Kingston and Pembroke Ry.—W. R. Baker, Vice-President and General Manager, accompanied the directors over the line, Aug. 11. It was subsequently stated that the growth of business necessitated the undertaking of some further improvements and extensions. The matter is now under consideration.

Georgian Bay and Seaboard Ry.—The Board of Railway Commissioners has approved the revised location of this projected line from mileage 41.95 to 48.05 and of location plans from mileage 48.05 to 63.42. The company has deposited with the Department of Public Works plans and description of the site of a 160 ft. h.d.p.g. swing span bridge, which it is proposed to construct across the narrows of Lake Couchiching near Orillia, Ont.

Guelph and Goderich Ry.—The Guelph, Ont., Board of Trade has passed a resolution urging upon the company the necessity of constructing a branch from Weisenburg, to Elora, on the Credit Valley Ry., also operated by the C.P.R. The length of the suggested branch is 7 miles.

Schreiber, Ont.—A contract is reported let to F. Munroe, Westmount, Que., for excavation, concrete and steel work of a subway at Schreiber, Ont. The Board of Railway Commissioners has approved the plans for the subway.

Fort William Union Station.—We are advised that excavating for the foundations of the union station at Fort William, Ont., has been commenced by the C.P.R. The plans for the superstructure are under consideration by the company's executive and will be approved at an early date.

Fort William—Winnipeg Second track.—The Board of Railway Commissioners has passed an order authorizing the company to open for traffic the new track between mileage 115.1 and 120.8, Fort William section, and from mileage 119.8 to 120, Ignace section.

Sheho to Prince Albert.—Work was started July 26 on the extension of the Manitoba and Northwestern Ry. from Sheho, Sask., to Prince Albert. Press reports state that 1,500 men were set to work and that 600 more were expected to be started at the Prince Albert end within a week. A temporary bridge will be constructed across the South Saskatchewan River at once and a permanent bridge will be erected during the winter.

Saskatoon to Wetaskiwin.—The grading on the short line to Edmonton, Alta., is reported completed. The line branches off from the old Manitoba and Northwestern Ry. (which for years terminated at Yorkton, Sask, at Sheho, and runs to Lanigan, where it is joined by the Pheasant Hills branch starting from Kirkella, Man., and then runs into Saskatoon. From there it runs westerly to Wilkie, where it connects with a Calgary and Edmonton Ry. branch running easterly from Wetaskiwin, Alta. It is expected that the work remaining between Sedgwick and Wilkie to be done to complete the connection will be finished by Oct. 1.

Weyburn to Lethbridge.—In connection with the construction of this projected line, the Lethbridge Board of Trade recently wrote to W. Whyte, Second Vice-President, asking that construction be started at that end at an early date. In reply Mr. Whyte said he hardly expected that anything would be done from the Lethbridge end this year. He assured the Board, however, that the matter would be given consideration when the construction programme for 1910 was being laid out.

Langdon Branch.—Some grading is reported to have been done on this branch. The line has been located for 80 miles, and the plans have been approved for that distance by the Board of Railway Commissioners. The present objective point is Alix, about 40 miles northerly from Langdon, Alta.

Lethbridge-Macleod Cut-off.—It is expected that track-laying, ballasting, and other work on this cut-off will be completed by the end of Sept., and that the line will then be opened for traffic.

Lethbridge Northerly.—A considerable amount of grading has been done on the line under construction from Lethbridge to the Calgary and Edmonton Ry. near High River or Aldersyde, Alta. It is expected that grading will have been completed as far as Carmangay by the middle of Sept.

Lacombe Branch.—Grading is reported completed on the Calgary and Edmonton Ry. branch at present being operated from Lacombe to Stettler, easterly to Castor, Alta. This line is to be connected with the line at present under construction from Moose Jaw, which is in operation as far as Conan.

Strathcona-Edmonton Bridge.—We are advised that the company's engineering staff is designing a bridge, which it is proposed to erect at the crossing of the Saskatchewan River, on a piece of line to connect the Calgary and Edmonton Ry., now terminating at Strathcona, with Edmonton. The original plans were for a high level railway bridge only, but, in order to meet the wishes of the Strathcona and Edmonton Councils, the engineers are revising the plans to provide for the accommodation of general as well as railway traffic. It will be some time before the plans are sufficiently advanced to be submitted to the two councils.

Hope Mountains.—Press reports state that the C.P.R. has commenced surveys for a railway through the Hope Mountains, B.C. It is said that the line will start from the neighborhood of Hope, on the main line, run to Penticton and from there to Okanagan Landing. It is also said that surveys will be made for a line from Penticton to connect with the company's lines in the boundary country.

Vancouver and Lulu Island Ry.—The construction of an extension of this line from Eburne, at the crossing of the north arm of the Fraser River, into New Westminster, B.C., 9.65 miles, has been completed. The line follows the north arm of the Fraser River, passing through a market garden section, and its proximity to the river gives access to a number of factory sites. Grading was done by J. B. Bright and tracklaying and ballasting by the C.P.R. The extension is being electrified by the B. C. Electric Ry., which will operate over it, as well as over the rest of the V. and L.I. Ry.

Esquimalt and Nanaimo Ry.—The Board of Railway Commissioners has approved a book of reference showing change of location of the extension of the line to Alberni, from mileage 100 to 127, and of the location of the Comox

Galena-Signal Oil Company

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY

Galena Railway Safety Oil

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

Please write to home office for further particulars.

CHARLES MILLER,

PRESIDENT

extension from Union Bay to Black Creek, through Nelson and Comox districts.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—Tracklaying was completed July 30 on the extension from Brooton to Superior, Minn. The line is expected to be opened for traffic early in Sept. Since construction was started, the company has obtained a lease of the Wisconsin Central Ry., with terminals in Superior, and it is stated that the terminals of the two lines will be consolidated.

A press report quotes an officer of the company as saying that work will be begun at once on shortening the line in Minneapolis, upon which the company expected to spend $500,000 this year and an additional $500,000 later. (Aug., pg. 585.)

Motor Cars on the C. P. R.

H. H. Vaughan, Assistant to the Vice President, C.P.R., in the course of a discussion on motor cars at the recent meeting of the American Railway Master Mechanics Association at Atlantic City, said:—"We have had some experience with the motor car. Before we got a motor car, the passenger business of the road depended on our developing a motor car. After we got a motor car we could not find any place in which we wanted to use it. That has been our experience for the last three years. Personally, I do not believe, unless the gasolene motor car can be made a satisfactory car, that there is anything in a motor car for railway service. The whole matter of the combining of a steam engine in a passenger coach is, to my mind, radically wrong. The proper place to put a passenger coach at night is in the passenger car yard. The proper place to put a steam engine at night is in the roundhouse. If you put a passenger car in the roundhouse, which is full of smoke, the car becomes dirty and grimy and you have to send car cleaners from the car yard to the roundhouse to clean the motor car. If you put the car in the passenger car yard, you must send men from the roundhouse to the passenger car yard to repair the engine. There is nothing radical about a motor car. It is simply a small steam engine; it takes about as much coal per mile as any other engine, possibly a little more; it is easier to fire, because it is small, and its capacity is limited. We have had cases where our people thought the motor car should pull two or three trailers with ease, and the car will not do it. It is simply applicable for a light service, which, in most of our conditions, which are, of course, rather different from those further south, can be handled by mixed trains better than they can be by motor car service. You must, in the majority of cases, run three men, an engineer, a fireman and a conductor, and it seems to me that a very much better solution of the question is to build a little tank engine with a baggage compartment on it, in which you can get a fireman to attend to the baggage and let the conductor look after the tickets. We have prepared designs for such a car, and now await the passenger department to find a place where they want to run it. The motor car question is going along very quietly with us and we are not spending any money on it."

Railway Finance, Meetings, Etc.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales, for June, $16,263, against $21,394 for June, 1908. Aggregate net profits for 12 months ended June 30, $364,595. Railway traffic receipts for July, $27,041, against $20,557 for July, 1908.

Buffalo and Lake Huron Ry.—The report for the half year ended June 30, shows that after providing for interest on 1st and 2nd mortgage bonds, the available balance, including the amount brought forward from the previous half year, was £14,757 14s., enabling the payment of the usual dividend of 5s. 3d. a share and leaving a balance of £973 0s. 9d. to be carried forward. The line is leased to the G.T.R. The directors are, M. H. Maxwell, Chairman; E. Ashton, Liverpool, and J. M. Synge, Westerham, Eng.

Canada Atlantic Ry.—A discharge of the mortgage of $3,450,000, dated Jan. 2, 1889, to the Farmers' Loan and Trust Co., trustee for the bondholders, and a reconveyance of the property to the C.A.R. Co. was deposited with the Secretary of State at Ottawa, July 14.

Central Counties Ry.—A special meeting of shareholders was held at Ottawa, Aug. 25, to authorize the issue of first mortgage A bonds upon sections 1 and 3 of the railway, to the extent of $475,000, being at the rate of $12,500 a mile, and to ratify a mortgage deed to secure the bonds.

Dominion Atlantic Ry.—Gross earnings for June, $112,500, against $106,125 for June, 1908. Aggregate gross earnings for 6 months ended June 30, $486,150, against $470,598 for same period 1908.

Dominion Lime Co.—By an act passed at the last session of the Quebec Legislature the capital of the D. L. Co., which owns a short line from Dudswell Jct. to Lime Ridge, Que., was reduced to $225,000, the new shares to be allotted to the present shareholders at the rate of fifty per cent. of their present holdings. It was also provided that the stock may be further reduced upon a by-law approved by a majority of the shareholders at a meeting convened for that purpose.

Great North West Central Ry.—An action in which J. Codd sought to recover certain monies, in connection with the promotion of the Great North West Central Ry., now a part of the C.P.R., which has been before the courts in London, Eng., for over eleven years, was dismissed July 30.

Kingston and Pembroke Ry.—The annual meeting was held at Kingston, Ont., Aug. 11. The report showed that the business done during the year was satisfactory, and that considerable improvements had been made. The road is operated by the C.P.R., W. R. Baker, Secretary C.P.R., being Vice President and General Manager.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—The directors have declared out of the earnings of 1908, a semi-annual dividend of 3½% on the preferred stock, and 3% on the common stock, payable Oct. 16, to stockholders of record Oct. 1.

New Brunswick Ry.—The annual meeting was held at St. John, N.B., Aug. 5. The directors were re-elected as follows: R. Meighen, F. S. Meighen, W. T. Whitehead and J. Turnbull. Apart from the formal business transacted, it was decided to increase the stumpage rates by 25c., on all lumber cut on the company's lands.

Quebec and Lake St. John Ry.—Gross earnings for July, $54,388.32, against $71,057.16 for July, 1908. Aggregate gross earnings for 7 months ended July 31, $332,409.88, against $328,996.78 for same period 1908.

Quebec Central Ry.—Gross earnings for June, $92,103.60; expenses, $65,591.84; net earnings, $26,511.76, against $111,117.00 gross earnings; $88,792.79 expenses; $22,324.21 net earnings for June, 1908. Aggregate gross earnings for 12 months ended June 30, $1,019,488.25; expenses, $724,227.93; net earnings, $295,260.32, against $1,110,724.38 gross earnings; $787,293.15 expenses; $323,431.23 net earnings for same period 1907-08.

Salisbury and Harvey Ry.—A meeting of shareholders has been called to be held at Hillsborough, N.B., Sept. 2, for the election of directors, to authorize the issue of bonds, and to execute a mortgage upon the railway and other property of the company to secure the bond issue. The notice calling the meeting is signed by J. D. Newton, D. E. Bergen, J. D. Hazen, D. K. Hazen, E. P. Raymond, provisional directors.

Temiscouata Ry.—Total earnings for June, $18,350.58. Aggregate for year ended June 30, $230,154.89. Total earnings for July, $20,922.55.

Western Canadian Collieries.—Application was made to the Board of Railway Commissioners, Aug. 26, for an order recommending the Governor in council to sanction an agreement for the sale and transfer of the franchises, rights, powers, railway and undertakings of the United Coal Fields of British Columbia to the Western Canadian Collieries. The railway referred to extends from Frank to Grassy Mountain, Alta., about 7 miles, and was badly damaged by the landslide in 1903. It has not been operated since, but the Board of Railway Commissioners, Aug. 5, approved a book of reference showing amended location of the line.

White Pass and Yukon Ry.—Gross earnings for the year ended June 30, $1,255,027.

Railway to Hudson Bay.

The last party of engineers engaged on the surveys being made for the Dominion Government to enable it to decide on the feasibility of constructing a railway to Hudson Bay returned to Winnipeg Aug. 13. They report having located a route from Split Lake to Fort Churchill, about 200 miles, upon which they found that there would not be any serious difficulties in the way of construction. They also made an inspection of the harborage at Port Nelson and report that a good harbor can be secured there, as well as at Fort Churchill, the terminal point of the other suggested route. M. J. Butler, Deputy Minister of Railways and Canals, who is on a trip of inspection of railways in the West, had a conference with the engineers while in Winnipeg. The complete reports of the engineers is being prepared and it is expected will be ready for presentation at the next session of Parliament.

ASTORIA LIGHT, HEAT & POWER CO., ASTORIA, N.Y., SHOWING BRIDGE TRAMWAY.

THE BROWN HOISTING MACHINERY CO.

Engineers, designers and builders of hoisting machinery of all descriptions.

Write us stating your requirements and ask for catalogues.

Main Office and Works:

CLEVELAND, OHIO

Branch Offices:

PITTSBURG AND NEW YORK

Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this.

The dates given of orders, immediately following the numbers, are those on which the hearings took place and not those on which the orders were issued. In many cases orders are not issued for a considerable time after the date assigned to them.

7527. July 13.—Authorizing City of Toronto to lay water pipe under G.T.R., at Front St. East.

7528. July 13.—Authorizing Bell Telephone Company to erect wires across C.P.R., near Waterloo station, Que.

7529. July 10.—Rescinding order 7298, of June 19, which dismissed application of C.P.R. for order directing G.T.R. to receive C.P.R. passenger and baggage cars at the junction between the two railways near Sappers' bridge, Ottawa, the application to be set down for hearing at the sittings at Ottawa in Sept., unless before that time the matter has been settled between the companies.

7530. July 15.—Authorizing C.P.R. to construct a bridge on Laggan section and three bridges on Red Deer section, Western Division.

7531. July 16.—Authorizing C.P.R. to build spur line to Imperial Oil Co.'s premises, Delorimier, Que.

7532. July 16.—Authorizing C.P.R. to construct two spur lines to the Canadian Pacific Lumber Co.'s premises, Port Moody, B.C.

7533. July 16.—Authorizing C.P.R. to construct two spur lines to the International Harvester Company and T. H. Blow's premises, Calgary, Alberta.

7534. July 16.—Authorizing C.P.R. to construct spur line from south limit of 24th St. to south limit of lot 15, Saskatoon, Sask., upon consent of Enterprise Hardware Co., A. Carruthers & Co., and City Council of Saskatoon.

7535. July 16.—Authorizing C.P.R. to construct a branch line into the Corporation yard, Princess St., Toronto.

7536. July 16.—Authorizing Montreal Park and Island Ry. to construct spur line to the Lakefield Cement Co.'s premises, Longue Pointe, Que.

7537. July 16.—Authorizing Government of Alberta to erect telephone wires across C.N.R. at Raith.

7538, 7539. July 16.—Authorizing Bell Telephone Co. to erect wires across G.T.R. near Unionville station and at Clifford station, Ont.

7540. July 16.—Authorizing Creston Power, Light & Telephone Co., of Creston, B.C., to erect wires across C.P.R.

7541, 7542. July 17.—Authorizing Bell Telephone Co. to erect wires across C.P.R. at public crossing near Streetsville Jct. and near Streetsville station, Ont.

7543. July 20.—Authorizing the C.P.R. to build spur line to the Western Canada Agency's premises, Lethbridge, Alta.

7544. July 20.—Authorizing C.P.R. to build spur line to J. D. Clark & Co.'s premises, Winnipeg, Man.

7545. July 20.—Authorizing G.T.R. to build temporary branch line from its Lakefield branch, Douro tsp., Ont., westerly to property of Water Commissioners, City of Peterboro, Ont.

7546. July 20.—Authorizing Town of Boissevain, Man., to erect electric light wires across C.P.R. on Cook St.

7547. July 20.—Authorizing the C.P.R. to construct bridge 12.89 on its St. John section, Atlantic Division.

7548. July 20.—Authorizing F. Karlenzig to erect telephone wires across C.P.R. at Lemberg, Sask.

7549. July 20.—Authorizing Village of Ste. Anne de Beaupre, Que., to lay waterpipe under Quebec Ry. Light & Power Co.'s track.

7550. July 20.—Authorizing Town of Parry Sound, Ont., to lay water pipe under C.N.O.R.

7551. July 21.—Authorizing Tilbury Telephone Co. to erect telephone wires across Pere Marquette Rd., near Glenwood station, Ont.

7552. July 7.—Directing Bedlington & Nelson Ry. Co. to refund to C. P. Riel excess freight charges on railway ties from Rykerts, B.C., to Portage la Prairie, Man. This order is given in full on another page.

7553. July 20.—Authorizing G.T.R. to construct spur line to Thornbury Transportation & Reduction Co.'s premises, Thornbury, Ont.

7554. July 6.—Refusing application of G.T.R. for approval of revised location of the Brunswick, Balke & Collender Co.'s spur on Pacific Ave., Toronto.

7555. July 6.—Approving location of C.N.O.R. through Gloucester and Nepean tsps., Ontario, from mileage 53.91 to 57.42 west from Hawkesbury, Ont.

7556. July 21.—Approving location of Esquimalt & Nanaimo Ry., Comox extension, Union Bay to Black Creek, through Nelson and Comox Districts, B.C.

7557. July 21.—Approving location of C.N.R., from near the mouth of North Thompson River, sec. 24, tp. 20, range 17, west 6th meridan, to sec. 4, twp. 22, range 17, west 6th meridian, 10 miles.

7558 to 7560. July 21.—Approving location and plans of C.P.R. stations at Canford, Haney and Meritt, B.C.

7561. Mar. 22.—Authorizing C.P.R. to construct its railway across highways on Piapot to Maple Creek main line grade division, Sask., mileage 67.3 to 80.7.

7562. July 15.—Approving two forms of bill of lading for joint use in Canada.

7563. July 12.—Approving uniform code of operating rules for Canadian railways.

7564, 7565. July 6.—Authorizing G.T. Pacific Ry. Co. to make corrections on plans on the main line with respect to Marsan and Girouard's property, in connection with location of railway through Edmonton, Alta.

7566. July 22.—Authorizing C.P.R. to construct spur from its right of way between Young and Scott sts westerly, crossing lots B and A along Eighth Ave., to the easterly limit of Broad St., and ten spurs from the first named, across parts of blocks 184 to 190 and 23 to 25, Regina, Sask.

7567. July 15.—Refusing application of C.P.R. to construct spur from its station grounds, Fort William, Ont., to a point west of the western limit of Bethune St.

7568. July 21.—Authorizing C.P.R. to construct spur to Columbia Flour Mill Co.'s premises, Enderby, B.C.

7569. July 22.—Approving Marconi Wireless Telegraph Co.'s by-law authorizing H. G. Matthews, Secretary-Treasurer, to prepare and issue tariffs of tolls.

7570. July 15.—Refusing application of C.P.R. to construct branch line across Hardisty St., Fort William, Ont.

7571. July 21.—Approving location and detail plans of C.P.R. station, Mission Jct., B. C.

7572. July 21.—Extending until Oct. 6 time, by order 6803, within which inter-

Orders by Railway Commissioners Continued.

locking plant is to be provided by C.P.R. and G.T.R. at Brampton, Ont.

7573. July 22.—Authorizing North Regina Rural Telephone Co. to carry wires across C.N.R., Regina, Sask.

7574. July 22.—Authorizing Fairview Rural Telephone Co. to carry wires across C.N.R., Fairview, Sask.

7575. July 21.—Authorizing Erie Telephone Co. to carry wires across M.C. Rd., Townsend station, Ont.

7576. July 21.—Authorizing Kootenay Telephone Co. to carry wires across C.P.R., Cranbrook, B.C.

7577, 7578. July 22.—Authorizing Commissioner of Railways and Telephones of Saskatchewan to carry wires across C.N.R. at two points, Aylesbury, Sask.

7579, 7580. July 21.—Authorizing Manitoba Government Telephones to carry wires across C.P.R. at two points near Varcoe station.

7581 to 7583. July 22.—Authorizing Bell Telephone Co. to carry wires across G.T.R. at Port Hope, Moose Creek and Maxville, Ont.

7584. July 22.—Authorizing Vancouver, Victoria & Eastern Ry. and Navigation Co. to construct branch to connect its main line with International boundary, near Myncaster, B.C.

7585. July 23.—Ordering Alberta Ry. and Irrigation Co. to file tariffs, etc. This order is given in full on another page.

7586. July 23.—Approving plans of M.C. Rd. Co.'s proposed subway at Tecumseh road, Sandwich West tp., Ont.

7587. July 21.—Authorizing Bell Telephone Co. to carry wires across C.P.R. near Streetsville station, Ont.

7588 to 7590. Mar. 22.—Authorizing C.P.R. to construct railway across 8 highways in its authorized main line grade division between Gull Lake and Carmichael; across 9 highways in Medicine Hat section, and across 8 highways between Seward and Antelope, Sask.

7591. July 6.—Ordering C.P.R. and Kingston and Pembroke Ry., to erect and maintain gates at their Raglan St. crossing, Renfrew, Ont.; gateman to be employed by the companies and be in charge at all times; 20% of cost of construction to be paid out of the Railway Grade Crossing Fund; one third of the wages of men to be paid by the Town of Renfrew. The bell at present in use there to be moved to Argyle street.

7592. July 23.—Approving location and detail plans of the C.N. Ontario Ry.'s proposed station at Sudbury, Ont.

7593. July 22.—Authorizing city of Edmonton, Alta., to cross with its electric railway the Edmonton, Yukon and Pacific Ry.

7594. July 23.—Reinstating for hearing complaint of F. W. Godsal, Cowley, Alta., against excessive passenger rates on C.P.R. steamers between ports of call on the Kootenay and Arrow Lakes, B.C., and the Nelson Board of Trade in support. This order is given in full on another page.

7595. July 23.—Approving C.N.R. local standard passenger tariff, C.R.C. 503, between stations on its branch line from Hudson Bay Jct., Sask., to Pas Mission, Keewatin Territory.

POLSON IRON WORKS

LIMITED

TORONTO, CANADA

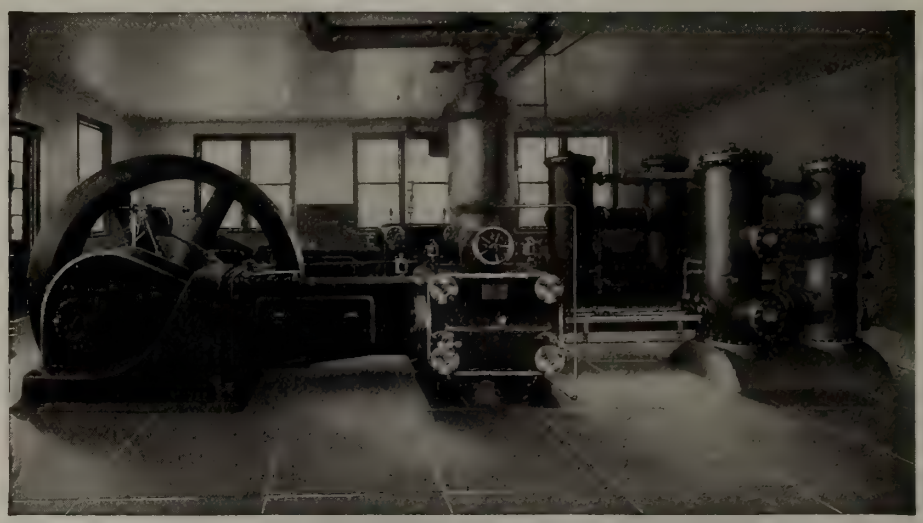
Steel Shipbuilders, Engineers and Boilermakers

Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers. . . . .

OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO

Robb Power Plants



ENGINES

Corliss, Slide Valve
Horizontal, Vertical

BOILERS

Return Tubular
Water Tube
internally Fired
Portable

ROBB ENGINEERING CO., LIMITED, AMHERST, N.S.

DISTRICT OFFICES:
709 Power Building, MONTREAL, Watson Jack, Manager.
Traders Bank Building, TORONTO, Wm. McKay, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.
Calgary Block, Calgary, J. F. Porter, Manager.

7596. July 24.—Rescinding order of June 10 which approved amalgamation agreement between C.N.R. and Edmonton & Slave Lake Ry. Cos.

7597. July 24.—Authorizing C.N.R. to use crossing with the Ottawa and Prescott Ry., mileage 56.6 west from Hawkesbury, Ont., for construction purposes only, pending installation of interlocking plant provided for in order 7490.

7598. July 22.—Approving plan showing footbridge proposed to be constructed by Saskatoon corporation over C.N.R. yard at Twentieth St.

7599. July 24.—Ordering that railways subject to the Board's jurisdiction shall conform to the rules and regulations from time to time approved by Master Car Builders' Association governing the loading of lumber, logs and stone on flat and open cars. This order is given in full on another page.

7600. July 27.—Approving location of the Nipissing Central Ry., from Cobalt to Haileybury, 5.1 miles, through Buck and Coleman tps., Ont.

7601. July 15.—Authorizing city of Fort William, Ont., to cross C.N.R. with its electric railway at Fredericka St.

7602. July 23.—Ordering that C.P.R. and C.N.R. publish and file joint class and commodity tariff of rates on freight traffic in classes 6 to 10, inclusive, of the Canadian Classification, between certain points in Alberta. This order is given in full on another page.

7603. July 15.—Approving revised location of the Fort William Terminal Ry. and Bridge Co.'s line from near Christina St., crossing the Kaministikwia River and Islands 1 and 2, Fort William, Ont.

7604. July 22.—Authorizing G.T.P.R. to use Edmonton & Slave Lake Ry. crossing in sec. 15, tp. 55, r. 25, w. 4th meridian, Alta., for construction purposes only, until Nov. 30, pending installation of interlocking plant provided for by order 4672.

7605. July 24.—Approving location of C.P.R. Langdon North branch, mileage 60 to 80, from sec. 34, tp. 31, r. 24, w. 4th mer., to sec. 35, tp. 34, r. 25, w. 4th mer., Alta.

7606 to 7608. July 24.—Authorizing C.N. Ontario Ry. to construct tracks across Russell road, across Cyrville road, and across Concession road, Gloucester tp., mileage 56.78, 55.46 and 55.22 respectively, west from Hawkesbury, Ont.

7609. July 24.—Authorizing C.P.R. to change location of its station at Putnam, Ont.

7610. July 24.—Authorizing city of Woodstock, Ont., to lay drain under G.T.R. at Beale St.

7611. July 24.—Authorizing Guelph Water Commissioners to lay conduit under C.P.R., Guelph Jct. branch, Ont., and rescinding order 6295, Feb. 19.

7612. July 24.—Authorizing Guelph Water Commissioners to lay water main across C.P.R., on Metcalfe St., Guelph, Ont.

7613. July 22.—Ordering G.T.R. to file for approval of the Board, within 30 days from date of order, plans for station to be constructed near where company's line crosses town line between Clinton and Louth tps., Lincoln Co., on its line from Hamilton to Niagara Falls, Ont.

7614. July 23.—Ordering C.N.R. to remove by Apr. 1, 1910, to the satisfaction of the Board's Engineer, and in compliance with sec. 230 of the Railway Act, all obstructions placed by the company at Coulter's Narrows, Muskoka Dist., Ont.

7615. July 24.—Authorizing C.P.R. to construct spur to Johnston & Gill's premises, Kamloops, B.C.

7616. July 24.—Authorizing C.P.R. to construct spur to Peter Lyall & Sons' premises, Notre Dame de Grace, Que.

7617. July 24.—Authorizing C.P.R. to construct 2 branch lines to E. N. Heney's premises, Delorimier, Que.

7618. July 26.—Authorizing C.P.R. to construct branch to L. L. Lafleur's premises, Cote St. Pierre, Que.

7619. July 26.—Authorizing G.T.R. to construct spur to J. R. Eaton & Sons' premises, Orillia, Ont.

7620. July 15.—Approving location of G.T.P.R. through Fort William, Ont., subject to terms and conditions of an agreement between the G.T.P.R. and C.P.R., and subject to the condition that the G.T.P.R. shall do as little damage as possible and make full compensation to all persons interested for all damage sustained by them by reason of the railway along any street in Fort William, as provided in the agreement.

7621. July 24.—Authorizing C.N. Ontario Ry. to operate interlocking plant at crossing with G.T.R. spur line to Edwards Mills, Rockland, Ont.

7622. July 26.—Approving construction of 8 bridges on the Atlantic, Quebec & Western Ry.

7623. July 24.—Authorizing C.P.R. to construct spur to Watt Milling and Feed Co.'s premises, Toronto.

7624. July 26.—Authorizing Bethel Rural Telephone Co. to cross C.P.R. near con. 3, lot 211, Proton tp., Ont.

7625. July 26.—Authorizing Ivy-Thornton Mutual Telephone Association to erect wires across G.T.R. between lots 15 and 16, Essa tp., Ont.

7626 to 7631. July 26.—Authorizing the Alberta Government to erect wires across C.N.R. at 6 points.

7632 to 7636. July 26.—Authorizing Bell Telephone Co. to erect wires across G.T.R. and C.P.R. at 5 points in Ontario.

7637. July 26.—Authorizing Bethel Rural Telephone Co. to cross C.P.R. at lot 216, Proton tp., Ont.

7638. July 26.—Authorizing G.T.R. to construct spur to Dain Manufacturing Co.'s premises, Humberstone tp., Welland Co., Ont.

7639, 7640. July 27.—Authorizing C.P.R. to use 9 bridges, on its eastern lines.

7641, 7642. July 26.—Authorizing city of Guelph, Ont., to lay sewer pipe under G.T.R. and C.P.R., at Marcon St., and under G.T.R. at Norwich St.

7643. July 22.—Authorizing Citizens Telephone Co. to erect wires across C.P.R. south of Cowansville station, Que.

7644. July 26.—Authorizing Bell Telephone Co. to carry wires across Toronto, Hamilton & Buffalo Ry., 2½ miles west of Stoney Creek station, Ont.

7645. July 27.—Authorizing Brantford Gas Co. to lay gas main under Toronto, Hamilton and Buffalo Ry., Oak St., Brantford, Ont.

7646. July 23.—Ordering C.P.R. to forthwith erect station known as its standard no. 6, at Wattsburg, B.C.

7647. July 27.—Approving basis of Quebec Railway, Light and Power Co.'s Standard Passenger Tariff, C.R.C. 8, at 2½c. per mile.

7648, 7649. July 26.—Authorizing city of Toronto to lay water pipe under G.T.R. and C.P.R. at Royce Ave.

7650. July 27.—Authorizing Pere Marquette Rd. to remove east derail at Walkerville Jct., Ont., 495 ft. from the crossing.

7651. July 27.—Approving plan and profile of proposed crossing of the municipality of Johnston, Tarbutt and Tarbutt Additional over C.P.R., near milepost 148, between lots 4 and 5, con. 6, Johnston tp., Ont.

7652. July 27.—Extending until Dec. 1 time fixed by order 6804, Apr. 6, for installation of C.P.R. interlocking plant at Drumbo, Ont.

7653. July 26.—Refusing application of city of Toronto for leave to construct additional bridge across C.P.R. and G.T.R. at Dundas St.

7654. July 26.—Authorizing C.P.R. to construct two spurs into R. Gordon's premises, Arcola, Sask.

7655. July 22.—Reopening for consideration at first sitting of Board in Hamilton or Brantford, Ont., application of Toronto, Hamilton & Buffalo Ry. for order to reconstruct highway bridge under which it crosses public highway about 3 miles east of Brantford.

7656. July 27.—Approving location of C.N.R. mileage 0 to 16.09 through tps. 10-9, r. 30-32, w. p. m., Sask.

7657 to 7670. July 24.—Approving tariffs of Sleeping and Parlor Car Rates of C.N.Q.R., C.P.R., M.C. Rd., G.N.R., Rutland Rd., and Toronto, Hamilton and Buffalo Ry.; Maximum Parlor Car Tolls of C.N.O.R., G.T.R., Q. Ry. L. and P. Co., Esquimalt and Nanaimo Ry., and Wabash Rd.; Berth and Seat Rates of C.N.R., Central Vermont Ry., and Pullman Co.

7671. July 26.—Authorizing Vancouver & Lulu Island Ry. to construct line across Granville St., Point Grey, B.C., such authority to be in force only for 3 months from date, pending a further hearing in Vancouver.

7672. July 23.—Approving plans for superstructure of bridge carrying Dominion Atlantic Ry. across Sissiboo River at Weymouth, N.S.

7673. July 29.—Ordering G.N.R. to forthwith provide station accommodation at old stopping place adjoining spur into the mill at Hazelmere, B.C.

7674. July 23.—Extending until Sept. 7, time within which G.T.R. and Bay of Quinte Ry. shall establish through joint rate on bituminous coal to Marlbank, Ont.

7675. Aug. 3.—Authorizing C.N.Q.R. to construct bridge to replace wooden structure near Stonefield station, Que.

7676. Aug. 3.—Authorizing C.P.R. to open for traffic that portion of the second track of its Ignace section, mileage 119.8 to 120.0.

7677. July 30.—Authorizing C.P.R. to open for traffic the double track portion of its Ignace section, mileage 115.1 to 120.8, Fort William section, Ont.

7678. July 30.—Authorizing Bethesda and Stouffville Telephone Co. to install instruments in G.T.R. stations at Stouffville and Unionville, Ont.

7679. July 30.—Approving New Brunswick Southern Ry. plan for construction of bridge at West Waweig, N.B.

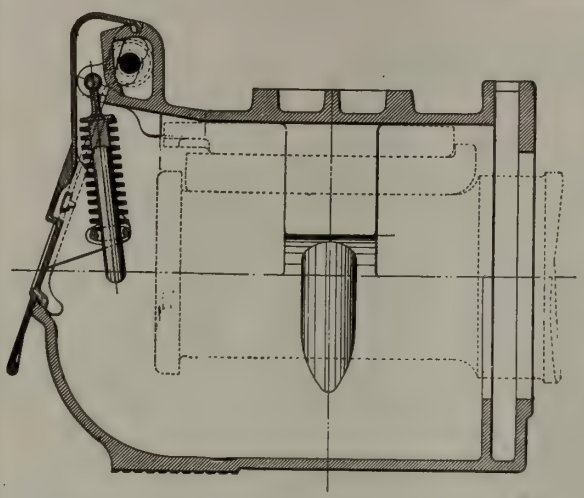
7680. July 30.—Approving detail plan of C.P.R. subway at Winnipeg St., Schreiber, Ont.

7681. July 30.—Approving plans of the proposed C.N.Q.R. bridge over Blanche River near Montcalm station.

7682. Aug. 3.—Authorizing C.N.Q.R. to construct its line across public road be-

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



The Strongest, Lightest, Tightest Box Made

The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCORD Force Feed Lubricator

McCORD & COMPANY
Old Colony Building, Chicago

THE HOLDEN CO., Limited
302 St. James Street, Montreal

TRACK TOOLS!

TRACK TOOLS!

We carry a very large stock of

TRACK TOOLS

Of Every Description

Spike Mauls - Chisels - Hammers
Track Drills - Rail Saws - Forks
Gauges - Levels - Wrenches Etc.

Let us quote on your requirements.

F·H·Hopkins & Co

Successors late James Cooper

Montreal

tween lots 213 and 147, St. Severin parish, mileage 71.44 west from Quebec bridge.

7683 to 7686. July 16.—Authorizing C.N.Q.R. to construct its line across public roads between lots 345 and 344, 344-a and 346, mileage 62.23 west from Quebec bridge; between lots 336 and 331, 332, 334 and 335, mileage 61.0; between lots 324 and 317 and 318, mileage 60.11; and between lots 429 and 430, 431 and 432 in St. Prosper parish, Que.

7687, 7688. Aug. 3.—Authorizing C.N.Q.R. to construct line across the public roads on northeast side of lots 9 and 10, and on the northeast side of lot 130 E., southwest of St. Severin station, mileage 73.77 and 73.51 west from the Quebec bridge.

7689. July 29.—Authorizing C.N.Q.R. to open for traffic the portion of its line from its connection with the Q. and L. St. J. Ry. at Quebec to Garneau Jct., 78.76 miles.

7690. Aug. 3.—Approving revised location of the Chemin de Fer de Colonization du Nord, mileage 15 to 20 northwesterly from Nomining, Que.

7691. July 16.—Authorizing Montreal Terminal Ry. to construct branch line on Lakefield Cement Co.'s premises, Longue Point, Que.

7692. Aug. 3.—Authorizing Bolton Telephone Co. to carry wires across C.P.R., Albion tp., Ont.

7693. Aug. 4.—Authorizing council of Maidstone, Ont., to carry wires across G.T.R. at Puce station.

7694. Aug. 3.—Authorizing Oro Telephone Co. to carry wires across G.T.R., Oro tp., Ont.

7695. Aug. 3.—Authorizing Fingal Telephone Co. to carry wires across Pere Marquette Rd., near St. Thomas, Ont.

7696. Aug. 3.—Authorizing Oro Telephone Co. to carry wires across G.T.R., Oro tp., Ont.

7697. Aug. 3.—Authorizing Maidstone municipality to carry wires across C.P.R. about 3 miles west of Belle River station, Ont.

7698. Aug. 3.—Authorizing C.P.R. to construct spur to Wood McNab Lumber Co.'s premises on the B.C. Southern Ry., East Kootenay District, B.C.

7699. Aug. 3.—Authorizing G.T.R. to construct 5 bridges between Chatham and Windsor, Ont.

7700. Aug. 3.—Authorizing Atlantic, Quebec & Western Ry. to construct bridge at Grand River crossing, sec. 6, mileage 51.

7701. Aug. 3.—Authorizing C.P.R. to construct branch to Ontario Lime Association's premises, Dupont St., Toronto.

7702. Aug. 3.—Authorizing C.N.O.R. to construct bridge over Vermillion River, mileage 26.66 from Sudbury Jct., Ont.

7703. Aug. 5.—Temporarily approving agreements with six rural telephone companies, pending the final determination by the Board, of the tariffs of tolls which Bell Telephone Co. be authorized to charge.

7704. Aug. 3.—Authorizing C.P.R. to construct bridge 77.7, Moose Jaw section, Western Division.

7705. Aug. 3.—Authorizing C.P.R. to construct bridge 9.4, north branch Michel Creek, Cranbrook section, B.C.

7706. Aug. 3.—Authorizing G.T.R. to construct branch from its station yard, Oakville, Ont., northeasterly to the north side of the Seventh Line road.

7707. Aug. 5.—Authorizing Hamilton Cataract Power, Light & Traction Co. to carry power wires across Toronto, Hamilton & Buffalo Ry. at Horning Mountain road, Ancaster tp.

7708. Aug. 5.—Recommending to the Governor in council for sanction C.N.Q.R. by-law re spitting and smoking in cars and on premises.

7709. Aug. 5.—Recommending to the Governor in council for sanction lease of St. Mary's & Western Ontario Ry. to C.P.R., dated Feb. 25, 1909.

7710. Aug. 5.—Recommending to the Governor in council for sanction C.N.O.R. by-law re spitting and smoking in cars and on premises.

7711. Aug. 5.—Approving location of C.N.R. through sec. 4, tp. 22, r. 17, w. 6th mer., to 5 miles beyond the railway belt, mileage 10 to 24, B.C.

7712. Aug. 4.—Approving location and detail plans of C.P.R. station, Indian Head, Sask.

7713. Aug. 5.—Extending until Oct. 1 time for the installation of gates at C.P.R. crossings at Columbia Ave., Vancouver, B.C.

7714. July 15.—Authorizing city of Fort William, Ont., to cross C.P.R. with its electric railway at the intersection of the line with Pacific Ave.

7715. Aug. 5.—Ordering the National Transcontinental Ry. Commissioners to provide an interlocking plant at crossing of Temiscouata Ry., Grand Falls, N.B., and authorizing operation of trains at crossing for construction purposes only pending installation of interlocking system.

7716. Aug. 5.—Approving book of reference of United Coal Fields of British Columbia, Ltd., showing amended location of line from Frank to Grassy Mountain, B.C.

7717. Aug. 5.—Approving Esquimalt and Nanaimo Ry.'s book of reference showing change in location of line from mileage 100 to 107 and 107 to 127.

7718. Aug. 5.—Approving location of Georgian Bay & Seaboard Ry. from lot 17, con. 1, Eldon tp., to lot 23, con. 12, Mariposa tp., mileage 48.05 to 63.42, Ont.

7719. Aug. 5.—Approving revised location of Georgian Bay & Seaboard Ry. from lot 10, con. 2, Mara tp., to lot 1, con. 8, Thorah tp., mileage 41.95 to 48.05, Ont.

7720. July 28.—Approving exceptions to rating of silver ore to the official classifications as incorporated in G.T.R. freight tariffs, C.R.C. E-1599 and 1600, and C.P.R. freight tariffs, C.R.C. E-1422 and 1450, applying from North Bay, Ont., to certain points in the U.S.

7721. Aug. 3.—Authorizing Maidstone municipality to carry wires across C.P.R. 3 miles west of Belle River station, Ont.

7722. July 30.—Authorizing city of Brandon, Man., to carry water main under C.P.R. and G.N.R. on Twenty-Sixth St.

7723 to 7728. Aug. 3.—Authorizing Bell Telephone Co. to carry wires across C.P.R. at 6 points in Ontario.

7729. Aug. 3.—Authorizing Bell Telephone Co. to carry wires across Central Vermont Ry., Lake Street, Waterloo, Que.

7730, 7731. Aug. 3.—Authorizing Bell Telephone Co. to carry its wires across C.P.R. at 2 points in Ontario.

7732. July 31.—Authorizing Caradoc and Ekfrid Telephone Co. to carry wires across C.P.R. between Caradoc and Ekfrid, Ont.

Great Northern Ry. Lines in Canada.

Midland Ry.—J. Fisher, K.C., President, together with a number of officers of the Great Northern Ry., St. Paul, Minn,. met the Railway Committee of the city of Winnipeg, Aug. 3, to discuss the question of the entrance of the various G.N.R. subsidiary lines in Manitoba, into Winnipeg. The plans, which were filed with the Board of Railway Commissioners in 1906, show an entrance from the city boundary on lot 56 to a site on Paulin St., between Ross and Pacific avenues, west of Princess St. At that time it was intended that a passenger station would be constructed on Paulin St. It is now proposed that the site be used for a freight shed and yard only, and that the passenger traffic come in over the Canadian Northern Ry. from Fort Whyte, and be deposited at the Fort Garry station. The land purchased in Winnipeg in the interests of the G.N.R. comprises blocks A, B, and C, 110 acres. It is said that according to the original plans, the property between Ross and Pacific avenues will be used for tracks, crossing Leonard, Ellen, Isabel and Nena streets. The track will pass between Ross and Pacific until about midway between Nena and Tecumseh, then it will swing south, crossing Ross and Elgin avenues diagonally. After Tecumseh the line will run along the north tier of lots between Elgin and William streets. It will cross Tecumseh. Brant and McPhillips streets and join the old roadbed of the Manitoba and Southwest Colonization Ry., now owned by the C.P.R., crossing Notre Dame St. on river lot 50, and continue along the old route to lot 45. It will then run south, adjoining the C.P.R. Pembina branch, to the Assiniboine River. Adjacent to the river it will turn east to approach a swing bridge across the river, which will be necessary to provide for the passage of steamers. On the other side of the river it will enter lot 56, pass through the Borebank property and parallel the C.P.R. to the city limits. The shops and yards will be on the west side of McPhillips St., on the n.w. quarter of sec. 7, tp. 11, range 3, east. The conference was private, but it is understood that the company's engineers and the City Engineer will go over the plans, and consider the question of subways, crossings, etc., before another conference takes place.

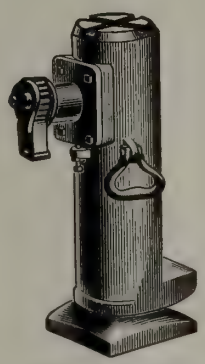
Vancouver, Victoria and Eastern Ry. and Navigation Co.—The Board of Railway Commissioners has approved of the company's plans for a branch line to connect its main line with the line it owns south of the international boundary. The negotiations between the company and the Vancouver city council with respect to the improvement of False Creek by dredging have been practically settled. As soon as the necessary papers have been drawn up and signed the company will be enabled to go ahead with the construction of its passenger station, freight sheds, and deep water shipping, pier, etc. (Aug., pg. 577.)

A party of British engineering students arrived in Canada recently, for the purpose of studying a number of the most important engineering plants and features in the Dominion. Among the places to be visited are Quebec, Montreal, Toronto, Ottawa, Peterboro, Cobalt, Muskoka, St. Catharines, Stratford, Sarnia, London, Brantford, and Hamilton.

NORTON JACKS

Are Made in Canada and Save You Delay and Duty on American Made Jacks.

Sectional View


Foot Lift Jack

50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY

15 Ton Track Jack

Traversing Jack

Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

ADDITIONAL SAFETY AND ECONOMY IN

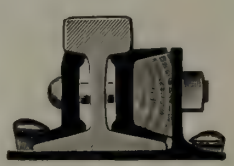
TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence.

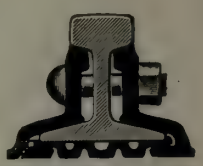
HIGHEST AWARDS
Paris, 1900;
Buffalo, 1901; St. Louis, 1904

Continuous Joint

Over 50,000 miles in use


Weber Joint

Rolled from Best Quality Steel


Wolhaupter Joint

Catalogues at Agencies

Baltimore, Md. Boston, Mass. Chicago, Ill. Denver, Colo. Pittsburg, Pa.
San Francisco, Cal. Seattle, Wash. St. Paul, Minn. St. Louis, Mo. Troy, N.Y.
London, E. C., Eng. New York City.

THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES: BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, Frog and Switch, and Insulating Rail Joints, protected by Patents.

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction Betterments.

Algoma Central and Hudson Bay Ry.—J. M. Shanley, C.E., Montreal, returned there, July 27, from a trip of inspection over the route of the proposed extension of the line to the National Transcontinental Ry. He states that the company has 180 miles of grading completed and that track has been laid upon 90 miles. This mileage includes the main line from Sault Ste. Marie and the branch lines from Michipicoten to the Helen and other iron mines. The other 90 miles, upon which grading has been done, extends from Pangissin towards a junction with the C.P.R. He stated that there is nothing in the country between the present track end and the Transcontinental Ry. to make construction difficult, although there are a good many bridges to be constructed, both on the graded section and the section north of the C.P.R. (June, pg. 413.)

Angus Short Line Co.—The Quebec Legislature recently incorporated a company with this title to construct a railway from East Angus, Compton county, through Westbury and Eaton tps., to Cookshire. The company is authorised to construct the line in sections, and to operate it by steam, electric or other motive power, and to enter into agreements of various kinds with other similar companies. The offices are to be at Sherbrooke; the capital is $200,000, and power is given to issue mortgage bonds. The company is empowered to acquire land, water powers, and other property necessary for its business. The Brompton Pulp and Paper Co. is authorised to become a shareholder of the company. The provisional directors are: F. M. McCrea, Sherbrooke; G. Vandyke, E. P. Lindsay, Boston, Mass.; C. C. Wilson, W. N. Munroe, Auburn, Mass.

Atlantic, Quebec and Western Ry.—Rapid progress is reported to have been made with the construction of this line between Paspebiac and Gaspe, Que. It is practically completed to Pabos, 20 miles beyond Port Daniel, and the contractors have 1,800 men at work on the remaining 60 miles into Gaspe. There are a large number of bridges to be constructed on this section of the line. The Board of Railway Commissioners has just approved of plans for the construction of the bridge at Grand River crossing, sec. 6, mileage 51.

C. B. K. Carpenter, Managing Director of the New Canadian Co., London, Eng., contractors for the line, stated recently, that as soon as the line is finished, and linked up with the Intercolonial Ry. at Metapedia, arrangements will be made with one of the steamship companies running out of the St. Lawrence or New York to place a fast steamer on the Gaspe route, to ascertain the time to be made between Liverpool and Gaspe harbor. It is believed that one of the fast steamers can do the distance in 3½ days. An interesting fact in connection with this statement is the announcement that the Department of Public Works is about to ask for tenders for the construction of a wharf at Gaspe, to be used in connection with the railway, as soon as it is ready for traffic. The wharf will be about 600 ft. long to a water depth of about 45 ft., sufficient to allow the largest steamers to approach at all stages of the tide. (See Atlantic and Lake Superior Ry., July, pg. 473.)

Canada Western Ry.—The surveys for this projected line are being pushed forward rapidly. On July 30 the survey party had reached Pincher Creek, Alta., where they spent some time looking over possible routes for entering the town. It is said that the route for the line will be as follows: starting from Calgary, it will run south, a few miles west of the Calgary and Edmonton Ry., as far as De Winton, then veer west, crossing High River, about 25 miles west of that town, at the Bar ranch, then through the pass at the head of Willow Creek, south through the Walrond ranch in the valley between the Porcupine and Livingstone ranges, crossing the north fork of the Old Man river and the C.P.R. Crow's Nest Pass line near Cowley, then on to Pincher Creek. From Pincher Creek the line will pass through the Yarrow and Twin Butte valleys to Cardston, and on to the International boundary at Whiskey Pass. From Walrond ranch a spur line will be constructed to the coal mines in the Livingstone range and extended to Michel and Elk River. (Aug., pg. 573.)

Dominion Atlantic Ry.—The Board of Railway Commissioners has approved plans for the superstructure of a bridge over the Sissibo River at Weymouth, N.S. (Sept., 1908, pg. 615.)

Farmers Ry.—There was a gathering at Melfort, Sask., recently when there was some ceremony in connection with the cutting of the first sod of this railway to Regina. A despatch from Melfort, Sask., Aug. 14, says the grading done was started at Flett Springs and that 1.5 miles had been completed. The work is being done by farmers in the vicinity, who are taking payment in stock of the company. Work has been suspended for the present, owing to the harvest, but as soon as this is over it will be resumed and it is expected that grading will be completed into Melfort, a distance of 18 miles, by the fall. (June, pg. 415.)

Fort William Terminal Ry. and Bridge Co.—The Board of Railway Commissioners has approved the revised location of this projected railway, from Christina St., Fort William, Ont., crossing the Kaministikwia River and Islands 1 and 2. (Aug., pg. 573.)

Grand Lake and Bell River Ry. Co.—The Quebec Legislature at its last session incorporated a company with this title to construct a line from the National Transcontinental Ry., near Bell River, along the valley of the river to Twenty-one Mile Bay, an arm of Grand Lake, or to Rabbit Lake, on the Ottawa River, in Pontiac county. The work of construction is to be commenced within 6 months after the completion of the N.T.R. to Bell River, and to be completed within 5 years thereafter. The company is authorised to enter into agreements with other companies, to construct telephone and telegraph lines, to build and operate boarding houses for its employes and for travellers, to carry on a general navigation business on waters reached by its line, and to construct or acquire docks, wharves, etc. The capital is fixed at $500,000 and bonds to the extent of $20,000 a mile may be issued. The provisional directors are: J. B. Fraser, J. Riopelle, W. H. A. Fraser, Ottawa; Hon. W. Gibson, Beamsville, Ont.; A. Barnett, Renfrew, Ont.; Hon. G. Bryson, Fort Coulonge, Que. (June, pg. 413.)

Indian River Ry.—Surveys are being made from the north end of Lake Megantic southerly to the international boundary near Riviere Morte. One route has already been surveyed southerly and east of Louise mountain and Lake Maccanamac, but it was found to be almost impracticable and another route is being sought for through Woburn and Louise via Three Lakes to Lake Megantic. These surveys are expected to be completed during the current month, and the plans prepared for consideration by the directors. The engineer in charge of the surveys is — Bushmer. The company has power to connect its line with the Rumford Falls and Rangeley Lakes Rd. or the Portland and Rumford Falls Ry. in the United States. The former of these lines terminates at Oquossoc, Me., and the latter at Rangeley, Me., and both are operated by the Maine Central Rd. Press reports state that the charter has been acquired by the Boston and Maine Rd. L. Tuttle, President of the B. and M. Rd., is also president of the M. C. Ry.

The Quebec Legislature in 1908 voted a land subsidy in aid of construction. The officers and directors formerly included: President, M. P. Davis; Vice-President and General Manager, W. Tettengill, Rumford Falls; other directors, W. P. Davis, L. A. Cannon, G. Parent; Treasurer, G. W. York, Portland, Me. (July, pg. 447.)

Intercolonial Ry.—We are advised that the freight car and passenger car repair shop, which it is proposed to erect at St. John, N.B., will be near the locomotive house and other buildings erected at the Island yard during the past five years. The new shop will be 125 by 45 ft. It will be constructed of wood, and be used for the making of light repairs to freight and passenger cars. (Aug., pg. 573.)

International Ry. of New Brunswick.—Grading has been completed from Campbellton for about 80 miles, and from St. Leonards, towards Campbellton, for about 22 miles, leaving about 12 miles to be graded to complete the line. It is expected to complete the grading by the end of Sept. There are at present about 1,000 men engaged upon the work. Track has been laid from Campbellton on the whole of the 80 miles, and as fast as grading operations will permit tracklaying will be proceeded with towards St. Leonards. It is hoped to have track laid from Campbellton to the St. John River at St. Leonards by the end of Sept. or early in Oct. A supply train, with passenger car attached, is being run daily from Campbellton for a distance of 67 miles. It is expected to start a regular freight and passenger service over the whole line in Oct. At St. Leonards connection will be made with the C.P.R. The company has power to construct a bridge across the St. John River at St. Leonards. On the Maine shore of the river connection will be made with the Bangor and Aroostook Rd. at or near Van Buren. The bridge will have a length of about 800 ft. and will be of steel on concrete piers and abutments. Work will probably be started on the bridge during the winter. The line from Campbellton to St.

SILLIKER CAR COMPANY, LIMITED, HALIFAX, N. S., CANADA

STREET RAILWAY CARS

HEAVY FORGINGS AND CASTINGS

RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

MONTREAL STEEL WORKS, LIMITED

P. O. BOX 2369 - MONTREAL

MANUFACTURERS OF

Steel Castings
(Acid Open Hearth System)

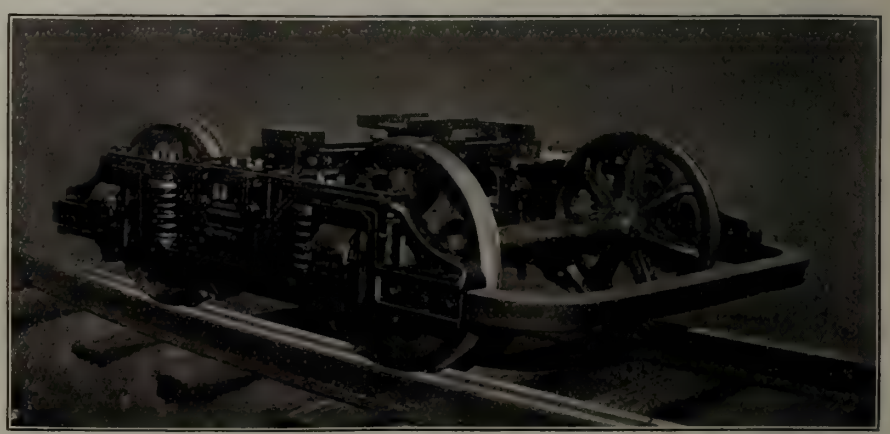
Switches and Track Work
for Steam and Electric Roads

Springs
of all kinds.

Manganese Steel Castings
for wearing Parts, insuring Great Hardness and Durability

Interlocking Plants

Trucks for Electric Cars



AGENTS FOR CANADA FOR

THOS. FIRTH & SONS, LIMITED
Sheffield. England

"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc.

A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO.
Barrow-in-Furness, England

Quotations for Tee Rails, Fish Plates, etc., promptly furnished.

Catalogues sent on application.

Leonards is being constructed to a high standard. There are no wooden bridge structures on the whole line, with the exception of small culverts. There are altogether 26 bridges, all of steel on concrete piers and abutments. Of these bridges 19 were erected by the Dominion Bridge Co. and seven by Duncan and McLellan, of Campbellton.

At the Campbellton end the Interprovincial Bridge Co. of New Brunswick, which is under the same ownership, is authorized to construct a railway and passenger bridge over the Restigouche River to connect Combellton with the mission on the Quebec side. The construction of the bridge will enable a connection to be made with the Atlantic and Lake Superior Ry. It is probable that work will be started on this bridge at an early date. (April, pg. 247.)

International Ry. of New Brunswick.—Some arbitration proceedings in connection with the expropriation of the right of way for this railway have just been completed. For about 28.50 miles the right of way passes through land owned by the New Brunswick Ry. Co., and the arbitration proceedings had to do with the fixing of the value of this strip of land. The company offered $900, but this was refused on the ground that the timber was worth more. Arbitration was resorted to with the result that the New Brunswick Ry. has been awarded $3,000 for the land, and costs, which are said to amount to $4,500. The I. Ry. of N.B. has given notice of appeal.

Irondale, Bancroft and Ottawa Ry.—The company has power to extend its line from the present terminus at Bird Creek, Ont., to Renfrew, and the matter of starting work on this extension is at present under consideration. The route of the proposed extension has been looked over by the Ontario Railway and Municipal Board. We are advised that in addition to extending the line the company intends to improve the existing line between its junction with the G.T.R. near Kinmount and Bird Creek. (Sept., 1908, pg. 617.)

Manitoulin and North Shore Ry.—The contract for the extension of the line from Gertrude mines to Crane Hill mine, Ont., has been let to the O'Boyle Bros. Construction Co., Sault Ste. Marie, Ont. The work is in progress, and the contractors expect to complete the first 8 miles this year. C. LeB. Miles, C.E., is superintending construction for the contractors. (July, pg. 479.)

Matane and Gaspe Ry.—See Canada and Gulf Terminal Ry.

New Brunswick Southern Ry.—A new station building and a 90 ft. platform are being erected at Spruce Lake. The old station has been removed across the track, and will be used as a car shed and a section workshop. The Board of Railway Commissioners has approved plans for the construction of a bridge at West Waweig, N.B.

North Eastern Ry.—The Quebec Legislature last session granted this company an extension of 3 years within which it may commence the construction, and 10 years within which it may complete its projected line of railway. (Feb., pg. 103.)

Northern New Brunswick and Seaboard Ry.—It was reported in Montreal, July 31, that the contractors for the construction of the Canada Iron Corporation's railway from its Gloucester county iron mines to Bathurst, N.B., had 400 men engaged on the work, that grading had been completed on over 4 miles, and that the line would be completed in November. (Aug., pg. 573.)

Quebec Eastern Ry.—We are advised that it is intended to start construction at the southern end of the Quebec bridge and to run to Sherbrooke, with a branch line in the vicinity of Inverness, connecting with the Lotbiniere and Megantic Ry. at Lyster, Que. W. G. Campbell is engineer in charge of surveys. It has not been decided when construction will be started. (Aug., pg. 575.)

Temiskaming and Northern Ontario Ry.—The Commissioners and principal officers returned to Toronto recently, having completed an inspection of the line between North Bay and Cochrane, for which purpose they left Toronto, Aug. 6. The construction of a second track between Cobalt and Haileybury is in progress, and it is expected that it will be completed early in Sept. Press reports state it is intended to operate this section between Cobalt and Haileybury by electricity, but we are advised that this is a question that has not yet come up for consideration.

The work of laying out the extensive yards at Cochrane, the point of junction with the National Transcontinental Railway, is being progressed with rapidly. The grading has been almost completed and it is expected that track will be laid within a few weeks.

A contract has been let to S. F. Whitham, Toronto, for the erection of the new station at Cobalt. The building will be 148 by 32 ft., and will have a public waiting room 65 ft. long. There will be a platfrom around the whole building. The platform will have a length along the line of 500 ft. The foundations of the structure will be of concrete and the building itself of hard burned vitrified brick. The waiting room will be lined with enameled brick dado and pressed brick. The roof will be of timber and green slate. Along the ends and sides will be a verandah hood. The interior finish will be of red oak. The general waiting room, ticket and telegraph offices, baggage room and lavatories will be on the main floor, and on the first floor will be offices for the telegraphers and engineers.

The entire telephone system on the line between North Bay and New Liskeard is being reconstructed. Two gangs are engaged on the work, and it is expected it will be completed by the end of Sept. The new system will have the most modern improvements, and will be extended so as to give a service to the mines in the vicinity of the railway. The line is to be extended along the Kerr Lake branch, and, it is expected it will also be extended to the present railway terminus at Cochrane. (Aug., pg. 575.)

The C.N.R. is reported to have entered into a new wages agreement with its maintenance of way employes, whereby a general increase has been granted. The advances average from 10 to 15c. a day, with the exception of to the laborers, whose rate remains unchanged. The new schedule became effective Aug. 11, and is terminable at 60 days' notice from either side.

G. T. R. Betterments, Construction Etc.

Ottawa Station and Hotel.—T. T. Amos, representative in Ottawa of the Geo. A. Fuller Co. of New York, said recently that the company will take over the excavation work commenced by the G.T.R. on the hotel site and push it to a conclusion. This would take two or three months to complete on account of the hard rock bed.

Lindsay Roundhouse.—It is reported that a new roundhouse is to be erected at Lindsay, Ont., in the near future, in connection with the construction of a second track on the old Midland Ry. between Port Hope and Midland, which it is said will be undertaken at an early date.

Toronto Union Station.—In an interview at Toronto Aug. 5, Sir C. Rivers Wilson, President, said he had been discussing the question of the elevation of the tracks with C. M. Hays, Second Vice-President, as they came along from Montreal. He looked at the matter first of all from the financial point of view, but the company had also to look at it from the view of the people. Under the circumstances, as far as he could see, a satisfactory arrangement had been made and the company must bow to the inevitable.

Toronto Roundhouse.—Plans have been prepared for the erection of a new roundhouse at Toronto, and the question of just where it is to be erected is under consideration. The present roundhouse, which has a capacity for 26 locomotives, is situated at the foot of Spadina ave., and it is said that, since the Board of Railway Commissioners has ordered the building of a viaduct along the water front, the company's officials have been considering the removal of the structure to another site, so as not to interfere with any future building operations in the local yards. Three sites have been under consideration: one at the foot of Bathurst street, one at Parkdale, and one at Mimico. The company erected a large roundhouse at Mimico about five years ago in connection with the freight yards which it laid out there. It is considered likely that the site chosen for the proposed house will be at the foot of Bathurst St., that being the most convenient point for housing the passenger locomotives. The plans provide for a 50-stall roundhouse, with all the most modern appliances. No decision has been reached as to when or where it will be erected.

Terminals at North Bay.—Press reports state that the company has completed arrangements with the Commissioners of the Temiskaming and Northern Ontario Ry. for the use of its terminals at North Bay, Ont.

Guelph Station.—The Board of Railway Commissioners' order directing the erection of a new station at Guelph, Ont., requires that it must be completed by Sept. 1, 1910, and that the company provide a 40 ft. subway at Gordon St., and an 8 ft. one at Huskisson St. The question of a subway at Neave St. is to be settled later. The company is given Jubilee park as a site.

Bridge Construction, Chatham to Windsor.—The Board of Railway Commissioners has authorized the company to reconstruct five bridges at different points between Chatham and Windsor, Ont. (Aug., pg. 599.)

Pintsch Light Steam Heat

Most brilliant illumination made possible by the Pintsch System using perfected Mantle Lamps and Safety Axle Driven Dynamo Electric System a product of sixteen years experience and now operating successfully on leading roads

The Safety Car Heating and Lighting Co.
2 RECTOR ST., NEW YORK.

Car Heating Systems guaranteed to meet all conditons of service. Controllable Direct Steam, Hot Water or Thermo Jet System where pressure not desired. Steam tight couplers, traps, trainpipe valves and other appliances.

CHICAGO. BOSTON. ST. LOUIS. ATLANTA. PHILADELPHIA. MONTREAL. BERKELEY, CAL.

CANADA CAR COMPANY

MONTREAL, QUE. **LIMITED**

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS CASTINGS FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS:
BOX 2286, MONTREAL

Works: TURCOT

National Transcontinental Ry.

An accident occurred, Aug. 14, at Mullin's Brook, N.B., where there is under construction a trestle 1,500 ft. long and 50 ft. high. The trestle is on a curve, and it will take 40,000 yards of material to fill it in. While an engine with seven cars of material were on the structure six of the twelve spans gave way and the engine and cars were hurled to the bottom. One man was crushed by a car and killed and several were severely injured. The loss will fall entirely on the contractors, the Toronto Construction Co., the Superintendent of which, H. F. McLean. says that the cause of the accident was the melting of snow and ice beneath the foundations, the structure having been put up during the winter.

In connection with the appointment of additional engineers to consult with the Commission of three engineers appointed to prepare plans for the reconstruction of the bridge over the St. Lawrence at Quebec, it is stated that there are no insurmountable differences between the commissioners, but that there are problems arising which render it advisable that other opinions be obtained before a decision is arrived at. The questions to be dealt with by H. Holgate, Montreal, and A. Noble, New York, who have been appointed in a consultative capacity, have to do with the substructure. Some matters relating to the superstructure have been referred to Phelps Johnson, of the Dominion Bridge Co., and P. Wolfel, of Pittsburg, Pa. The opinions of these gentlemen on the points referred to them will be considered by the bridge commissioners and by the Minister of Railways before a final decision is arrived at. It is reported as not being improbable that the commissioners will recommend that the bridge be constructed on the suspension principle, and not as a cantilever structure, as provided for in the old plans.

A large area of land is reported to have been purchased by the N.T.R. Commissioners at St. Perpetue, Que., upon which it is proposed to erect workshops for the eastern section of the line. Plans are being prepared and it is expected that tenders will be asked for at an early date.

On the sections east and west of Abitibi grading is reported to be going along very rapidly. Some steel has been laid, and it is expected that by the end of the year a good many miles will be laid both east and west from Cochrane. Rapid progress is also being made with the bridge across the Abitibi River. The track has been laid up to this point, eight miles from Cochrane. The bridge to be constructed will be 840 ft. long and 96 ft. above the water. The two principal spans will be of 210 ft. each. It is expected to be completed by the end of the year. West from Cochrane 14 miles of track have been laid.

Some trouble was given to the tracklaying gang on the section of the line between Superior Jct., Ont., and Winnipeg, by a sinkhole 49 miles west of Superior Junction. The dump at the point in question was reported to have sunk 18 ft. The difficulty was got over Aug. 1 and track laid over the new dump. Tracklaying was expected to be finished so as to connect up the G. T. Pacific Ry.'s branch to Fort William with the line from Winnipeg to Edmonton, Alta., by Sept. 1.

It was reported Aug. 10 that the Commissioners had issued orders holding payment of progress estimates of contractors where charges of overclassification had been made. These matters are to be enquired into by G. Grant, the new Chief Engineer.

At the site of the shops and yards, on the Springfield road, near Winnipeg, several parallel lines of track have been laid in the receiving and classification yard. On the north of these tracks a 24-stall roundhouse is practically completed, and a good deal of preliminary work has been done on the other buildings, for which the J. D. McArthur Co. has the contract.

The foundation work for the various shop buildings is also being proceeded with rapidly. The foundations for the locomotive and machine shop have been completed and the steel work is being erected. In addition to the foundation work to carry the building it was necessary to put in large masses of concrete to form bases for the heavy machines to be installed. The contractors for these buildings are Haney, Quinlan and Robinson.

The Commissioners propose to lay a pipe line, five miles long, from the Red River to supply water at the shops and to erect a tank with a capacity of 200,000 gallons.

The selection of the route from St. Boniface was finally determined upon Aug. 13, at a conference at which W. Mackenzie, President Canadian Northern Ry., and C. A. Young, one of the Commissioners, were present. Mr. Young subsequently saw W. Whyte, Second Vice-President C.P.R., and closed up the matter so far as that company was concerned.

Work on the bridge across the Red River between St. Boniface and Winnipeg is well under way. Excavations have been completed for the pier on the east side of the river and the concrete work has been started. Steel piles are being driven at the foot of Lombard St., Winnipeg, to form a caisson, where the pier on the west side of the river will be located. The contractors are Haney, Quinlan and Robinson.

GRAND TRUNK PACIFIC RAILWAY.

The Battle River viaduct, which is illustrated on this page, crosses Battle River valley 675.5 miles west of Winnipeg on the G.T.P.R. main line. The foundations were made in the usual way by means of open coffer dams and concrete forms. The substructure of plain concrete comprises two wing abutments, two river piers and 48 pairs of pedestals, nearly all resting on piles. The total amount of concrete used in the foundations was 11,300 cu. yds. The superstructure is composed of one 70 ft. and one 50 ft. end spans, fifty 50 ft. intermediate plate girder spans and one 150 ft. intermediate deck truss span, resting on 26 steel towers. The amount of steel used in the superstructure is 3,400 tons. The total length of this viaduct between parapets is 2,772 ft., and the distance from base of rail to low water is about 184 ft. The average height between base of rail and ground line is about 139 ft. Work was begun on the substructure in Oct., 1907, and the entire structure completed in Dec., 1908.

The first passenger train over the G.T.P.R. from Winnipeg to Edmonton, Alta., ran into the Canadian Northern Ry. station in the latter city Aug. 13. The train left Winnipeg at nine o'clock on Wednesday morning and reached Edmonton at 1.45 on Friday afternoon. The regular train service between the two points was inaugurated Aug. 15. For the present the company will use the C.N.R. tracks into Edmonton. A divisional point will be located there, and it is expected that work will be commenced this fall on the roundhouse and other necessary buildings.

GRAND TRUNK PACIFIC RY. BRIDGE, BATTLE RIVER.

West of Edmonton the tracklaying gang had reached Stoney Plains Aug. 6, and it was expected that track would be laid to 40 miles west of Edmonton by Sept. 1. It is desired to have the track laid as far as the crossing of the Pembina River, 75 miles west of Edmonton, this fall. Within easy distance of the Pembina River are the coal areas which are being developed by the Pacific Pass Coal Co. The company has control of about 5,000 acres upon which considerable prospecting has been done, and some seams are being developed. Large quantities of machinery are being forwarded, and will be delivered as soon as the railway is open to the river. The coal company expects to be in a position to be able to deliver about 10,000 tons of coal a day by the end of the year. The erection of the bridge across the Pembina River will be gone on with as soon as track is laid to the river. This bridge is

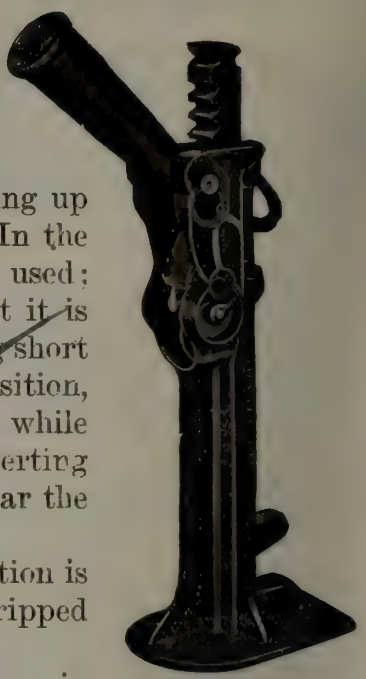
Quick Trip Track Jacks

TOGGLE JOINT TRACK JACK

The Joyce-Cridland Jacks shown herewith are specially designed for lining up tracks, the bases fitting between ties. In the toggle-joint jack, a square lifting bar is used; this gives strong wedging force so that it is impossible for the bar to slip. By taking short strokes with the lever in a horizontal position, tremendous lifting force can be applied, while long strokes give greater speed. By inserting the tripping wedge under the lower collar the bar can be quickly dropped.

In the automatic jack, the raising action is entirely automatic and the jack can be tripped by a slight touch of the lever.

Full description of these jacks given in Bulletins 33 and 35.



AUTOMATIC TRACK JACK

A. R. Williams Machinery Co., Limited

Toronto, Winnipeg and Vancouver. WILLIAMS & WILSON, Montreal

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.

MONADNOCK, CHICAGO

a fairly large one, and its erection will enable tracklaying to be gone on with towards the crossing of the McLeod River at Wolfe Creek, which point it is hoped to reach by Dec. 1. A contract has been let to Foley, Welch and Stewart for the grading of 70 miles westerly from Wolfe Creek. This contract will carry the line to Tete Jaune Cache, about 50 miles beyond the Yellowhead Pass.

A press despatch from Prince Rupert, Aug. 20, says that a contract has been let to Foley, Welch and Stewart for a second section east of Prince Rupert. This section will cover 135 miles easterly from Copper River to Aldermere, B.C. The work on this section will be very heavy, it being calculated that there will be at least 1,500,000 cubic yards of rock to be taken out. With the letting of this contract there now remains about 350 miles of the line in British Columbia to be placed under contract.

A contract has been let to the May-Sharpe Construction Co. for the concrete work on the bridges over Wolfe Creek and the McLeod River. The substructure of the Wolfe Creek bridge is expected to be completed by March next and that for the McLeod River bridge a month later.

Collingwood Schreiber, Consulting Engineer for the Dominion Government, is making his annual inspection of the line. He left Winnipeg Aug. 3 and will not return to Ottawa until early in Sept.

GRAND TRUNK PACIFIC BRANCH LINES.—An announcement was made in Winnipeg Aug. 11 that it is intended to construct a line southerly from that point to Emerson, Man., where connection will be made with the Northern Pacific Ry. It is not expected that any construction will be done on this branch this year.

It is reported that construction will be started this year on a branch from Justice, Man., southeasterly to Brandon, Man., 18 miles.

As soon as the tracklaying gang has completed its work as far as the Pembina River it will come east to Melville and start work on the branch under construction northerly towards Hudson Bay. Grading on the branch under construction southerly from Melville to Regina is reported to be practically completed to Balcarres, 33 miles. Track will be laid on it as soon as grading has been completed. The question of the route to be followed from Balcarres to Regina has not been announced. One route surveyed is from Balcarres by way of Fort Qu'Appelle, and the other is to Indian Head and then west through Balgonie. As soon as the route has been decided upon a contract will probably be let. The Board of Railway Commissioners has approved plans for the location of a branch line from Regina southerly to Portal.

A contract is reported to have been awarded to J. D. McArthur for the construction of a branch line from Tofield to Calgary, Alta. The route is practically parallel with the Calgary and Edmonton Ry. Work was reported to have started on the line Aug. 5 by G. H. Webster, Edmonton, who is said to have secured a subcontract under the general contractor. E. J. Chamberlin, General Manager, said that it was hoped to have 50 miles of this line completed this fall. The contract for the substructure of the bridges on this 50 miles has been let to S. C. Hill and Sons, and their plant was delivered at Tofield, Aug. 12. (Aug., pg. 581.)

TRADE AND SUPPLY NOTES.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

The Canadian Pilling Co., Montreal, supplied a compressed air turntable to the C.P.R. at Souris, Man., recently.

The Canadian Pilling Co., Montreal, has supplied an electrical tractor to turn the swing bridge over the Welland River at Thorold, Ont.

The Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio, advises receipt of an order for a large quantity of Falls Hollow staybolt iron bars from the Northern Ry. of Costa Rica.

The Canadian Westinghouse Co., Hamilton, Ont., has issued circular 1079, relating to O.I.W.C. transformers, etc., with illustrations of the series supplied to the Shawinigan Water and Power Co., Shawinigan Falls, Que.

The B. Greening Wire Co., Hamilton, Ont., has instructed its architect to prepare plans for a new wire rope factory. It will be a one-storey concrete and brick structure, 124 ft. x 112 ft., with saw tooth roof construction. The flooring will be solid concrete so as to withstand the weights of heavy machinery and large reels of cable. It will be an up-to-date factory in every respect. Orders have been placed for additional rope machinery of the latest design. It is expected the new mill will be completed and machinery installed by Nov. next. The present rope mill will be used as an extension of the wire working branch of the business, and will provide much needed room for the rapidly growing demand for wire guards, garden fencing, and bordering, factory lockers, etc.

The American Locomotive Co. has recently issued pamphlet 10,034, containing a very complete and instructive paper on the articulated compound type of locomotive read by C. J. Mellin, the company's consulting engineer, before the American Society of Mechanical Engineers. The paper very fully describes the characteristic features of this type of locomotive, and the text is well illustrated by drawings of its special details as constructed by the company. Illustrations of the side elevations of a number of different designs of articulated compound locomotives are also included in the pamphlet, among which are two preliminary designs for passenger service. Extracts from the discussion of the paper, and half-tone illustrations of a number of locomotives of this type built in the U.S., are also given, with the principal specifications of each design shown.

C. P. R. Grade Revision in the Rockies.

With the completion of the spiral tunnels through the Rocky Mountains between Hector and Field, B.C., the C.P.R. is enabled to save considerably upon the cost of conducting transportation in that section, notwithstanding the fact that the line has been lengthened. The gradient on the route which is to be abandoned was 4.5% and required the use of special locomotives as well as pushers. The gradient of the new line is 2.2%, which will enable heavy trains to be hauled by a single locomotive.

A contract was let for the work to Macdonnell, Gzowski and Co. in Sept., 1907, and the work has been in progress since that time. In a recent interview with the Toronto Globe, Mr. Macdonnell gave the following interesting particulars of the work which had been done:—

"This improvement has meant 8.5 miles of work, of which 1.5 miles were tunnelled under mountains of 10,000 ft. or more in height. while it increases the length of the line by 4.25 miles, at a cost of about $1,500,000, it will mean the reduction of the gradient from 4.5% to 2.2% at the worst point, while the general grade will be less than 2%. The result of this will be that where on the old track with its big grade it took four engines to handle a train, now only two will be needed; and where the four used to be able to only make four or five miles an hour, the two on the new line will be able to make 25. In this way the cost of operating a train over this difficult piece of line will be cut to about one-third of the present cost, with an improvement in the time of running, while the element of danger, inseparable from high grades, has been practically eliminated. It is these factors which have induced the C.P.R. to go to such tremendous expense to cut out the famous 'Big Hill' grade.

"The conformation of the new track is most peculiar. Coming from the east, the road first enters the western corkscrew tunnel of 3,200 ft. under Cathedral Mountain. Emerging from the tunnel twist the track runs back east across the Kicking Horse River, and then enters the eastern spiral tunnel of 2,910 ft. under Wapta Mountain, and after describing an elliptic curve emerges to again cross the Kicking Horse westward. The whole thing is a perfect maze, the railway doubling back upon itself twice, tunnelling under mountains and crossing the river twice in order to cut down the gradient. The two tunnels alone involved an excavation of 130,000 cubic yards of rock, while over 500,000 yards were blasted out in the other cuttings.

"Put in brief, the work which has now been completed is as follows:—Length of two tunnels, 1.5 miles; length of cutting outside of tunnels, 7 miles; increase in length of track, 4.5 miles; reduction in grade, from 4.5% to 2.2%; approximate cost of work, $1,500,000; number of men employed, about 1,000, with complete outfit of steam equipment; time of work, 20 months, from Oct., 1907, to July, 1909; rock removed, about 650,000 cubic yards.

"To cut out this quantity of rock, of which there were 500,000 cubic yards in the open cutting and 150,000 cubic yards in the tunnelling, 75 carloads of dynamite were used, or upwards of 1,500,000 lbs., the cost of which was over $250,000.

"During the tunnel work the contractors operated steam shovels by compressed air, one of these machines being installed at the working ahead in each tunnel, the cutting being worked from opposite ends. Despite the complicated work caused by the spiral shape of the tunnels, they met practically exactly, and the work has been completed with marvellous exactness. This is not merely the greatest piece of tunnelling ever at-

The Hamilton Steel & Iron Co.

HAMILTON, CANADA LIMITED

PIG IRON

RR. AXLES **ANGLE BARS**
TRACK SPIKES **TIE PLATES**

Marine and Railroad
FORGINGS
In Rough, Rough Turned or Smooth Finished

BAR IRON **BAR STEEL**
Plain, Cold Twisted or Deformed

STEEL BARS
For
CONCRETE REINFORCEMENT

"AMERICAN"
Locomotive Cranes

With or without Magnet for Storekeeper's yard.

Built for discriminating buyers.

Photographs of machines in operation furnished on application.

We also manufacure the "AMERICAN" Railroad Ditcher.

AMERICAN HOIST & DERRICK CO.

ST. PAUL, U.S.A.

CHICAGO NEW YORK PITTSBURG NEW ORLEANS

tempted in Canada, but the first introducion of this spiral system of tunnels on this continent."

A sketch plan showing the old and the new routes was given in our issue of Sept., 1907.

C. P. R. Articulated Locomotive.

A lot of silly twaddle has appeared in a number of daily papers in reference to the C.P.R. articulated compound locomotive which was fully described and illustrated in our last issue. Some papers went so far as to state that the locomotive was an entire failure, and that it would have to be sent to the scrap heap. This and other similarly ridiculous statements are entirely unfounded. On account of this locomotive having been constructed in a very short space of time, and being to a large extent of a novel type, its total weight was about 5% greater than was estimated. The C.P.R.'s policy is to take no chances whatever with regard to the weight of locomotives allowed to run over its bridges, and while it was endeavored to design a locomotive which would weigh as nearly as possible as much as the bridge engineers considered absolutely safe to run, when it was found that this allowed weight was exceeded, it was decided to return the locomotive to the shops and change it so as to bring it within the limit which had been set. This was not a difficult matter, as the front section of the boiler had been constructed of larger diameter than was actually necessary, in order to furnish the weight which was deemed necessary for adhesion, and the work is now under way. Apart from this, so far as the tests show, the locomotive is an entire success; it has developed rather more tractive power than had been expected, owing to the exceedingly good results obtained from the superheating arrangement, and the management considers that the locomotive is in every way satisfactory so far as could be developed from the two trips which were made as trials. It is expected as soon as the alterations are completed, which will reduce the weight about 10,000 lbs., to put the locomotive into regular service.

Brotherhood of Locomotive Firemen.

The Canadian Brotherhood of Locomotive Firemen and Enginemen commenced its convention at Winnipeg, Aug. 3, when the delegates were tendered a civic welcome. A letter was read from W. Whyte, Second Vice President C.P.R., regretting his inability to be present, a portion of which was read, as follows:—"I can assure you that I have a deep feeling of respect for the brotherhood, for during all the years of my railway career, which is the whole time of my life, because I started railway work when a stripling, the brotherhood of locomotive firemen and enginemen has caused me less inconvenience and worry than any other organization in the railway service. The reason of this may be set down to the fact that the chiefs and executive of this brotherhood have been broad-minded, reasonable and fair, not looking for trouble, but rather working in the interests of peace and harmony. And when that feeling obtains among the chiefs of the brotherhood and a similar feeling among the officials of a railway, there is very little likelihood of any serious difficulty arising. In other words, if the officers of a railway will give due consideration to the reasonable requests of the employes of the railway and the chiefs of the brotherhood will give the same consideration to the rights of the railway company, trouble is not likely to arise. What we all should aim at is to avoid taking an arbitrary position, but to respect the rights and reasonable demands of others. I sincerely trust that the good feeling that has existed in the past, and exists at the present time, may broaden and deepen in the future."

Railway Commissioners' Western Sittings.—The following are the approximate dates fixed for the Board's sittings during its western circuit: Winnipeg, Oct. 11 and 12; Brandon, Man., Oct. 13; Regina, Sask., Oct. 14; Saskatoon, Sask., Oct. 15; Prince Albert, Sask., Oct. 18; Edmonton, Alta., Oct. 20; Calgary, Alta., Oct. 22; Vancouver, B.C., Oct. 27; Victoria, B.C., Oct. 29; Nelson date to be fixed later on.

The Grand Trunk Railway's London, Eng., Offices.

The G.T.R. European Traffic Department is now housed in the company's own building at 17 to 19 Cockspur St., London, S.W. The site, which extends through from Cockspur St. to Warwick St., was secured from the London County Council. The public offices are on the ground floor, the principal feature being a room 40 ft. long by 18 ft. high. There is also a conference room on this floor. In the basement are offices and storerooms, the caretaker's apartments being located on the top floor. The building consists of six storeys, those situated between the ground and top floors, being let as general offices. The G.T.R. offices are intended to be used, not only for the transaction of the company's traffic business, but also for the convenience of Canadian travellers, the situation being convenient for all the centres of interest. The frontage of the building is faced with Portland stone, treated on broad lines, ornament being used only sparingly where the surrounding plain surfaces serve to emphasize its effect. The carvings include the coats of arms of the various Canadian provinces, and there are large emblematic figures of travel by land and sea, over the principal entrance. In the general office on the ground floor, there is a frieze showing the country through which the railway passes, with life size figures typical of Canadian life before and after the coming of the civilizing influence of the white man. The building is fully equipped with all modern conveniences, including electric light, hot water heating and vacuum cleaner plant.

ECONOMY

Those who have watched the operation of filling a locomotive tender with water will appreciate the many advantages of the

Sheffield Johnson Telescopic Standpipe Spout

It is the ideal standpipe construction.

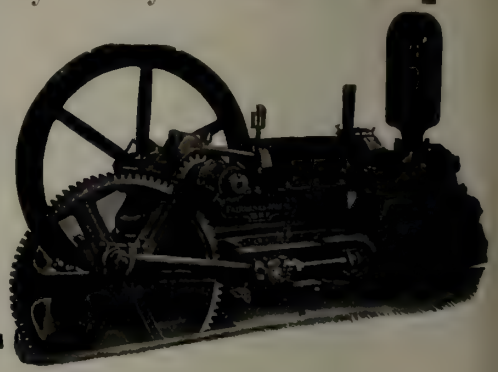
It has a vertical range of over five feet and will reach the smallest tender or the largest.

No more wasted water or wet and uncomfortable firemen. Combine with this the

Fairbanks-Morse Gasoline Combined Pumper

for filling water tanks. Always ready to start at a moment's notice. No expense except when running. It saves fuel as well as workmen's time.

Send for Further Information



The Canadian Fairbanks Co. Limited

Montreal St. John, N. B., Toronto Winnipeg Calgary Vancouver

NOVA SCOTIA STEEL AND COAL CO. LIMITED

MANUFACTURERS OF

Railway and Electric Car Axles, Angle Bars and Tie Plates, Railway Spikes

Tee Rails 12, 18, and 28 lb. per yard

ALL SIZES BAR STEEL FOR CAR-BUILDERS' USE. Spring, Machinery, Tire, Angles, and Merchant Bar Steel. Heavy Forgings of all Descriptions.

SCOTIA PIG IRON Also Miners and Shippers of the Famous Old Mines "SYDNEY" **COAL**

High in Carbon—Low in Ash. The best Steam Coal for Locomotive, Steamship, and Stationary Boilers.

Works at
NEW GLASGOW AND SYDNEY MINES, NOVA SCOTIA.

Collieries at
SYDNEY MINES.

FOR PRICES AND OTHER PARTICULARS APPLY TO

Head Office: NEW GLASGOW, N. S.

MAINLY ABOUT PEOPLE

W. Wainwright, Fourth Vice President G.T.R., returned to Canada from England, early in August.

G. A. Mitchell, of the Peter Lyall-Mitchell Construction Co., died at Winnipeg, from heart failure, Aug. 20.

J. P. Mabee, Chief Railway Commissioner and Mrs. Mabee, left Canada at the end of July for a trip to Europe. They will return early in Sept.

J. W. Pyke, of J. W. Pyke & Co., Montreal, has been elected President Mount Royal Spinning Co., in place of the late W. C. McIntyre.

Sir Wm. C. VanHorne has a number of exhibits for competition in the various cattle classes at the Canadian National Exhibition, Toronto.

Sir C. Rivers Wilson, President G.T.R., arrived in Montreal, July 30, by the s.s. Megantic, and proceeded on an inspection tour over the G.T.R. and G.T.P.R.

Sir Thomas Shaughnessy, President C.P.R., entertained the Rt. Hon. J. Bryce, British Ambassador to the U. S., at his summer home, St. Andrews, N.B., early in August.

C. W. VanBuren, Master Car Builder, C.P.R. Eastern Lines, Montreal, biographical details of whom we gave in our last issue, was born in Rensselar Co., N.Y., Oct. 15, 1867.

Among the passengers to arrive by the C.P.R. s.s. Empress of Ireland, at Quebec, Aug. 19, were Hon. G. P. Graham, Minister of Railways and Canals, and Sir Sandford Fleming.

D. D. Mann, Vice President Canadian Northern Ry., is reported as considering the question of entering politics. It is scarcely necessary to say that there is no ground for the rumor.

L. L. Buck, a well known civil engineer, died at Hastings, N.Y., recently aged 72. He was the designer of two steel bridges spanning the Niagara River, between Canada and the U.S.

A. J. Nixon, Assistant Superintendent G.T.R., London, Ont., was presented with two club bags, Aug. 21, by the G.T.R. trainmen at Hamilton, on the occasion of his leaving the company's service.

J. M. Egan, who was Superintendent of the C.P.R. in Winnipeg, in its early days, was visiting there at the end of July. He was on his way to Alaska, where he intends to spend some time.

F. E. P. Turner, C.E., who died at Bracondale, Ont., July 30, was engaged in 1887, by the Dominion Government, to report upon the Trent Valley Canal project.

H. R. Charlton, General Advertising Agent, G.T.R. and G.T.P.R., accompanied by J. W. Swan, official photographer, left Montreal, Aug. 11, for Prince Rupert, B.C.

D. McNicoll. Vice President C.P.R., left Montreal, Aug. 11, on a tour of inspection of the company's lines to the Pacific coast, intending to return early in September.

Lord Strathcona arrived in Canada in August, and during the time he will remain here, he has arranged to visit the principal centres of activity throughout the Dominion.

W. H. Estano, Traffic Auditor Intercolonial Ry., Moncton, N.B., was married Aug. 11, at West Aylmer, Ont., to Miss E. O. Terrill. The I.C.R. audit staff marked the occasion by the presentation of a china cabinet.

A. B. Ingram and H. N. Kittson of the Ontario Railway and Municipal Board, were in St. Thomas, Ont., Aug. 7, when they inspected the street railway there, and also went over the Southwestern Traction Co.'s line.

The engagement is announced of Mrs. A. W. Mackenzie, widow of the late A. W. Mackenzie, at one time Treasurer C.N.R. and subsidiary companies, to K. R. Marshall, Vice President Standard Fuel Co., Toronto.

D. B. Hanna, Third Vice President Canadian Northern Ry., accompanied by A. D. Davidson, C.N.R. Land Commissioner, sailed for England Aug. 5 on a business visit, and will return to Canada early in September.

A. A. Ingram, son of A. B. Ingram of the Ontario Railway and Municipal Board, and who is engaged in the St. Thomas office of Kingsmill, Saunders Torrance and Kingsmill, Solicitors for the Michigan Central Rd., has been appointed a Notary Public for Ontario.

Arthur Hawkes, Superintendent of Publicity, Canadian Northern Ry., Toronto, read a paper on "Advertising a Nation," at the 5th Annual Convention of the Associated Advertising Clubs of America, which was held at Louisville, Ky., Aug. 25 to 27.

H. D. Lumsden, who recently resigned the position of Chief Engineer National Transcontinental Ry. Commission, sailed for Great Britain on the C.P.R. s.s. Empress of Ireland, July 30, intending to return to Canada about the middle of September.

Among the provisional directors of the Kirchhoffer Shooting Club, recently incorporated in Manitoba, for the encouragement of the preservation of game, and to establish a shooting club, are, Sir Henry M. Pellatt, F. Nicholls and G. G. S. Lindsey, of Toronto.

G. H. Carter, railway contractor, who died at Guelph, Ont., Aug. 12, was interested in the construction of the Buffalo and Lake Huron Ry., at Goderich, and part of the old Great Western Ry., at St. George, both now forming part of the G.T.R. system.

J. Murray Gibbon, C.P.R. Advertising Agent, London, Eng., who was visiting Canada, during August, crossed the Atlantic in the company's s.s. Empress of Ireland as a steerage passenger to gain personal experience as to the general treatment of emigrants on these vessels.

H. Pellatt, who died at Orillia recently, was at one time Auditor of the old Northern Ry. Co., and at the time of his death was a director of the Dominion Telegraph Co. and of the Victoria Rolling Stock Co. He was father of Sir H. M. Pellatt, who is a director of a number of transportation companies.

Sir John Jackson, an English railway contractor, who has recently completed the construction of what is claimed to be the highest railway in the world, between La Paz, Bolivia and Arica, Chili, was in Montreal during August, when he was the guest of G. W. Stephens, Chairman of the Montreal Harbor Commission.

C. A. Saylor, who has been appointed Locomotive Foreman G.T.R., Hamilton, Ont., entered G.T.R. service at Point Edward, Nov., 1897, and with the exception of two intervals; from Nov., 1901, to June, 1902, and from July to Nov., 1902, he has been with that company ever since, at Battle Creek, Mich., and Sarnia tunnel.

Robt. Reid, member of the National Transcontinental Railway Commission, who died at Ogunquit, Me., Aug. 21, was born at London, Ont., July, 1855, and entered his father's wholesale stationery business there, and which was taken over by himself and a brother in 1878. He was appointed to the Commission Sept., 1904, on its formation.

Among the ticket agents who have joined the Canadian Ticket Agents Association recently are:—J. Ransford, G.T.R., Clinton, Ont.; H. MacDougall, G.T.R., Brampton, Ont.; W. R. Russell, G.N.R., Humboldt, Sask.; J. DeW. Randall, M.C.R., Niagara-on-the Lake, Ont.; D. A. Campbell, C.P.R., Gravenhurst, Ont.; F. J. Hutchins, C.P.R., Parkhill, Ont.

J. G. Swalwell, whose appointment as Local Auditor in charge of Traffic Receipts, G.T.P.R., Winnipeg, was announced in our last issue, was born at Montreal, July 3, 1867, and entered G.T.R. service Oct. 28, 1881, since when he has been, to Nov. 1, 1894, in various positions in the Freight Traffic Audit Office, Montreal, and from that date to June, 1909, Travelling Auditor.

S. Rothwell, Locomotive Foreman, Brockville, Westport and Northwestern Ry., died at Brockville, Ont., Aug. 14, aged 52. He was born at St. Catharines, Ont., but had lived in Brockville the greater part of his life. Prior to his service with the B.W. and N.W.R., he had been engaged with the G.T.R. and the C.P.R., having in the latter case been employed on the construction of the Rocky Mountain section.

G. Blackbird, who is said to be the oldest living ex-employe of the G.T.R., celebrated his 91st birthday recently at Richmond, Que. He was born at Newcastle, Eng., and after some years of service on the early English railways, he engaged with the firm who secured the contract for the construction of the G.T.R., and was sent to Canada in 1854. He was in charge of the first passenger train to run between Toronto and Port Hope.

John Saxby, the inventor of railway signals, recently celebrated his 89th birthday, at his home, Hassocks, Eng. He began life as a carpenters' apprentice, and was subsequently the inventor of the interlocking system of signalling, which has become universal. He was intimately associated with railways in their early days, and came into personal contact with Brunel and Stephenson, and also with railway men of a later date, such as Fowler and Baker. He is the head of the firm of Saxby and Farmer, Ltd.

John Date, who died at Montreal, July 26, aged 86, was probably the oldest master plumber in Canada, if not in America. He was born at Tavistock, Devonshire, Eng., came to Canada when about 20 years of age, and after being at Hamilton and Toronto for a time started business on Craig St., Montreal, as a plumber. He also began the manufacture of diving apparatus, which under his management has grown to large dimensions. He leaves a widow, three

THE

NEW HOTEL BREVOORT CHICAGO

The Twentieth Century Hotel **Absolutely Fireproof**

Centrally located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG, PROPRIETORS

ARTHUR M. GRANT, MANAGER

THE SEA-SIDE

100's of Safe Beaches

Water Agreeable Temperature

Accommodation at Reasonable Rates

In

QUEBEC

NEW BRUNSWICK

NOVA SCOTIA

PRINCE EDWARD I.

Halifax, N.S. ..... cor. Sackville and Hollis Sts.
St. John, N.B. ..... 3 King Street
Quebec ..... 22 Dalhousie Street, 7 Dufort Street, 349 St. Paul Street
Montreal, P.Q. ..... 130 St. James St.
Toronto....51 King Street, King Edward Hotel Block

Write for copy of "TOURS TO SUMMER HAUNTS" to
General Passenger Dept.

INTERCOLONIAL RAILWAY

MONCTON, N.B.

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING, 232 ST. JAMES STREET, **MONTREAL**

sons and a daughter. The business is being carried on by two of the sons, and his son-in-law, H. T. Garlick, remains with them.

C. Murphy, whose portrait appears on the first page of this issue, was born at Prescott, Ont., Nov. 20, 1865, and entered C.P.R. service in 1883, since when he has been, to 1885, operator; 1885 to 1890, chief operator and dispatcher; 1890 to 1899, chief dispatcher, Ottawa; 1899 to June, 1900, acting Superintendent, and June, 1900, Superintendent, Chapleau, Ont.; 1902 to Nov., 1903, Superintendent, North Bay, Ont.; Nov., 1903, to Feb., 1908, Superintendent, District 2, Ontario Division. He was appointed General Superintendent, Eastern Division, Montreal, in June, 1908, and in the interval, acted as relieving General Superintendent at North Bay, Ont., and Montreal.

W. Marshall, who has been appointed Superintendent C.P.R. Telegraphs, Ontario Division, Toronto, was born at Garden Island, Ont., May 18, 1859, and entered telegraph service July 12, 1876, since when he has been to 1877, in the stores department, Dominion Telegraph Co.; 1877 to 1878, telegraph operator and lineman, same company, St. Catharines, Ont.; 1878 to 1880, foreman of line construction, Canada Mutual Telegraph Co., Toronto; 1880 to 1886, foreman of line construction, Western Union Telegraph Co., Buffalo, N.Y.; Sept. 1, 1886, to July 1, 1906, Inspector of Telegraphs, C.P.R. Ontario Division; July 1, 1906, to Aug., 1909, Superintendent of Construction, C.P.R. Telegraphs, Ontario Division, Toronto.

A. W. Barber, Superintendent of Telegraphs, C.P.R., Ontario Division, whose death was announced in our last issue, was born at Toronto, Feb. 17, 1855, and entered telegraph service in 1871, with the Montreal Telegraph Co. at Toronto, since when, to Aug. 1, 1886, he held various positions as operator with that company at Toronto and Dundas, Ont; as operator Toronto and Nipissing Ry. Toronto; dispatcher Canada Southern Ry., St. Thomas, Ont.; chief operator Dominion Telegraph Co., Toronto; and chief operator Canada Mutual Telegraph Co., Toronto. From Aug. 1, 1886, to Dec. 1, 1899, he was Manager C.P.R. Telegraph office at Toronto, and from Dec. 1, 1899, to the date of his death, was Superintendent of Telegraphs for the C.P.R., Ontario Division. He leaves one son, C. T. Barber, who is Assistant Traffic Chief, C.P.R. Telegraphs.

The Imperial Construction Co., which has just commenced business in Toronto, is composed of John Montgomery and A. M. Grantham. Mr. Montgomery has been actively engaged in building operations for many years, and has for a number of years been engaged with Mackenzie, Mann & Co. in various important works. Mr. Grantham, who is a civil engineer, is also Superintendent of Construction and Purchasing Agent, Toronto Railway. The Imperial Construction Co. has been awarded contracts for the Ca-Hotel at Port Arthur, for the Toronto Ry.'s new car barns, and also for some work in Quebec.

M. J. Butler, Deputy Minister of Railways, left Ottawa Aug. 12 on a trip of inspection over all the railway lines in the West which are subsidized by the Dominion Government.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases from 1908-09, from July 1, 1909:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July	$ 843,500	$613,900	$229,600	$26,700
Inc. or Dec.	$ 115,000	$ 88,300	$26,700	.....

Approximate gross earnings for 8 weeks ended Aug. 21, $553,500 against $504,500 for same period 1908.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-8, from July 1, 1908:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
July	$6,292,889.82	$4,018,207.57	$2,274,573.24	$232,279.41 –
Aug.	6,385,956.69	3,807,057.98	2,578,898.71	8,623.56 +
Sept.	6,391,672.48	4,277,064.71	2,114,607.77	36,745.58 –
Oct.	7,381,970.41	4,726,703.70	2,655,266.71	25,050.93 –
Nov.	7,303,303.20	5,082,223.85	2,221,079.35	223,954.86 –
Dec.	6,955,874.11	4,759,122.54	2,196,751.57	119,561.99 +
Jan.	4,761,859.93	4,372,110.10	389,749.83	234,241.95 –
Feb.	4,966,208.14	4,204,063.36	762,144.78	405,048.17 +
Mar.	6,518,763.14	4,715,055.01	1,803,708.13	502,678.64 +
Apr.	6,384,038.32	4,240,530.80	2,143,507.52	421,273.08 +
May.	6,420,640.04	4,493,779.55	1,926,860.49	245,365.25 +
June	6,550,153.68	4,661,728.89	1,888,424.79	212,928.92 +
	$76,313,320.96	$53,357,748.06	$22,955,572.90	$1,163,206.88 +
Inc. or Dec.	$4,929,147.24	$3,765,940.36	$1,163,206.88	.....

The net results of the company's operations for the year ended June 30, are as follows:—

Gross earnings	$76,313,321
Working expenses	53,357,748
Net earnings	22,955,573
Net earnings of steamships in excess of amounts included in monthly reports	399,910
Income from other sources	1,906,578
Total net income	$25,262,061
Deduct fixed charges	9,427,033
Surplus	$15,835,028
Deduct amount placed to steamship replacement account	800,000
Deduct contribution to pension fund	80,000
Net revenue available for dividends	$14,955,028
Surplus for year carried forward after payment of all dividends	$3,847,161

Approximate gross earnings for July, $7,004,000, and for 2 weeks ended Aug 14, $3,213,000; against $6,196,000 and $2,890,000 for same periods 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross revenue for June, $376,764.03; net revenue, $171,895.62; against $210,774.74 gross revenue, $46,868.37 net revenue, for June, 1908. Aggregate gross revenue for 12 months ended June 30, $2,931,795.50; net revenue, $952,277.43; against $2,921,916.02 gross revenue, $811,148.91 net revenue, for same period, 1907-08. Approximate gross earnings for July, $297,564, and for 2 weeks ended Aug. 14, $149,779, against $230,932 and $109,854 for same periods 1908.

MINERAL RANGE RD.—Gross revenue for June, $70,584.72; net revenue, $5,460.59; against $70,135,67 gross revenue, $10,551.83 net revenue, for June, 1908. Aggregate gross revenue for 12 months ended June 30, $829,424.61; net revenue, $128,391.27; against $810,393.98 gross revenue, $121,529.00 net revenue, for same period 1907-08. Approximate gross earnings for July, $73,257, and for 2 weeks ended Aug. 14, $34,020, against $71,119 and $32,330 for same periods 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for June, $1,072,626.47; net earnings, $478,010.79; against $920,752.83 gross earnings, $377,062.48 net earnings for June, 1908. Aggregate gross earnings for 12 months ended June 30, $12,609,299.17; net earnings, $5,551.582.58; against $11,509,857.32 gross earnings, $4,393,892.41 net earnings, for same period 1907-08. Approximate earnings for July, $998,071, and for 2 weeks ended Aug. 14, $491,563; against $927,145 and $430,180 for same periods 1908.

Grand Trunk Ry. Earnings, Expenses Etc.

Subject to audit, the accounts for the half-year ended June 30, show the following results:

Gross receipts	£2,866,400	
Working expenses	2,079,200	
Net receipts		£ 787,200
Income from rentals, outside operations, and car mileage balance		58,100
Total net revenue		£ 845,300
Net revenue charges for the half year —less credits		498,600
Balance		£ 346,700
Deduct. Canada Atlantic deficiency for the half year	£41,100	
Deduct, Detroit, Grand Haven & Milwaukee deficiency for half year	25,700	66,800
Surplus		£ 279,900

This surplus of £279,900 added to the balance of £12,200 from December, 1908, makes a total of £292,100 available for dividend, which will admit of the payment of the full dividend for the half-year on the 4% Guaranteed Stock, and First Preference Stock, leaving a balance of about £9,900 to be carried forward.

The accounts of the G.T. Western Ry. for the year ended June 30, including the balance brough forward from the previous year, show a surplus sufficient to propille for the interest on the First Mortgage Bonds, and leape a balance of about £18,000.

TRAFFIC RECEIPTS OF THE SYSTEM

Aggregate from July 1;

	1909	1908	Inc.	Decr.
Grand Trunk	£559,037	£517,862	£41,175	.....
Canada Atlantic	30,672	37,446	.....	£6,774
G. T. Western	96,760	96,262	498	.....
D.G.H. & M.	30,898	30,645	253	.....
Total	£717,367	£682,215	£35,512	.....

Approximate earnings for July, $3,491.184, and for 2 weeks ended Aug. 14, $1,700,877; against $3,320,114 and $1,573,498 for same periods 1908.

High Level Bridge in Toronto.

The Board of Railway Commissioners has ordered the erection of a high level bridge across the Don river and the C.P.R., C.N.R. and G.T.R. tracks at Queen St. East, Toronto, on the application of the city of Toronto, as follows:—

That the applicant be authorized to construct a bridge to carry the highway and the Toronto Ry. Co.'s tracks over the C.P.R., G.T.R. and C.N.R. Co.'s tracks where they cross Queen street east, Toronto.

That the applicant submit detail plans of the proposed bridge and approaches, for the approval of an engineer of the board, by Sept. 15, 1909, and construct the bridge ready for traffic by July 1, 1910.

That the cost of the construction of the bridge and approaches, and the land damages, if any, shall be paid as follows:—City of Toronto, 15%; Toronto Ry Co., 15%; C.P.R. Co., 35%; Canadian Northern Ontario Ry. Co., 25%, and the G.T.R. Co. (Belt Line), 10%.

That upon completion the bridge shall be maintained by the applicant. The cost of such maintenance, with the exception of the cost of the maintenance of the roadway and sidewalks on said bridge and approaches, shall be paid as follows:—by City of Toronto, 70%; by C.P.R. Co., 10%; by the Canadian Northern Ontario Ry. Co., 10%, and by the G.T.R. Co., 10%. The cost of the maintenance of the roadway and sidewalks on bridge and approaches shall be borne entirely by the applicant.

Any matter in dispute between any of the parties hereto, with regard to the carrying out of the provisions of the order, shall be determined by the Board's Chief Engineer.

Sir Wm. C. Van Horne, Chairman of the Board, C.P.R., in his evidence at the investigation of the affairs of the Grand Falls Power Co., St. John, N.B., Aug. 10, said the value of the undeveloped power site there was $1,000,000, and added that it was not equalled on the continent.

DOMINION IRON & STEEL CO.

LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1909. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICES AND WORKS: **SYDNEY, CAPE BRETON, CANADA**

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for Sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

Canadian Gold Car Heating & Lighting Co. Ltd.

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished. Improved System of Acetylene Car Lighting.

Send for Circular of our New Combination Pressure and Vapor Car Heating System

Largest Manufacturers in the World of Car Heating Apparatus

Canadian Northern Ry. Construction, Etc.

Canadian Northern Quebec Ry.—The Board of Railway Commissioners on July 29 authorised the company to open for traffic the cut-off from Garneau Jct. into Quebec, 78.76 miles, and the line was formally opened for traffic Aug. 22. The new route gives the company a line having a length of 176.5 miles betwee Montreal and Quebec, against 196.5 miles by the old route via Riviere a Pierre, and is only a little over two miles longer than the C.P.R. route between Montreal and Quebec. The work was started in 1906, the contractors being O'Brien and Mullarkey. Some delay took place in carrying on the work owing to the fact that the route selected for the National Transcontinental Railway conflicted with that selected by C.N.Q.R. After some negotiations the difficulty was settled, and a new route surveyed for the line where the two lines previously came together. Starting from Garneau Junction, the line gradually works down to the St. Lawrence River, which is reached near Deschambault, and from that point to Cap Rouge, a distance of about 40 miles, it follows the river. There are concrete and steel bridges over Batiscan, Charest, Ste. Anne, Jacques Cartier, and Portneuf Rivers, while a smaller structure has been erected across the river at Cap Rouge. The line passes under the National Transcontinental Railway viaduct across Cap Rouge valley. The new line has been laid with 80 lb. steel rails, and is well ballasted.

In contemplation of the completion of this line the company has been replacing the 70 lb. rails on the section of the line between Montreal and St. Boniface, the section between St. Boniface and Garneau Jct., having already been relaid.

The grading on the 11 miles of line under construction from St. Jacques to Rawdon, Que., is reported to be well advanced. J. P. Mullarkey, the contractor, stated Aug. 7 that it was expected to have the track laid this fall.

Quebec and Lake St. John Ry.—The Quebec Legislature, at its last session, granted an extension of time for the construction of a number of branch lines. The branch line authorised to be constructed from Roberval to the northwestern boundary of St. Felicien, are to be commenced by July 1 and completed before Jan. 1, 1911.

Canadian Northern Ontario Ry.—The Board of Railway Commissioners has approved of location plans of the line through Gloucester and Nepean tps., Ont.,, from mileage 51.91 to 57.42 west from Hawkesbury. It is expected that the work on the line from Hawkesbury to Ottawa will be completed so as to permit of the operation of trains over it by Oct. 15.

Surveys have been started at Toronto for the company's line to Ottawa on the east, and to Niagara Falls on the west. The survey party started work at East Toronto and is working past Scarboro Heights, almost parallel to, but a quarter of a mile from the G.T.R. tracks along the lake shore. The route gone over will carry the line under the G.T.R. about 7 miles east of the Woodbine. It will then run along the front of the heights to Port Union, where it again goes under the G.T.R. tracks, and then bears off to the northeast. An alternative route is being surveyed up the Don valley, a considerable distance north of the C.P.R. This line is being carried over to Yonge St., so as to avoid the heavy gradient met with on the other line. From Yonge St. it will run easterly along the ridge of land for several miles and then bear away southeasterly towards the lake shore and then will parallel the G.T.R. for a considerable distance. Between Toronto and Niagara Falls the route to be followed runs along the Electrical Development Co.'s right of way of the power line, which terminates at Yonge St., just south of the hill. On the completion of the surveys now being made, a report will be prepared for consideration and the route finally determined upon. It is expected, however, that the northern route will finally be selected.

The Board of Railway Commissioners has approved of plans for the construction of a bridge across the Vermillion River, mileage 26.66 from Sudbury Jct., Ont., on the extension of the line now under construction towards Port Arthur.

A press report recently stated that arrangements had been made by which the company secured trackage rights over the C.P.R. from Sudbury to Port Arthur, but Sir Thos. G. Shaughnessy, President C.P.R., says that the appearance of the report in the papers was the first he had heard of it.

Port Arthur Hotel.—A contract has been let by the C.N.R. Co. to the Imperial Construction Co., Toronto, for the erection of the Prince Arthur Hotel, at Port Arthur. The plans show a palatial building, which will front on Water street overlooking the bay and run back to Cumberland street. The portion now to be erected will be about 213 by 52 ft. and 6 storeys high, and will contain about 125 rooms, with a large number of bath-rooms. The building will be a thoroughly up-to-date one in every respect, and will cost about $250,000.

Canadian Northern Ry.—W. Mackenzie, President, arrived in Port Arthur Aug. 11 on an inspection trip over the line. He was met by M. H. MacLeod, General Manager and Chief Engineer, who accompanied him westward.

The work of relaying the line between Port Arthur and Winnipeg with 80 lb. steel is being rapidly proceeded with. M. H. MacLeod recently stated that about 50 miles of the new steel had been laid, and that in order to expedite the work a fourth gang would be set to work.

Hallboro, the point from which an extension is being constructed through central Manitoba, is a station on the line between Neepawa and Neepawa Jct. Among the sub-contracts let on the Maryfield extension, it is reported that one has been let to Mrs. Bennett. This is said to be the first appearance of a woman in the railway contracting field in Canada.

The Board of Railway Commissioners has approved of location plans for a line through tps. 9 and 10, ranges 30 and 32 west of the principal meridian in Saskatchewan, mileage 0 to 16.09.

J. H. Gordon, a trader from Pas Mission, Sask., arrived in Winnipeg, Aug. 6. He reported that the ballasting on the line from Hudson Bay Jct. to the Pas was completed, and the line in good shape for traffic. The charter does not call for a train service until Jan. 1, 1910, but it is probable that a service will be put on before that time.

Tracklaying on the branch line southerly from Vegreville towards Calgary, Alta., was started July 29, and it is expected to have it completed as far as Camrose early in Sept. Grading has been completed for 85 miles from Vegreville, and the grading gang is working in the vicinity of Stettler.

After inspecting the lines in operation and under construction in the Prairie provinces, President Mackenzie went on to Vancouver, B.C., to deal with questions connected with the extension of the line to the Pacific coast. The route of this extension is under survey, the particular part of the work at present in hand being the location of the route into Vancouver or New Westminster, B.C. The Board of Railway Commissioners has approved of the location of this part of the line as follows; from the west bank of the North Thompson River, northwesterly from Kamloops, following the west bank of the river for a distance of ten miles northerly, and for a further distance of 14 miles to a point five miles beyond the railway belt. (Aug. pg. 595.)

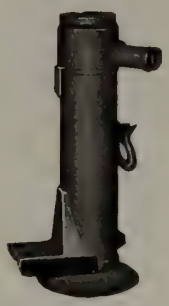
Telephone Dispatching on the C.P.R.—The adoption of the system of dispatching trains by telephone instead of by telegraph, on the C.P.R., has proved that about 50% more traffic can be handled by the former than by the latter. This system has been in use on the company's lines between Montreal and Newport since June, 1908, and it has been found to be very satisfactory. Other circuits have been added from time to time, details of which we have already published. During August, the equipment of the following circuits was completed, on the Western Lines: from Swift Current to Medicine Hat, Alta., 147 miles; from Winnipeg to Brandon, Man., 133 miles; and from White River to Fort William, Ont., 251 miles.

Canada and Gulf Terminal Ry. Co.—The Quebec Legislature at its last session changed the title of the Matane and Gaspe Ry. Co. to the above. The section as to the lines authorised to be constructed contained in the previous acts was repealed, and a new section inserted authorising the company to construct the following lines: from the Intercolonial Ry. near St. Flavie easterly, following as much as possible the maritime road to Matane, along the valley of the Matane River to its headwaters and northeasterly to Mont Louis, Gaspe county, thence to Gaspe Basin; from Matane easterly to Mont Louis, with the right to construct a branch up the valley of the Ste. Anne River to a junction with the first mentioned line; from St. Flavie to the National Transcontinental Ry., in either Temiscouata or Kamouraska county; from St. Flavie westerly to Rimouski, thence southerly to a junction with the last mentioned line. Other sections of the original acts are repealed and new sections inserted. These provide that the capital stock shall be $4,000,000; that the head office shall be in Quebec; and that the company shall have power to issue bonds to the amount of $30,000 a mile. A contract has been entered into between the Department of Railways and the Matane and Gaspe Ry. Co., in respect of the construction, under subsidy, of a line from near St. Flavie, on the Intercolonial Ry., to Matane, in lieu of the subsidy granted by cap. 43, 1906, for 38 miles. (June, pg. 413.)

H & E Patent Ball-Bearing Lifting Jacks

For Railway and Bridge Work, Contractors' and Builders' Use

Foot-Lift



For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed.

Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

Square Base

Journal Jack

Plain

MANUFACTURED BY

H & E LIFTING JACK COMPANY = = WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

CANADIAN LOCOMOTIVE CO., LTD.,

KINGSTON, ONT.

Builders of Simple and Compound **LOCOMOTIVES** Adapted to every variety of service

THE CANADA IRON CORPORATION

Successors to: **LIMITED**

CANADIAN IRON & FOUNDRY CO., LIMITED
CANADA IRON FURNACE CO., LIMITED
ANNAPOLIS IRON CO., LIMITED
JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE ——— MONTREAL, P.Q.

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and Gas Pipe, Specials, Valves, Hydrants, Etc. Castings of All Kinds

Railway Commissioners Traffic Orders.

Summaries of other traffic orders passed are given on another page under the heading of Orders by Railway Commissioners.

BEDLINGTON & NELSON RY. REFUND.

7552. July 7.—Re application of C. P. Riel for order directing Bedlington & Nelson Ry. Co. to refund to applicant $2,007.36, amount of alleged overcharge by the company on shipments of railway ties made by applicant between Jan. 11 and 30, 1908, from Rykerts, B.C., to Portage la Prairie, Man.; upon hearing the application in the presence of counsel for the applicant and the railway company, and what was alleged, and upon the report of the Board's Chief Traffic Officer, the railway company consenting, it is ordered that the railway company be authorized to refund to applicant all freight charges in excess of the rate and minimum weight bases published in the company's tariff, C.P. Ry. C.R.C. A-151, on all railway ties loaded at Rykerts not later than Jan. 31, 1908, and consigned to Portage la Prairie, Man.

PASSENGER RATES ON B.C. STEAMBOATS.

7594. July 23.—Re complaint of F. W. Godsall, of Cowley, Alta., alleging excessive passenger rates on C.P.R. steamboats between ports of call on the Kootenay and Arrow Lakes, B.C., and re complaint of Nelson Board of Trade, in support of said complaint; upon consideration of the applications for an order rescinding order 6619, of March 8, 1909, it is ordered that the said order be rescinded, and the complaint reinstated for hearing.

LUMBER RATES, B.C. TO EDMONTON.

7602. July 23.—Re complaint of Fullerton Lumber & Shingle Co., of Vancouver, B.C., against rate of $10 a car charged in addition to rate to Strathcona, Alta., on lumber shipments from B.C. mills to Edmonton; upon hearing the complaint at the sittings at Edmonton, Vancouver and Ottawa, in the presence of counsel for the applicant, the C.P.R. and the C.N.R. companies, the evidence adduced, and what was alleged, and upon the report and recommendation of the Board's Chief Traffic Officer, it is ordered that the C.P.R. and the C.N.R. companies be directed to publish and file joint class and commodity tariffs of rates on freight traffic in classes 6 to 10, inclusive, of the Canadian Classification, between Edmonton and North Edmonton and all points on the C.P.R. south of and including Red Deer, east of and including Daysland and Tees, and east and west of Calgary and Macleod, via Strathcona Jct., on the basis of 1c. per 100 lbs. over and above the C.P.R. class and commodity rates to or from Strathcona, and that in the division thereof, the C.N.R. be allowed a proportional rate of $10 a carload, regardless of weight, between Strathcona Jct. and any or all sidings in Edmonton, including those owned by the C.P.R. Co., but excepting the Griffin packing house, to or from which the C.N.R. be allowed $12 a carload, regardless of weight, provided that in no case shall the joint rates to or from C.P.R. stations between Red Deer, Daysland and Tees and Strathcona Jct. exceed the joint rates herein prescribed to or from those points, nor the proportion allowed the C.N.R. exceed the joint rates charged for local traffic between Strathcona and Edmonton and North Edmonton aforesaid. Order 6835, of April 6, 1909, is rescinded.

RAILWAY BILLS OF LADING.

7562. July 15.—Re complaint of Canadian Manufacturers' Association, supported by the Bankers' Association and by various boards of trade, merchants, and shippers throughout the Dominion, respecting the terms and conditions of carriage embodied in the bills of lading of railway companies subject to the legislative authority of the Parliament of Canada, and in the matter of sec. 340 of The Railway Act, upon hearing the complaint in the presence of counsel for the complainants and the G.T.R., C.P.R., C.N.R. and M.C.R. Companies, and what was alleged, and upon consideration of the draft forms of bill of lading agreed to by the parties thereto, and submitted for the approval of the Board, it is ordered that the two forms of bill of lading for use in Canada, namely, that for consignments "to order" and that for so termed "straight" consignments, attached hereto and marked "A" and "B," be and they are hereby approved, and it is further ordered that the conditions and limitations to be endorsed upon the said bills of lading shall be the following:—

Owing to lack of space the forms and conditions, etc., above referred to are not reproduced here.

EXCEPTIONS TO RATINGS ON SILVER ORE.

7720. July 28.—Re application of C.P.R. and G.T.R. Companies, through the Advisory Committee of the Canadian Freight Association, under sub-sec. 4 of sec. 321 of The Railway Act, for approval of certain exceptions to the Official Classification of Silver Ore to points in the United States, upon reading what was alleged in the letter of application, and upon the report of the Chief Traffic Officer of the Board, it is ordered that the "exceptions" to the ratings of silver ore of the Official Classification, as incorporated in the G.T.R. freight tariffs C.R.C. E-1599 and 1600, and the C.P.R. freight tariffs C.R.C. E-1422 and 1450, applying from North Bay, Ont., to certain points in the U.S., be approved, subject to any order or direction of the Board herein.

Grace Henderson, employed as cashier Thousand Islands Ry., at Gananoque, Ont., was recently committed for trial on a charge of embezzlement of $500, $96 and $2,620.

H. W. Wills, Superintendent C.P.R. Hotels, Western Lines, while in Victoria recently, is reported to have said that the company is contemplating the establishment of another hotel on the Island, subsidiary to the Empress Hotel.

An action has been entered in the Manitoba courts to recover $100,000 in connection with some land transactions in the neighbourhood of the National Transcontinental Ry. shops at Winnipeg. It is alleged on the part of the defendants that they were induced to go into the deal by statements in regard to the location of the shops and by the fact, which they allege, that C. A. Young, one of the N.T.R. Commissioners, was interested in the sale of the lands.

Railway Charters Granted 1888-1908.

An order was made during the recent session of the House of Commons for the preparation of a statement showing the total mileage of railways authorized to be constructed under charters granted by the Dominion Parliament from 1888 to 1908 inclusive, exclusive of the G.T.R., C.P.R., C.N.R., and G.T.P.R.; the number of miles constructed under the said charters; the number of companies so incorporated; the number of companies that have actually constructed any portion of the railways so authorized; the number of charters that have lapsed and the number which have been granted extensions of time for construction. The return shows that excluding the companies above mentioned, there have been 203 companies incorporated within the years named, with authority to construct 63,809 miles of railway, and that 1073 miles have actually been constructed. Of the 203 companies 35 have constructed portions of the lines authorized; 86 of the charters have lapsed, 88 of the companies have been granted one extension of time for construction, 42 have been granted an extension on two occasions, and 18 have been granted three or more extensions of time. The lapsed charters are as follows:—

Granted in 1888.—Annapolis-Atlantic Ry.; Belleville and Lake Nipissing Ry.; Canada and Michigan Tunnel; Chatham (N.B.) Ry.; Chinook Belt and Peace River Ry.; Collingwood and Bay of Quinte Ry.; New York, St. Lawrence and Ottawa Ry.; Ottawa and Parry Sound Ry.; Western Ontario Ry.

Granted in 1889:—Assiniboia, Edmonton and Nipigon Ry.; Calgary, Alberta and Montana Ry.; Cobourg, Northumberland and Pacific Ry.; Kootenay and Athabasca Ry.; Lac Seul Ry.; Moose Jaw to Edmonton; North-Western Junction and Lake of the Woods Ry.; Ontario, Manitoba and Western Ry.; Saskatchewan Ry. and Mining Co.; Three Rivers and Western Ry.; Union Ry.; Victoria, Saanich and New Westminster Ry.

Granted in 1890:—Moncton and Prince Edward Island Ry. and Ferry Co.; Mount Forest, Markdale and Meaford Ry.; North Canadian Atlantic Ry. and Steamship Co.; Ottawa, Morrisburg and New York Ry.; Owen Sound and Lake Huron Ry.; Sault Ste. Marie and Hudson's Bay Ry.

Granted in 1891:—Atikokan Iron Range Ry.; Brighton, Warkworth and Norwood Ry.; Buffalo Lake and Battleford Ry. Coal and Iron Co.; Burrard Inlet and Westminster Valley Ry.; Chatsworth, Georgian Bay and Lake Huron Ry.; Kingston and Pontiac Ry.; Manitoba and Assiniboia Grand Junction Ry.; Peterborough, Sudbury and Sault Ste. Marie Ry.

Granted in 1892:—Buckingham and Lievre River Ry.; Ottawa Valley Ry.; Winnipeg and Atlantic Ry.

Granted in 1894:—Alberta Southern Ry.; Cariboo Ry.; Duluth, Nipigon and James Bay Ry.; Gleichen, Beaver Lake and Victoria Ry.; Lake Megantic Ry.; Metis, Montana and Gaspe Ry.; Pontiac and Ottawa Ry.

Granted in 1895:—Lindsay, Haliburton and Mattawa Ry.; Ottawa and Aylmer Ry. and Bridge Co. (Electric).

Granted in 1897:—Manitoba and Pacific Ry.; Minden and Muskoka Ry.

Granted in 1898:—Cowichan Valley

W. T. RODDEN, Managing Director J. F. JOHNSON, Secretary-Treasure
T. L. GALLAGHER, Sales Manager

Standard Explosives
Limited

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL
Works: L'ISLE PERROT, NEAR VAUDREUIL, P. Q.

Hayes Derails

Derailing devices and operating mechanisms for derails made according to the well known Hayes designs.

The undersigned are prepared to furnish the above devices at moderate cost under Canadian Letters Patent 106,831, and 106,832. All communications regarding these should be addressed to Canadian Hart Wheels Limited, Hamilton, Ontario.

CROSSEN CAR MFG. COMPANY
OF COBOURG, LIMITED

MODERN HIGH-CLASS
ROLLING STOCK
Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows
CAR CASTINGS, FORGINGS AND REPAIR PARTS

Ry.; Lake Bennett and Klondike Ry.; London and Lake Huron Ry.; Montreal and James Bay Ry.; Toronto and Hudson's Bay Ry.

Granted in 1899:—Arthabaska Ry.; Edmonton and Saskatchewan Ry.; Russell, Dundas and Grenville Counties Ry.; Sudbury and Wahnapitae Ry.; Zenith Mining and Ry. Co.

Granted in 1900:—Lake Superior and Hudson Bay Ry.; Morris and Portage Ry.; Port Dover, Brantford, Berlin and Goderich Ry. (name changed to Grand Valley Ry., 1902, and line being constructed as an electric railway); St. Mary's River Ry. (amalgamated with Alberta Ry. and Irrigation Co.).

Granted in 1901:—Arnprior and Pontiac Ry.; Canada National Ry. and Transport Co.; Fort Qu'Appelle Ry.; Kamloops and Atlin Ry.; Quebec Terminal and Ry. Co.; Similkameen and Keremeos Ry.

Granted in 1902:—Nipissing and Ottawa Ry.; St. Lawrence and Northern Ry.; Velvet (Rossland) Mine Co.; Yukon Pacific Ry.

Granted in 1903:—Brandon, Saskatchewan and Hudson's Bay Ry.; Canadian Yukon Western Ry.; Cardiff Ry.; Coast Yukon Ry.; Hudson's Bay and Occidental Ry.; Huron, Erie and Buffalo Ry.; Joliette and Manuan Colonization Ry.; Nipissing and Pontiac Ry.; St. Chrysostome Ry.

Granted in 1904:—Chicoutimi and Northern Eastern Ry.; Montreal Nipissing and Georgian Bay Ry.; Pontiac and Inter-Provincial Ry. Of these railways there have been constructed the following mileages:—St. Mary's River Ry., 65 miles, the total authorized; Quebec Terminal and Ry. Co., 3 miles out of the 12 authorized; this company was subsequently merged in the Quebec Bridge and Ry. Co., which has since been taken over by the Government; Brandon, Saskatchewan and Hudson's Bay Ry., 70 miles out of the 450 authorized.

Rhodes, Curry Co., Limited.

Rhodes, Curry Co., Ltd., has been incorporated under the Dominion Companies Act, with an authorized capital of $3,000,000, divided into $2,000,000 of 7% preference stock, cumulative and preferred, both as to dividends and assets, participating with the ordinary shares in all dividends after 7%. The incorporation is for the purpose of acquiring the properties and business, or the capital stock of Rhodes, Curry & Co., Ltd., car builders, etc., of Amherst, N.S. An issue of $1,850,000 of the preference stock and $1,000,000 of the common, was underwritten by C. Meredith & Co., Ltd., and the Royal Securities Co., of Montreal, and W. B. Tennant and J. M. Robinson & Son, of St. John, N.B., and as stated in our last issue, it was intended to invite public subscriptions at 92½ for the preferred stock, with a bonus of 20% of common. However, before the prospectus was printed, subscriptions were received for very much in excess of the amount of stock offering, and the prospectus was therefore only issued as a matter of information.

In a letter printed with the prospectus, N. Curry, President of Rhodes, Curry & Co., Ltd., stated among other things, as follows:—"The company manufactures practically everything that goes into the construction of railway and street cars. The Amherst plant consists of wheel, grey iron and malleable iron foundries, axle factory and machine shops, planing and rolling mills, cabinet shops and necessary erecting and painting shops, also the largest wood working factory in the Maritime Provinces. The property covers about 40 acres. The company also has 20,000 acres of timber limits, owned in fee simple, at Little Forks, 16 miles from Amherst, equipped with saw and planing mill, necessary dwellings, stores, etc. At Sydney, the company has a wood working factory, a lumber yard connected with the Intercolonial tracks, and another yard on a valuable wharf property; at Halifax, a lumber yard and warehouse for supplying builders' materials. The location of the plant in the centre of the timber producing provinces of Nova Scotia and New Brunswick, guarantees an unfailing supply of spruce and other local woods required in the works at low prices, while the proximity to tide water on the Bay of Fundy enables the importation of southern pine, oak, and other raw materials at very favorable prices, and from Springhill and Sydney we are able to get our supply of coal, iron and steel at a low cost.

"The company sells rolling stock to practically all the railways in Canada. A large part of the output for the last few years has gone to the Northwest to supply the needs of the Canadian Northern, Canadian Pacific, Grand Trunk Pacific and other western roads. The capacity of the plant in 1893 was about three or four cars per day, while at present time it can turn out 20 freight cars per day and five passenger cars per month. The annual output in 1891 was 331 cars, in 1908 it was 2,044 cars. In addition to the car works, a profitable business is being done in constructing buildings of all classes, and in the manufacture and sale of building materials. The best class of labor is obtained in this vicinity, and is abundant and reasonable. An average of 1,000 men are employed throughout the year, as compared with 250 in 1893, and it is a remarkable fact that in the history of the company no serious trouble of any kind has occurred with its employes."

The company's real estate, buildings, machinery and timber limits at Halifax, Sydney, Athol and Amherst were valued by an appraisal company in March, 1907, at $908,339.90, and the company certified in July, 1909, to an increase of $82,300.72, making a present valuation of $990,640.62. Chartered accountants certify that the current assets of Rhodes, Curry & Company, Ltd., at Dec. 31, 1908, were $1,387,557.94, and the current liabilities at the same date $380,926.97. The value of the real estate, building, plants and timber limits as fixed by the appraisal company, and the current assets of the company as shown by the accountants' report, amount to $2,378,198.56. After deducting the current liabilities, the net assets are $1,997,271.59.

The following statement is also given:

	Profits before charging interest.	Less interest.	Net profits.
1904 ...	$115,591.67	$12,033.60	$103,558.07
1905 ...	103,960.20	17,397.06	86,563.14
1906 ...	220,901.10	19,696.72	201,204.38
1907 ...	274,459.40	44,034.22	230,425.18
1908 ...	331,039.79	28,918.52	302,121.27

An aggregate profit of $923,872.04 for the five years.

We understand that the shareholders of Rhodes, Curry & Co., Ltd., will be largely paid in cash for their interest and that N. Curry has undertaken to continue the management for the new company for three years.

TRANSPORTATION APPOINTMENTS.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian Pacific Ry.—A statement has been going the round of the daily press to the effect that the retirement of W. Whyte, Second Vice President would, under ordinary circumstances, take place in the near future under the age limit rule, but that his appointment had been extended for two years. We have reason to believe that the whole story originated in some Montreal reporter's brain, and that it is altogether without foundation.

W. Marshall, heretofore Superintendent of Telegraph Construction, Toronto, has been appointed Superintendent of Telegraphs, Ontario Division, vice A. W. Barber, deceased. Office, Toronto.

S. W. Kent has been appointed Ticket Agent, Paris, Ont., vice A. H. Baird, deceased.

W. B. Cronk, heretofore Superintendent District 1, Eastern Division, Farnham, Que., has been appointed Superintendent District 2, Lake Superior Division, White River, Ont., vice A. L. Smith, transferred to Farnham, Que., as reported in our Aug. issue.

D. L. Jones, heretofore Locomotive Foreman, Smith's Falls, Ont., has been appointed District Master Mechanic, District 1, Eastern Division, vice E. W. Campion, assigned to other duties. Office, Farnham, Que.

C. A. Stark, heretofore shop foreman, Carleton Jct., Ont., has been appointed Locomotive Foreman, Smith's Falls, Ont., vice D. L. Jones, promoted.

T. M. Fraser, heretofore Roadmaster, Minnedosa, Man., has been appointed Roadmaster, Souris section and Carman branch, District 2, Central Division, vice P. E. Barry, resigned. Office, Winnipeg.

W. J. Renix was recently appointed acting Locomotive Foreman at Brandon, Man., vice J. H. Wilson, transferred, and has since been succeeded by A. McArthur, who has been appointed Locomotive Foreman.

J. H. Wilson, heretofore Locomotive Foreman at Brandon, Man., has been appointed Locomotive Foreman at Moose Jaw, Sask., vice T. Bates.

J. M. Cameron, heretofore Trainmaster, Grand Forks, B.C., has been appointed Trainmaster District 2, Pacific Division, vice S. L. Prenter resigned. Office, Vancouver, B.C.

F. W. Sadlier, heretofore District Master Mechanic, Moose Jaw, Sask., has been appointed shop foreman at Kamloops, B.C.

H. G. Dring, Assistant General Passenger Agent for Great Britain and Europe, has assumed control of all general and local passenger work, at 62-65 Charing Cross, London, and all correspondence in connection with such matters pertaining to the chief office of the London district are to be addressed to him, the position of London Passenger Agent having been abolished.

D. H. Drakeford, heretofore London Passenger Agent, has been appointed Travelling Passenger Agent for the Southern District, England, reporting to the General Passenger Agent, Liverpool.

G. S. Jones has been appointed London, Eng., City Agent, with control of

(*Continued on page 641.*)

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON (via Boston & Maine R.R. and Cent. Vermont Ry.) MONTREAL, TORONTO and CHICAGO.

THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.

Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, Gen. Passenger and Ticket Agent, MONTREAL, QUE.

FARNLEY STAYBOLT IRON

HIGHEST GRADE OF IRON FOR STAY-BOLTS, RIVETS AND MINING PURPOSES

All sizes carried in stock in Montreal and Winnipeg

Write us for prices, samples and tests.

TAYLOR & ARNOLD

c/o W. E. SKINNER, LIMITED
SOMERSET BLOCK
WINNIPEG, MAN.

180 St. James St., MONTREAL

MORISON Suspension Furnaces

The Universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine Boilers

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

Manufactured by

THE CONTINENTAL IRON WORKS, WEST AND CALYER STS. BOROUGH OF BROOKLYN. Near 10th and 23rd St. Ferries. NEW YORK

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

ACTON BURROWS LIMITED, - Proprietors, 157 Bay Street, Toronto, Canada.

Local and Long Distance Telpehone, Main 3201.

ACTON BURROWS, - Managing Director and Editor-in-Chief.

AUBREY ACTON BURROWS, - Secretary and Business Manager.

A. FENTON WALKER, - U. S Representative, 143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.

SUBSCRIPTION PRICES, INCLUDING POSTAGE:

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, SEPTEMBER, 1909.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, M. MAGIFF, St. Albans, Vt.; MANAGER, J. E. DUVAL, 401 St. Nicholas Bldg., Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. J. Mossman, Buffalo, N.Y.; SEC.-TREAS., T. Marshall, Toronto.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, H. H. Vaughan, Montreal; SECRETARY, J. Powell, St. Lambert, Que. MEETINGS 1st Tuesday each month 8 p.m., except June, July and August.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal. MEETINGS at Montreal, alternate Thursdays, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, R. J. Craig, Cobourg, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto. MEETINGS at Toronto, 3rd Tuesday each month, except June, July and August.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto.
SECRETARY, R. B. Wolsey, C.E., Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Quebec Transportation Club.

PRESIDENT, F. S. Stocking.
SEC.-TREAS., A. H. Davis, Box 350, Quebec.

Western Canada Railway Club.

PRESIDENT, G. Hall, Winnipeg; SECRETARY, W. H. Rosevear, Winnipeg. MEETINGS at Winnipeg, 2nd Monday each month, except June, July and August.

Alphabetical List of Advertisers

	PAGE
Abbott, W. ..... Cover	1
Alexander Car Replacer Mfg. Co.	694
American Brake Shoe & Foundry Co.	672
American Hoist & Derrick Co.	656
Babcock & Wilcox, Ltd.	708
Baldwin Locomotive Works	688
Banwell Hoxie Wire Fence Co., Limited ...	682
Beatty, M., & Sons, Ltd.	696
Bertram, John, & Sons Co., Ltd.	638
Boker, Hermann & Co.	694
Bowser, S. F. & Co., Limited	676
Bradstreet Company	694
Brevoort Hotel, Chicago	660
Brown Hoisting Machinery Co.	642
Burns, R. M. & Co.	700
Burrows.—Acton Burrows, Limited ... Cover	1
Butterfield & Co.	706
Canada Car Co., Ltd.	652
Canada Iron Corporation, Ltd.	664
Canadian Bridge Co., Ltd., ...	702
Canadian Bronze Co., Ltd.	706
Canadian Fairbanks Co., Ltd.	658
Canadian Gold Car Heat'g & Light'g Co., Ltd.	662
Canadian Locomotive Co., Ltd.	664
Canadian Northern Railway	682
Canadian Office & School Furniture Co., Ltd.	690
Canadian Pacific Railway Land Department.	694
Canadian Railway Accident Insurance Co...	702
Canadian Ramapo Iron Works, Ltd.	684
Canadian Rand Co., Ltd.	678
Canadian Road Machine Co., Ltd.	680
Canadian Westinghouse Co., Ltd. ....Cover	2
Chicago Ry. Equipment Co.	698
Cleveland City Forge & Iron Co.	702
Clifton Hotel, Niagara Falls, Ont.	694
Coghlin, B. J., & Co.	704
Continental Iron Works	668
Crossen Car Mfg. Co., of Cobourg, Ltd.	666
Date, John	690
Delaware and Hudson Co.	704
Dominion Bridge Co., Ltd.	698
Dominion Car & Foundry Co., Ltd. ...Cover	4
Dominion Iron & Steel Co., Ltd.	662
Dominion Wire Rope Co., Ltd.	—
Dougal Varnish Co., Ltd. .....Cover	1
Drake & Wiers Co.	676
Drewry, E. L.	704
Drummond, McCall & Co.	674
Duner Co.	706
Engineering News Book Dept.	680
Falls Hollow Staybolt Co.	692
Farlow Draft Gear Co.	678
Flannery Bolt Co.	672
Fuce, Edw O.	669
Galena Signal Oil	640
Galt Malleable Iron Co.	706
Gardner, J. T.	700
Gartshore, J. J.	696
Gartshore-Thomson Pipe & Foundry Co., Ltd.	698
General Railway Signal Co.	692
Goldschmidt Thermit Co.	688
Grand Trunk Railway	668
Greening, The B. Wire Co., Ltd.	704
Ground Anchor Co., Ltd.	670
H. & E. Lifting Jack Co.	664
Hamilton Pattern Works	706
Hamilton Steel & Iron Co., Ltd.	656
Harrison Dust Guard Co.	686
Harrison, John & Sons Co., Ltd.	674
Hart, John A., & Co. .....Cover	1
Hart-Otis Car Co., Ltd.	636
Hayes Track Appliance Co.	666
Hicks Locomotive and Car Works	702
Holden Co., Ltd., The	670
Hopkins, F. H., & Co.	646
Hotel Cadillac, Detroit, Mich. .....Cover	1
Hudson's Bay Company	662
Hunt, Robert W., & Co.	688
Hutton, James & Co.	686
Illinois Central Railroad	704
Imperial Bank of Canada	704
Imperial Guarantee & Accident Insurance Co.	706
Intercolonial Railway	660
International Marine Signal Co.	696
International Mercantile Marine Co.	698
Jardine, A. B., & Co.	670
Jessop, Wm. & Sons, Ltd.	700
Kerr Engine Co., Ltd.	690
Kingsmill, Saunders, Torrance & Kingsmill.	669
Knowlton, W. H.	700
Legg Bros.	692
Lehigh Valley Rd.	706
Lewis, Rice, & Sons, Ltd.	674
Lufkin Rule Co. .....Cover	1
Marsh Co.	700
McConway & Torley Co.	692
McCord & Co.	646
McGregor Banwell Fence Co., Ltd.	684
Meaford Wheelbarrow Co.	—
Metcalf, John S., Co.	690
Midland Towing & Wrecking Co., Ltd.	702
Montreal Locomotive Works	630
Montreal Rolling Mills Co.	686
Montreal Steel Works, Ltd.	650
Mussens Limited .....Cover 1 and	634
National Malleable Castings Co. .....Cover	1
Northern Electric and Mfg. Co., Ltd.	—
Northern Navigation Co.	672
Norton, A. O.	648
Nova Scotia Steel & Coal Co., Ltd	658
Ontario Wind Engine and Pump Co.	698
Orford Copper Co.	706
Ottawa Car Co., Ltd. .....Cover	1
Otto Bros.	690
Owen Sound Wire Fence Co., Ltd.	696
Parry Sound Lumber Co., Ltd.	706
Phillips, Eugene F., Electrical Works, Ltd..	706
Piper, The Hiram L. Co., Ltd.	706
Piper, N. L., Railway Supply Co., Ltd.	678
Polson Iron Works, Ltd.	644
Positive Lock Washer Co.	704
Provincial Steel Co., Ltd.	676
Pyke, J. W., & Co., ...	660
Pyle National Electric Headlight Co.	654
Rail Joint Co. of Canada, Ltd.. Cover 1 and	648
Rendle, A. Edgcumbe .....Cover	1
Renouf Publishing Co.	682
Rhodes, Curry & Co., Ltd. .....Cover	2
Robb Engineering Co., Ltd.	644
Robertson Machinery Co.	706
Safety Car Heating & Lighting Co.	652
Saxby & Farmer, Ltd. .....Cover	1
Sheriffs Mfg. Co.	704
Silliker Car Co., Ltd.	650
Shaw Willis Machinery Co.	696
Smart, James Mfg. Co., Ltd.	676
Southam Press	706
Standard Coupler Co.	700
Standard Explosives, Limited	666
Standard Paint & Varnish Co., Ltd.	706
Standard Steel Works Co.	688
Stearnes Steel Range Co. .....Cover	1
Taylor & Arnold	668
Toronto Bolt & Forging Co., Ltd.	686
Toronto Pressed Steel Co., Ltd.	680
Union Draft Gear Co.	700
United Typewriter Co.	688
Vulcan Iron Works	702
Warren, Wm.	686
Waugh Draft Gear Co. .....Cover	1
Williams, A. R., Machinery Co.	654
Williams Boltless Rail Joint Mfg. Co.	690
Williams Mfg. Co. Ltd.	704
Wire & Cable Co. .....Cover	1

The employes of the C.P.R. Winnipeg shops held their 18th annual picnic at Winnipeg Beach, July 30, when a long programme of sports was gone through.

EDW. O. FUCE
Hon. Grad., Univ. Tor. (S.P.S.)
A. M. CAN. SOC. C. E.
ONT. LAND SURVEYOR,
Consulting Civil Engineer
GALT, ONT.
Railway Location & Construction.
Reinforced Concrete Structures.

Kingsmill, Saunders, Torrance & Kingsmill,
Union Bank Chambers, 19 Wellington St. West, Toronto
Nicol Kingsmill, K.C., Dyce W. Saunders, K.C., W. P. Torrance, Walter B. Kingsmill.

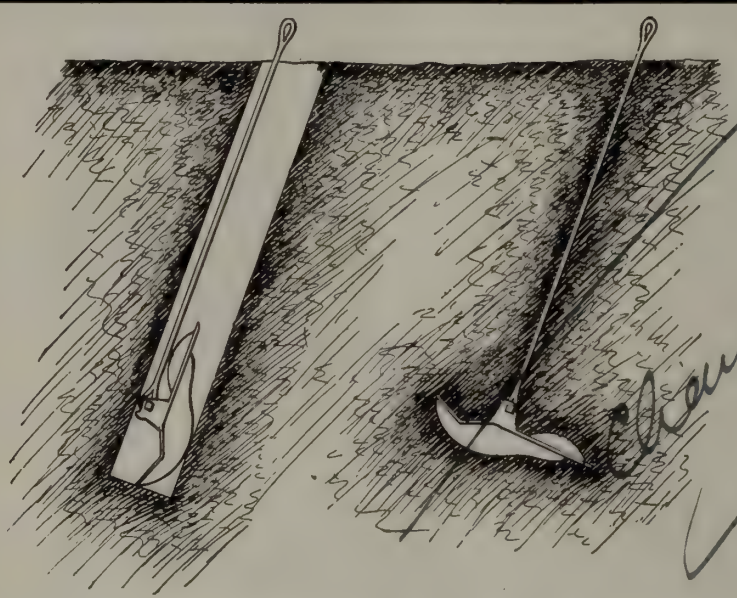
"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes

Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.

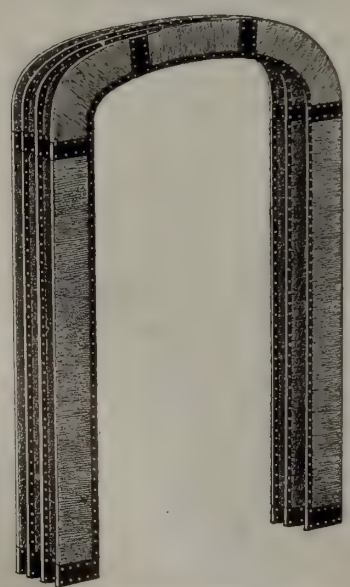


"AULD" TYPE GUY ANCHORS

Write us about your pole line; we can increase its efficiency and save you money.

Sole manufacturers under letters patent No. 90301 and No. 101462

THE GROUND ANCHOR CO.
LIMITED
Street Railway Chambers
MONTREAL



The "Ajax" Diaphragm

is the standard Diaphragm on practically all of the leading roads in Canada and the United States. It is reinforced by a GALVANIZED STEEL ROD which runs entirely around the Diaphragm inside the inner folds, which supports and effectually prevents the Diaphragm from sagging at the corners or top, buckling or getting out of shape. Made to suit all the standard types of vestibules. Write us for catalogue 117 and price.

Watch for illustrations of our other well-known specialties.

THE HOLDEN COMPANY, Limited

MONTREAL 302 St. James Street. | TORONTO 42 York Street. | WINNIPEG 291½ Portage Ave.
ALSO AT COBALT, ONT. Address Nearest Office.

local freight and passenger work, pertaining to the city branch office, at 67 and 68 King William street, reporting in regard to freight matters to General Freight Agent, and in regard to passenger matters to the General Passenger Agent.

W. J. Pugsley has been appointed Passenger Agent at Liverpool, Eng., in charge of the local passenger and baggage departments, vice G. T. Pearson transferred. He will report to the General Passenger Agent, Liverpool.

G. T. Pearson, heretofore Passenger Agent at Liverpool, has been appointed Travelling Passenger Agent for Ireland, reporting to the General Passenger Agent, Liverpool. Office, Belfast.

Central Vermont Ry.—W. Northgraves has been appointed Roundhouse Foreman, at Brattleboro, Vt., vice J. Pitt.

Government Railways.—W. N. Rippey, heretofore Chief Clerk Superintendent of Car Service office, has been appointed Superintendent of Car Service, vice T. E. Henderson. Office, Moncton, N.B.

T. E. Henderson, heretofore Superintendent of Car Service, has been appointed General Car Tracer. Headquarters, Moncton, N.B.

The new organization provides for a Purchasing Agent, and it is said that one will be appointed in the near future, and that he will probably have his office at Ottawa.

Grand Trunk Pacific Ry.—The offices of E. J. Chamberlin, Vice President and General Manager, and G. U. Ryley, Land Commissioner, have been transferred from Montreal to Winnipeg.

Grand Trunk Ry.—C. A. Saylor has been appointed Locomotive Foreman at Hamilton, Ont., vice W. W. Yeager resigned.

A. J. Nixon, Assistant Superintendent, London, Ont., has resigned, and will leave the service about Sept. 15, to enter the Board of Railway Commissioners' service, Oct. 1.

The following agents have been appointed: Thornton, Ont., D. H. Thompson; Petersburg, Ont., L. K. Fox; Dunnville, Ont., S. Young; Shallow Lake, Ont., Geo. Mann; Alma, Ont., J. A. Scott; Pinkerton, Ont., H. Rose; Ethel, Ont., R. J. Murray; Rockland, Ont., E. H. Pangborn; Carlsbad Springs, Ont., L. G. LeBatt; Arnprior, Ont., F. H. Morrison; Ravensworth, Ont., R. A. Carswell.

Great Northern Ry.—R. J. Smith, heretofore agent at Brandon, Man., has been appointed General Agent, Cincinnati, Ohio, vice W. J. Byrth deceased.

J. Linklater, heretofore agent at Boissevain, Man., has been appointed agent, Brandon, Man., vice R. J. Smith promoted.

Intercolonial Ry.—T. Ryan, heretofore roundhouse foreman at Riviere du Loup, Que., has been appointed acting Division Master Mechanic there, vice F. J. Lozo resigned.

R. E. Perry, heretofore Chief of Tariff Bureau, has also been appointed Assistant General Freight Agent, with charge of the division, Montreal to Dalhousie, N.B., vice W. H. Olive assigned to other duties. Office, Montreal.

W. H. Olive, heretofore Assistant General Freight Agent, Montreal, has been appointed General Travelling Freight Agent, with territory from Dalhousie, N.B., to Belleville, Ont. Office, Montreal.

See also Government railways.

Michigan Central Rd.—J. J. Ross has been appointed Superintendent of Telegraphs, vice E. H. Millington deceased. Office, Detroit, Mich.

Prince Edward Island Ry.—See also Government Railways.

Temiskaming and Northern Ontario Ry.—W. Oldham, heretofore foreman C.P.R. Bridge Department, has been appointed Supervisor of Bridges. Office, North Bay, Ont.

How to be a First Class Trainmaster.

By C. B. Wildman, Trainmaster St. Louis, Iron Mountain and Southern Ry., Van Buren, Ark.

I believe the first duty of a trainmaster to be that of loyalty to his superior officers and to the company which employs him, for without such loyalty he cannot be successful. No matter how well qualified he may be for the position, regardless of his ability as a practical railway man, if in his heart there is not a feeling of absolute loyalty toward his company and his superior officers, he is short a valuable asset, that may eventually prove his downfall. With loyalty must be included truthfulness, not only from a moral standpoint, but from the fact that truth begets confidence, and once the trainmaster has lost or shaken the confidence of his employer, he is to be congratulated if he ever regains it.

As the superintendent is the head of the division, so the trainmaster is his right-hand man, often representing him. As such he should be careful of his personal appearance, bearing in mind that as the representative of the superintendent he would come in contact with the public in such a way that a good personal appearance might, and in all probability would, often result advantageously to the company. He should endeavor so far as possible to closely acquaint himself with the superintendent's ideas and methods of doing business, and as far as practicable conform to those methods.

The trainmaster should keep in close touch with affairs on his territory and should be careful to communicate to the superintendent all information that might prove to be of advantage or interest to him. In other words, he should keep the superintendent thoroughly posted on the little things as well as the more important matters, as it is often the minor things that develop into the important ones. This can usually be accomplished by the trainmaster having access to the superintendent's office; but in case the superintendent is not easy to approach, or the trainmaster does not feel at liberty to speak freely and unreservedly, good results may be obtained by writing the superintendent a weekly letter, setting forth in a brief, concise manner the week's happenings. This should be a newsy letter, but care should be taken to make it as brief as consistent with the disclosures he has to make.

Next in importance is the handling of men. A trainmaster may have every other qualification necessary to his success, but if he lack tact or the ability to properly handle men, he is more or less of a failure. He must be able to inspire the confidence of his men and create among them the feeling of fidelity to the division officers and to the company's interests. On such a feeling depends the successful operation of his particular division. No division can make a creditable showing except by the combined efforts of the officials and the men.

The employing of men should have the trainmaster's personal attention. Care should be taken to employ only men of good habits and character, and of sufficient ability to fill the requirements of the position for which they are selected. He should personally inspect all applications for employment, satisfy himself that the applicant is of legal age, and cause such investigation to be made of his past record as will effectually establish his right to be employed or rejected. He should be kind and considerate, courteous and obliging, but always fair and firm, ever bearing in mind the differences in the mental and physical capacity of different men. He should always try to grant to a worthy employe any reasonable request if within his power to do so. He should study the character and habits of his men and seek to become reasonably familiar with their manner of spending their time when not engaged in the service of the company. It does no harm for a trainmaster to occasionally inquire after the welfare of the employe's family. If it becomes necessary to reprimand an employe it should be done in a quiet, gentlemanly manner, and not in the presence of bystanders.

Here enters the question of enforcing the company's rules and the duty of the trainmaster in this respect. The rules of the railway company are largely for the guidance of the employes toward safe operation. These rules are carefully drafted by the management after a great deal of thought and consideration, each rule covering its own particular point. The trainmaster should carefully impress upon the minds of the employes the extreme importance of a strict observance of all rules. More than ordinary attention should be given to those rules which directly affect the safety of the public, the employes, and the company's property, but the violation of any rule, of whatever significance, should never pass unnoticed by the trainmaster. In other words, he should never turn his back or "wink" at a violation of a rule, no matter how insignificant its violation might seem to be. It is by far the better plan to use every precaution to prevent the violation of any rule rather than to suffer the less important rules to be violated indiscriminately, until an accident occurs, when some drastic action must be taken with the unfortunate employe, of whom an example must be made. One of the best methods of bringing and keeping the rules before the employe is to hold monthly or semi-monthly class meetings for the discussion of rules. It is an easy matter to convince the men that these meetings are not for the purpose of criticising their actions or opinions, but to bring about a clearer understanding of the rules and to impress upon them the importance of strict compliance with the same. It is my experience that employes will speak freely and many good points will be brought out for the betterment of the service.

As a railway derives its principal revenue from the tonnage it hauls, it is of course incumbent upon the trainmaster to see that its tonnage or revenue is protected. He should carefully impress upon station agents and managers of industries the importance of loading cars to

The Northern Navigation Co.

OF ONTARIO, Limited

GRAND TRUNK LINE

"A FRESH WATER SEA VOYAGE"---1500 Miles up the Great Lakes.

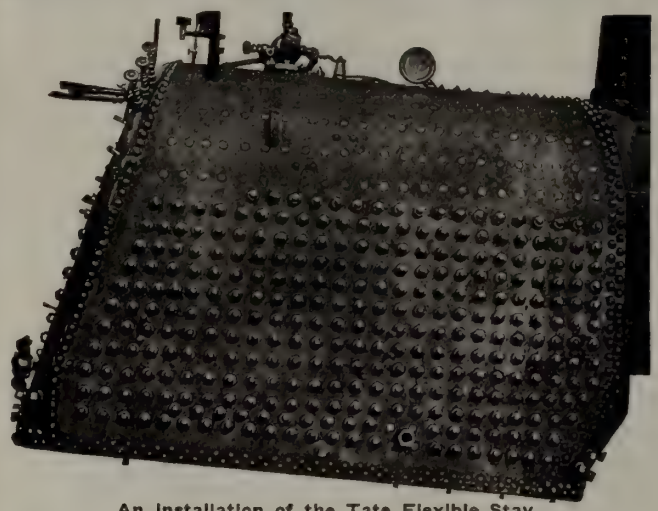
Frequent Sailings for Sault, Port Arthur, Fort William and Duluth.

"THAT GEORGIAN BAY TRIP." Sailings from Collingwood and Owen Sound for Manitoulin Island Points and Sault Ste. Marie.

Also from Penetang and Midland for Parry Sound and Point Au Baril after June 15th.

TICKETS and INFORMATION from all Agents, or address

C. H. NICHOLSON, Traffic Manager, SARNIA.



An Installation of the Tate Flexible Stay.

THE TATE FLEXIBLE STAYBOLT

THE PERFECT STAY

For Locomotive Fire Boxes

Over a million and a half bolts in service on over 100 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited
TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, = Pittsburgh, Penn., U.S.A.

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.

The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.

THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

American Brake Shoe and Foundry Company

NEW YORK MAHWAH, N.J. CHICACO, ILL.

THE HOLDEN CO., Limited, Agents, 302 St. James St., MONTREAL

their capacity, and by frequent personal inspection satisfy himself that this is being done. With this result obtained, it is essential that each train have its full tonnage over the division. With the cars properly loaded and the train given its tonnage according to the capacity of the engine, there is little to be desired except a reasonably quick movement of the train over the division. In this connection the trainmaster should know, by making tonnage tests on the road, that each engine is being loaded to its capacity, and there should be no failure to handle the maximum tonnage at least one way over the district. He should never lose sight of the fact, that heavy tonnage with the least possible mileage is necessary to successful operation. He should impress this feature upon the chief dispatcher and the dispatchers, and by frequent personal observation satisfy himself that the maximum tonnage is being handled.

The trainmaster should also keep in close touch with the engine mileage, that is the mileage of each engine. to see that a good average is made and the full use of each engine assured.

I believe it is as much the duty of the trainmaster as it is that of the superintendent to know at all times the number of net tons per train. as well as of the net tons per train mile, that is being handled over his territory. This information can be obtained either by estimating from operating sheets of previous periods, or by actual figures compiled from the wheel reports. Conductors may be requested to forward copy of wheel report to trainmaster's office, and from this report it is easy to arrive at the actual net tons per train and per train mile. With this information it is comparatively easy to arrive at a close estimate of the cost of operation, so that one does not need to wait for the operating sheet to know what kind of showing the division has made. Here it may be well to mention a few of the advantages of being furnished with a copy of conductor's wheel report. These reports are especially valuable in tracing the movement of cars, obtaining seal records, etc., and reference to them will often avoid correspondence with conductors, thereby saving time. It also frequently occurs that the car accountant is short wheel reports from conductors for which he will wire the superintendent. Instead of consuming three or four days or a week, and perhaps burdening the wires with a number of telegrams, a copy can be made and forwarded by the trainmaster's clerk. If at first conductors object to making a carbon copy of this report, their objections will be quickly withdrawn when they see the advantages of reduced correspondence about wheel reports.

Among the various duties of the trainmaster, I believe none should stand out more clearly or receive closer attention than that of checking and watching overtime and constructive mileage. Constructive mileage, which to a degree is necessary, will increase to an alarming extent if it is not constantly checked. The trainmaster should satisfy himself as to the exact figure of his necessary or arbitrary constructive mileage and never let it go beyond that figure, without knowing the cause of the increase. Deadheading, which is a form of constructive time, should receive his particular attention. Too much stress cannot be laid upon the importance of watching and of checking overtime. Occasions may arise when overtime is found to be an extremely good investment, that is, for instance, when by paying a certain amount of overtime the company may obtain the equivalent of its value or perhaps avoid paying a greater amount. in mileage. On the other hand, unnecessary overtime means a waste of the company's money. It is so easy to pass beyond the dividing line between desirable and unnecessary overtime, that the constant and unflagging efforts of the trainmaster are required to prevent a leakage that may prove a burden to his company and result disastrously to himself. I have a statement prepared and left on my desk every morning of each hour's overtime made the previous day, and spend a few moments figuring the cost per mile and investigating such delays as may appear unnecessary. An accurate account or record is kept of the overtime for each day for comparison purposes. In this manner the trainmaster may know at all times just what his overtime is costing. This information is of such value to him that too much cannot be said of its benefits.

The distribution of cars is another important feature connected with the duties of the trainmaster. This is particularly true on territory where coal mines or large industries are located. The available empty cars must be properly pro-rated and distributed. Shippers should be urged to load cars with as little delay as possible, and it devolves upon the trainmaster to provide for the movement of such loaded cars promptly.

The trainmaster in passing over the road should make careful note of all foreign cars and take such steps as may be necessary to insure their prompt movement toward home, either loaded or empty, as conditions may warrant.

Especially important is the prompt release of cars under load. The trainmaster should urge upon station agents this particular feature and if necessary visit consignees in an effort to effect the prompt release of such cars. This is of more than ordinary importance during a temporary shortage of equipment or when the load is on a foreign car on which per diem is accruing. The release of cars under load with company material should receive his constant attention. He should personally and frequently check large yards, coal mines and other obscure places, to see that empty cars are not lost sight of or loads unnecessarily delayed. Unbilled loads should be given special attention.

Not the least important of the trainmaster's duties is that of the economical equipment of cabooses. Here is the source of one of the common leakages on some of our most important railways. From personal experience it is known that by careful and constant attention the cost of such supplies can be greatly reduced and a large saving made for the company. In two years the cost of caboose supplies on one division was reduced from three mills to less than one mill per train mile. Train crews should be taught to carefully preserve all scrap or second-hand material with a view of exchanging it for new. Arrangements can be made for a credit to be allowed for second-hand material turned in, and in that way effect a noticeable reduction in the cost of supplies. This practice also contributes to the keeping of such material cleaned up from along the track, which in itself is an advantage.

Another source of loss to a railway company is found in the manner of taking coal on engines from coal chutes. This loss is caused by enginemen calling for more coal than is needed and in some instances when none at all is required. As a result, the tender being unable to accommodate the amount of coal called for, some of it falls to the ground, and while this waste coal may later on be picked up and used, it has incurred an additional expense by reason of its being handled twice. It is a duty of the trainmaster to take such action as may be necessary to improve such a condition.

The trainmaster should frequently pass over his territory and personally visit station agents and should urge upon them the necessity of familiarizing themselves with the rules of the company and conforming to them. Agents should be required to keep their stations and surrounding grounds clean and when necessary keep the station properly heated and lighted. They should be reminded that the company requires them to be courteous and obliging in their intercourse with the public.

The trainmaster should check freight rooms frequently with a view of locating "astray" freight and to satisfy himself that there is no unclaimed perishable freight on hand. He should also insist upon agents keeping oil, oil cans, lamps, lanterns and other inflammables isolated so far as practicable, and that they allow no waste paper, rags, or other trash of an inflammable character to accumulate. This is a necessary precaution against fire. He should see that agents thoroughly understand the proper manner of handling explosives.

The trainmaster should familiarize himself with the methods employed by agents in checking and loading freight and in a general way with their system of reports.

The trainmaster should ride on local freight trains frequently, instructing conductors as to the proper manner of handling freight, sealing cars, keeping seal records, and reporting "over," "short," or "damaged" freight. He should know that no unnecessary time is consumed in switching at stations and that all local work is properly performed.

The question of handling of time and perishable freight is also one that requires its share of the trainmaster's attention. The prompt switching into proper trains and forwarding of such freight to its destination is important; he should see that fast freight schedules are maintained when practicable; and in the event of any time or perishable freight being set out en route by reason of the car being in bad order or from other causes, that it is again forwarded at the first opportunity.

When the main track is obstructed or traffic interrupted by derailments, high water, wash-outs, burned bridges or other causes, the trainmaster should go to that point as quickly as possible and (in the absence of the superintendent) take full charge of opening the track. He should determine as soon as practicable the exact cause of the accident and advise his superior officers of the true conditions, giving full particulars as to the extent of damage to track, equip-

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

THE ALGOMA STEEL CO., LIMITED

SAULT STE. MARIE, ONTARIO

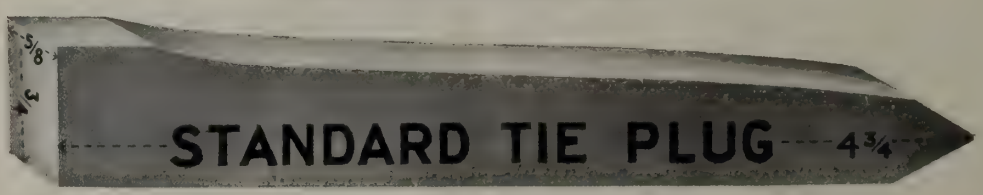
IS NOW BOOKING ORDERS FOR **STEEL RAILS** FOR DELIVERY DURING THE SEASON OF 1909

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to insure desired deliveries.

Office:
CANADA LIFE BUILDING
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS

"Note the Size and Shape"



In bags of 1000 each
Write for prices
Better and Cheaper than hand made

M'f'd by J. HARRISON & SONS CO., LIMITED

OWEN SOUND, ONT.

These plugs are giving good satisfaction. We are also large dealers in Ties, Posts, Timbers, Lumber, Sash, Doors, Interior Finish, and with the plant we have here should be able to supply you. . . .

Our Specialty is Good Material Promptly. Try us once.

ment, freight, etc., together with his estimate of the time required to open the track for traffic. He should see that there is no unnecessary loss of time in clearing or opening the track, and that the movement of traffic is resumed at the earliest possible moment. He should take steps to insure the protection of the company's property as well as that of any freight which may be involved. In the event of an injury to employes or passengers they should, of course, be given first consideration and it would devolve upon the trainmaster to see that everything possible was done to add to their comfort. Once the track is clear and the movement of traffic resumed, every attention should be given to the prompt clearing away of all debris, so that the track and right-of-way may at once assume its normal appearance.

The trainmaster should promptly and thoroughly investigate the cause of each accident, locate the responsibility if possible, and apply or recommend such discipline as may seem necessary.

It is a very good plan for a trainmaster to know just what the lost tonnage on account of engine failures is costing. This can be quickly figured by taking the total amount of tonnage lost, from which he can estimate the number of trains it would take to move that amount of tonnage, multiply the number of trains by the number of miles they would have to make (usually one freight district) which will give the train miles, this multiplied by the average transportation cost per mile, will give a close estimate in dollars and cents of what the engine failures cost the company. Engine failures should be investigated as to their cause, delay to trains, effect on tonnage, etc.

Passenger service should occupy not a little of the trainmaster's time and thought. He should bear in mind the daily intercourse between the passenger train employe and the traveling public and with that in view endeavor to select for his passenger train employes such men as seem best fitted for that service. The value of neatness and personal appearance should be impressed upon them and they should be shown the advantages the company will enjoy through their courteous manner and gentlemanly conduct.

Close attention should be given passenger coaches to see that they are clean, well ventilated and comfortable. Particularly should the trainmaster insist upon the strict observance of the rules by passenger train employes, for upon this largely depends the safety of the traveling public as well as the protection of the company's property. The attention of enginemen should be called to any rough handling of the train in stopping or starting and if necessary to the observance of speed restrictions through city limits. Special attention should be given to the importance of maintaining the schedules of passenger trains. Trainmen and enginemen as well as station agents should be instructed to take advantage of every move that would facilitate the handling of passengers, baggage and express, so that the delays incidental to the handling of such business could be reduced to the minimum.

On many railways there is at all times scattered along the track more or less scrap material. This feature should be watched closely by the trainmaster, and all concerned should be urged to use every effort to keep such material cleaned up or neatly piled at stations.

Bad order cars are a constant source of annoyance to the trainmaster. This is especially true of bad order cars under load. He should personally keep in touch with the bad order situation, see that all such cars under load are promptly repaired or the contents transferred, and keep the line clear of such cars, having the empty cars moved into regular repair points.

It is seldom a trainmaster's territory can show the best results year after year. Often adverse conditions will arise that may preclude the possibility of making the usual good showing. This may be caused by an unusual number of engine failures or by the power being in poor condition so that it cannot handle its full rating; perhaps a few washouts or a greater number of derailments than usual may have contributed to a congestion of loads. There may have been a large number of empty cars for movement from which no revenue tonnage was derived. These are conditions that any up-to-date trainmaster will strain a point to keep in touch with. He will in all probability keep some kind of log book or memorandum to which he can easily and quickly refer, because the above-mentioned feature will bring about conditions that must sooner or later be explained, and if he has forgotten or has no log book he is put at a disadvantage. I believe a good record of the adverse operating conditions is as essential as some of the important records over which more time is spent.

Immediately preceding and during the periods of light business it is customary to reduce expenses so far as existing conditions will permit. While this feature is usually handled by the superintendent, it is in my opinion good form and excellent training for the trainmaster to assist him to the best of his ability. He should scrutinize the pay rolls often and carefully, inquiring into conditions at points where there is a possibility of reducing expense. The superintendent is usually glad to receive a suggestion that will enable him to accomplish this result.

The foregoing remarks, in my opinion, contain the most vital or important points involved in the duties of the trainmaster. These, added to the innumerable minor duties which are constantly claiming his attention, are calculated to make his life a busy one. He should be on the constant lookout for violations of rules, be quick to observe anything that might be out of line, and endeavor to conduct the business of the company with as much satisfaction to himself as if the property belonged to him. He must be prepared to devote his entire time to his company when necessary.

The conscientious trainmaster will at all times show a willingness to do all he can, and a desire to please his employers. With this in mind the knowledge of his duties will remain with him constantly, and notwithstanding any slight error in judgment he may from time to time exhibit, he will, I believe, have done his best to perform his full duty.

The foregoing paper was awarded first prize by the Railroad Age Gazette, New York, in a competition for the best paper on the subject, to be written by a trainmaster of at least one year's experience in that position within the past three years.

The Canadian Ticket Agents' Association's 23rd annual convention will be held in Buffalo, N.Y., Oct. 5, 6 and 7. The headquarters will be at the hotel Statler. The business meeting will take place on Oct. 5 at 10 a.m., and at 8.30 p.m. there will be a Dutch luncheon and vaudeville entertainment, with a theatre party for the ladies. A programme of entertainment will be arranged for Oct. 6, including an evening theatre party, and Oct. 7 will be spent at Niagara Falls, the International Ry. and the Niagara Gorge Rd. having extended the privileges of their routes. The representatives of Buffalo Terminal Lines will co-operate in making arrangements for the entertainment programme, among others attending being B. P. Fraser, D.P.A., Pennsylvania Rd.; H. Parry, G.A.P.D., New York Central Rd.; W. B. Wheeler, G.W.P.A., Lehigh Valley Rd.; G. B. Wyllie, T.P.A., Illinois Central Rd.; H. M. Morgan, C.P.A. Grand Trunk Ry., and others.

The C.P.R. has been the victim for some time past of considerable thefts of iron and steel from its Angus shops. Montreal. Five employes were recently arrested in that connection.

Sir C. Rivers Wilson, President G.T.R., arrived in Montreal Aug. 3, and subsequently, in company with a number of officers of the company, started out on a special train to make an inspection of the company's lines in Canada and the United States, and to go over the Grand Trunk Pacific Ry. under operation and construction.

The Maritime Board of Trade passed a resolution, Aug. 19, to memorialize the Dominion Government to acquire such branch lines of the Intercolonial Ry. as may be feeders to it and to use every endeavor to encourage existing industries and promote new ones in the country which it controls from the railway standpoint.

A Montreal press dispatch states that the C.P.R. legal department has announced that it has discovered a conspiracy to obtain money from the C.P.R. and other similar companies, by means of false claims for damages for personal injuries received in alleged accidents. It is stated that a regular organization is in existence, with branches at various centres throughout Canada and the U.S. Charges are at present proceeding against three men in Montreal, and it is stated that other arrests will be made shortly.

W. H. Olive, who has been appointed General Travelling Agent, Intercolonial Ry., for the territory between Dalhousie, N.B., and Belleville, Ont., was born at St. John, N.B., Aug. 5, 1837. In 1898 he opened the first western coupon ticket office in St. John, and in 1874 was appointed Intercolonial Ry. city passenger agent there, which position he held until shortly after the change of government in 1878. In 1885 he removed to Montreal and engaged in insurance business and in 1896 was appointed Intercolonial Ry. Eastern Freight and Passenger Agent in Montreal, from which position he was removed while A. H. Harris was in charge of the traffic department. Subsequently he was appointed General Travelling Freight Agent and on J. Hardwell being appointed Chief Traffic Officer of the Board of Railway Commissioners Mr. Olive succeeded him as Assistant General Freight Agent I.C.R., which position he held until Aug. 1, 1909.

REDUCE YOUR LABOR THREE-FOURTHS

If you could reduce your force 75 per cent. without curtailing the efficiency of your system, wouldn't you do it?

You CAN lessen, that much or more, the labor involved in handling your oils by installing

The Bowser System of Oil Storage

Storage Tanks filled direct from car—

Self-measuring pumps, drawing and measuring EXACTLY the amount desired at one operation—

Automatic Power Pumps that measure accurately from one to one thousand gallons—

That's the Bowser System; more about it in Bulletin 18.

S. F. BOWSER & COMPANY, LIMITED, - 66-68 FRASER AVENUE, TORONTO

THE ESTABLISHED 1854 INCORPORATED 1881

JAMES SMART MFG. COMPANY

WORKS **BROCKVILLE, ONT.**

WESTERN WAREHOUSE LIMITED **131 Bannatyne Ave., WINNIPEG, MAN.**

Makers of High Grade

Machinists' Hammers

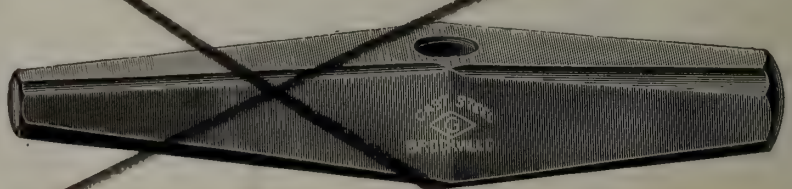
Track Chisels

Nail Hammers

Jack Screws **Bench Axes** **Trucks** **Stoves**

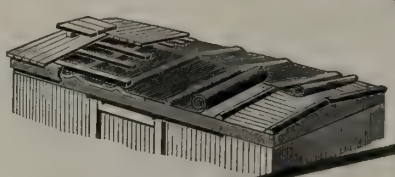
Traversing Jacks **Drilling Sledges** **Pumps**

Chopping Axes **Spike Mauls** **Copying Presses, Etc.**



OUR TRADE MARK A GUARANTEE OF EXCELLENCE

Purchasing Agents are invited to send for our Catalogues and Discount Sheets, which will be furnished promptly.



ASPHALT CAR ROOFING

WILL LAST THE LIFE OF ANY CAR WITHOUT REPAIRS OR ATTENTION

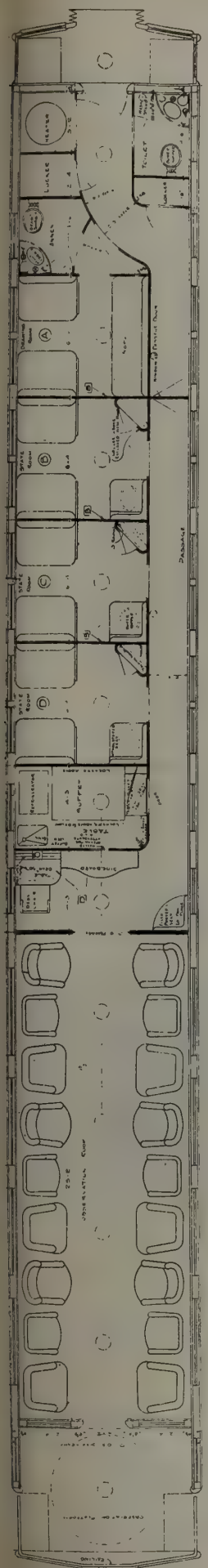
2 AND 3-PLY PLASTIC CAR ROOFS

CHEAPER AND MORE DURABLE THAN STEEL

THE DRAKE & WIERS CO., = CLEVELAND, O.

PROVINCIAL STEEL CO., LTD.

COBOURG, ONT.



Railway Rolling Stock Notes.

The Duluth, South Shore and Atlantic Ry. has ordered one locomotive from the Baldwin Locomotive Works, Philadelphia, Pa.

Between July 14 and Aug. 14, the Canadian Locomotive Co., Ld., Kingston, Ont., delivered 8 mogul locomotives to the G.T.P.R.

The Dominion Car and Foundry Co., Montreal, is completing 7 caboose steel underframes for the Temiskaming and Northern Ontario Ry.

The International Ry. of New Brunswick has the following rolling stock on its line:—4 locomotives, 5 passenger cars, 7 box cars, and 55 flat cars. It will probably order in the near future 25 or 30 large flat cars for logging traffic, similar to those in use on the Halifax and South Western Ry.

Rhodes, Curry Co., Ltd., Amherst, N.S., advise having delivered to Canadian Northern Ry., between June 15 and Aug. 25, 400 box cars, 60,000 lbs. capacity. 5 baggage cars, 3 first-class coaches and 4 conductors' vans; to the Halifax and Southwestern Ry., 2 parlor cars, and to the Colonial Coal Co., 30 mine cars.

The C.P.R., between July 13 and Aug. 14, placed orders for rolling stock as follows: 1 sleeping car, 1 baggage and express car, 2 refrigerator cars, 84 box cars, 15 flat cars, 8 stock cars, 2 ballast cars, 4 coal cars and 1 cinder car at its Angus shops, Montreal; 4 vans at its Farnham shops, Que.; and 4 steel coal cars at the Dominion Car and Foundry Co., Montreal.

The C.P.R. between July 13 and Aug. 14, received the following additions to rolling stock: 5 D10 locomotives, 4 observation cars, 1 sleeping car, 1 baggage and express car, 272 box cars, 37 refrigerator cars, 7 flat cars, 4 stock cars, 2 ballast cars and 1 cinder car from its Angus shops, Montreal; 14 vans from its Farnham shops, Que.; and 79 steel coal cars from the Dominion Car and Foundry Co., Montreal.

The C.N.R., between July 15 and Aug. 15, received the following additions to rolling stock: 100 steel underframe flat cars from the Dominion Car and Foundry Co., Montreal; 2 consolidation locomotives from the Montreal Locomotive Works; 90 box cars from the Crossen Car Manufacturing Co., Cobourg, Ont.; 144 box cars and 3 baggage cars from Rhodes, Curry & Co., Amherst, N.S., and 2 mail and baggage cars.

Following are dimensions and other details of the 100 flat cars which the C.N.R. has ordered from the Dominion Car and Foundry Co., Montreal, as mentioned in our last issue:

Capacity	60,000 lbs.
Length over end sills	37′ 8½″
Length over striking plates	37′ 10″
Length centre to centre of trucks	26′ 10″
Width over side sills	9′ 0¾″
Width over floor	9′ 3¾″
Width over stake pockets	9′ 11⅜″
Height from rail to top of floor	4′ 1⅛″
Height from rail over sill	3′ 11⅜″
Height from rail to top of brake wheel	6′ 4⅜″
Height from rail to centre of drawbars	2′ 10½″
Trucks	Arch bar
Bolsters and brakebeams	Simplex
Couplers	Simplex, side opening
Side bearings	Susemihl frictionless
Brake shoes	Steel back
Axles	Steel
Journal boxes	McCord M.I.
Air brakes	Westinghouse
Springs	M.C.B. class G.

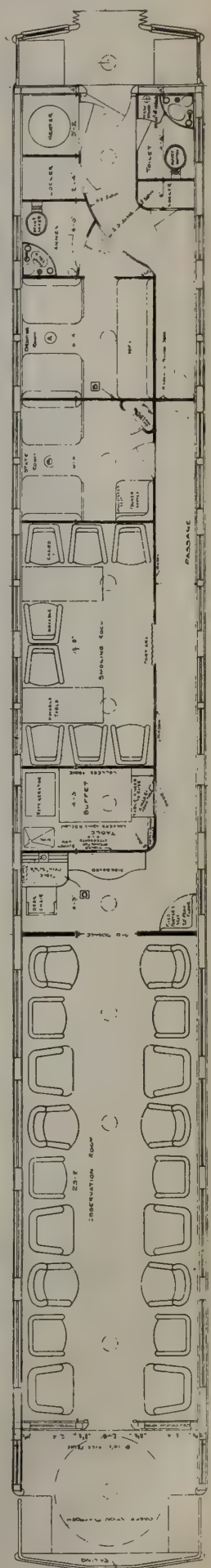
In giving particulars of rolling stock ordered by the C.P.R. at its Angus shops, Montreal, in our last issue, we stated that 10 box cars had been ordered. This should have been 102. Of the rolling stock so ordered, all are being built to the usual specifications, which we have already given, with the exceptions, t' the van under construction at the Farnham shops will have side look-out windows in addition to the cupola, and the following additional particulars for the cars, as mentioned:

STEEL FLAT CARS.

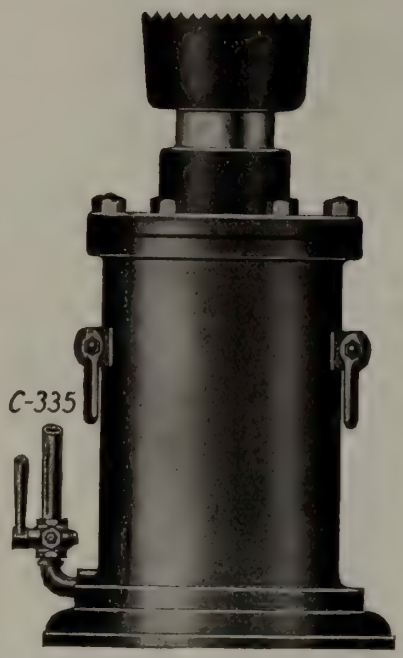
Capacity	40 tons
Type	Steel frame
Length over buffer blocks	42′ 2″
Width over frame	9′ 0″

Canadian Pacific Railway Observation Cars.

In our July and August issues we gave a full description, dimensions, etc., of the 22 observation cars which the C.P.R. has built recently for transcontinental service. The illustration above gives a rear end and side view of one of these cars, and at either side of this page are floor plans of the two types of cars, half of which contain, in addition to the observation room, three staterooms and a drawing-room, the other half having a smoking-room, a stateroom and a drawing-room.



Compressed Air-Jacks



For short lifting around car and repair shops and manufacturing plants.

Rand Jacks are built in several styles from 4 to 30 thousand pounds capacity.

All of the latest construction, fitted with safety check valves for holding the load if the hose becomes detached or burst.

We carry in stock or can make quick delivery of all compressed air appliances and Rand Air Compressors.

Catalogs on all subjects.

Canadian RAND Co. Limited
MONTREAL. QUE.

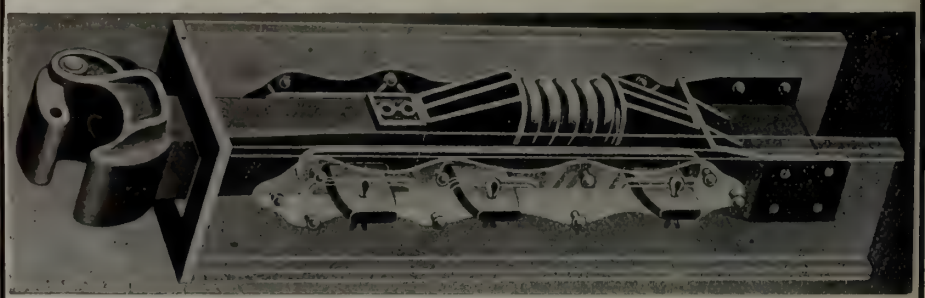
Branches at:
TORONTO, WINNIPEG, ROSSLAND, COBALT, HALIFAX, MONTREAL.

THE **N. L. PIPER RAILWAY SUPPLY CO.** LIMITED
314 FRONT ST. WEST
TORONTO

EMBOSSED ALUMINUM NUMBERS

Our Signs and Numbers are made of ALUMINUM and riveted with ALUMINUM RIVETS to a BLACK JAPANNED STEEL PLATE. The great benefit of our Numbers and Signs is. that being made of Aluminum they will never CRACK, RUST or TARNISH, and can be seen much better both by day and night than any other manufactured. The Light, Glistening Aluminum Figure standing out on the Black Background makes a PERFECT CONTRAST between the Number and the Plate.

THE
Farlow Twin Spring Draft Gear



Designed for Wooden or Steel Cars and Engines.
Pulling Strains Distributed Equally on the Three Cross Keys.
Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.
Baltimore, Md. **Chicago, Ill.**

Height from top of rail	4′ 2⅛″
Body bolsters	Built into frame

STEEL COAL CARS.

Capacity	50 tons
Length inside	36′ 9½″
Height inside	5′ 0″
Width inside	9′ 6″
Length over end sills	38′ 10″
Width over side sills	10′ 0½″
Body and underframe	Steel
Axles	5½″ by 10″ M.C.B.
Paint	Metalistic

The Great Eastern Railway of England, with one of the largest termini in London and a great suburban traffic, has lost passengers at the rate of 25,000,000 per annum since the advent of the London County Council's electric tramways, and this in spite of a gradual reduction of its fares amounting in some cases to 40%. The council tramways are a municipal undertaking, and while giving good service have been run hitherto at a loss, the deficit being paid out of the rates, so that the railway company, as a large ratepayer, is naturally aggrieved at having to contribute to the support of a successful rival.

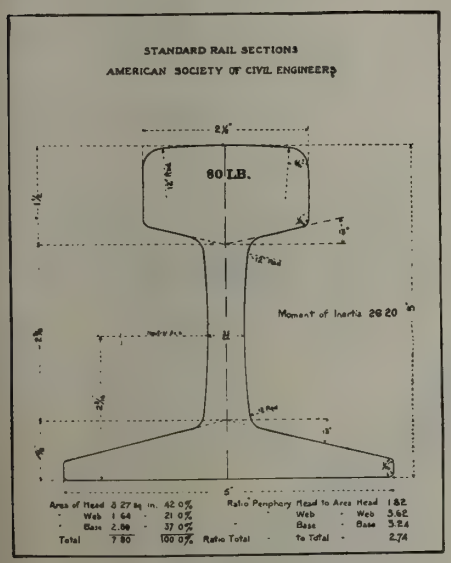
The Board of Railway Commissioners has postponed the operating sittings fixed for Ottawa Sept. 7, to Sept. 14, at 10 a.m. The date for the Sept. traffic sittings remains unchanged, and traffic matters will be heard at Ottawa, Sept. 21, at 10 a.m.

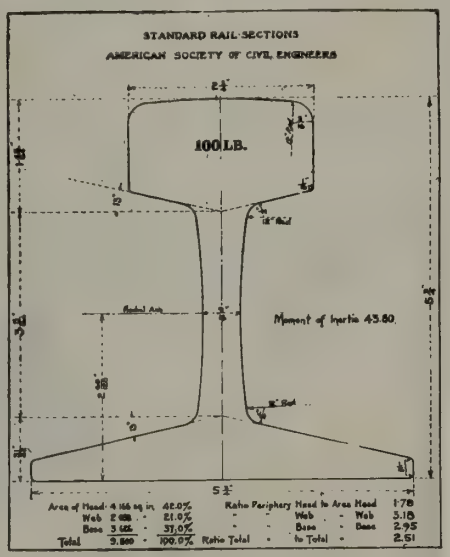
Rails, Fastenings and Tie Plates.

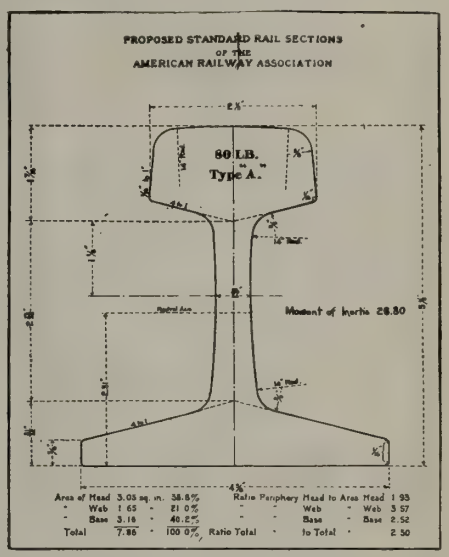
A sub-committee of the Canadian Society of Civil Engineers has presented the following report: In view of the importance of the subject, and the wide field for investigation, the sub-committee considered it advisable not to undertake the formulation of a complete report, but to present to the general committee on transportation for its consideration, the present state of rail manufacture with respect to the sections which have been in general use for many years and the contemplated departure from those sections, and as the type of rail is necessarily preliminary to a consideration of the fastenings or the tie plates, the latter items were not considered at this time. It has therefore included in its report natural scale drawings of the following sections:

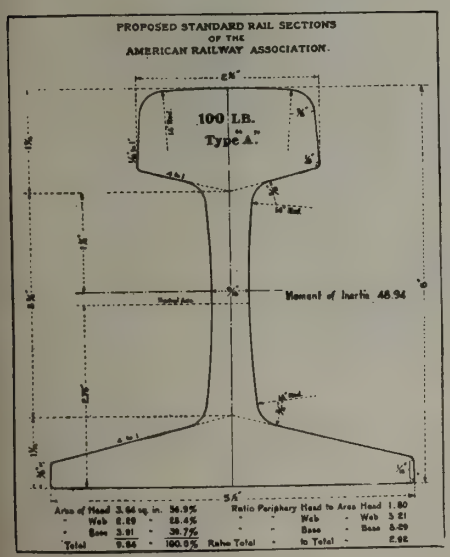
American Society of C. E.	80	lbs. per yd.
American Society of C. E.	100	" " "
American Railway Ass'n., Type A	80	" " "
American Railway Ass'n., Type A	100	" " "
American Railway Ass'n., Type B	80	" " "
American Railway Ass'n., Type B	100	" " "
Pennsylvania Railroad—Standard	85	" " "
Pennsylvania Railroad—Standard	100	" " "
N.Y.C. & H.R.R.R.—Standard	85	" " "
N.Y.C. & H.R.R.R.—Standard	100	" " "
Canadian Pacific Ry.—Standard	85	" " "

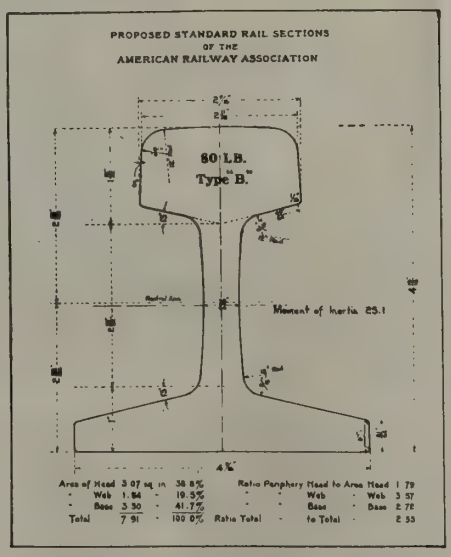
The sections known as the Am. Soc. C.E. Sections were, after several years of consideration, recommended by a committee of that Society in June, 1893, and their adoption has grown until they are now in almost general use on the railways of Canada and the U.S. Since their introduction, certain objections to them have developed, and about a year ago the American Railway Association offered for consideration, through its committee on rails, two new types of section, known as type A and type B, each representing a different thought or principle of design. A study of these sections, as compared with the Am. Soc. C.E. sections, will disclose vital differences. Type A represents a rail in which girder strength is sought as a predominant feature, while endeavoring to conserve the disposition of material in head, web, and base, to secure good mill results. Type B is a rail in which mill results are sought as predominant features, while endeavoring to conserve the girder strength required for modern heavy wheel loading. These sections appear to have secured respectively, the salient features sought, in an advantageous way as compared with the Am. Soc. C.E. sections; and experimental rollings have been made of each section within the past few months, from which it hopes to derive reliable information within the next two years. The section used as standard by the Pennsylvania R.R. might be classed with type B, al-

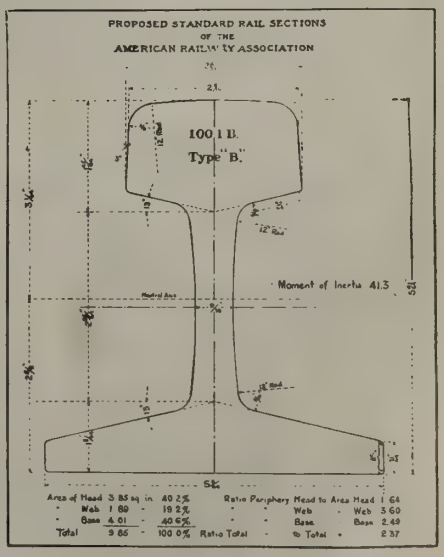












BOOKS
for
Railroad and Elevator Men and Contractors

ECONOMICS OF RAILWAY OPERATION.

By M. L. Byers.
C.E., Ch. Eng. M. of W., Mo. Pac. Ry.

Cloth, 672 pp., many diagrams and forms illustrating the best modern practice, $5 net.

The only publication explaining in detail the operative systems of American railways. Sir William Van Horne says of it: "I regard it as a most useful and valuable book."

TRACK AND TRACK WORK

(Third Edition, Revised and Enlarged)
By E. E. R. Tratman
Assoc. M. Am. Soc. C. E.

Cloth, 520 pages, 232 illustrations, 44 tables and an appendix of statistics of standard track construction - - - - $3.50 net
The standard treatise on this subject.

DESIGN OF TYPICAL STEEL RAILWAY BRIDGES

By W. Chase Thomson
M. Can. Soc. C.E. Assist. Eng. Dominion Bridge Co.

Cloth, 178 pages, 21 figs., 5 fold. plates, $2 net.

FIELD PRACTICE OF RAILWAY LOCATION

By Willard Beahan

Cloth 270 pages, 50 illustrations - $3.00 net

RIGHT OF WAY SURVEYING

By A. I. Frye

Cloth 8vo, 50 pages - - - $1.00 net

RAILWAY LOCATION AND CONSTRUCTION.

By E. N. McHenry

Cloth, 88 pages, 2 folding plates, $1.00 net

DESIGN OF WALLS, BINS AND GRAIN ELEVATORS

By M. S. Ketchum
Dean of College of Eng., Univ. of Colo.

Cloth, 394 + XIV pages, 260 figs., 40 tables and 2 folding plates - - $4.00 net.
Giving a systematical analysis of the stresses in structures containing granular materials.

EARTHWORK AND ITS COST

By H. P. Gillette

Cloth, 256 pages, illustrated - - $2.00 net

CONCRETE SYSTEM

By Frank B. Gilbreth

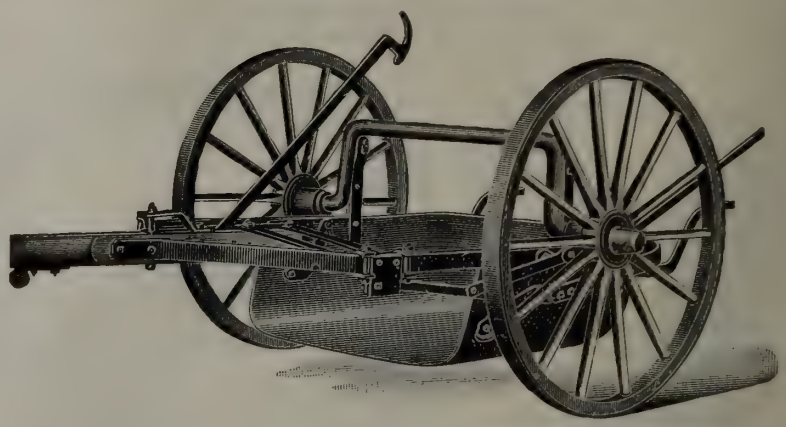
Flex. Morocco; 8½ x 11 ins.; 200 pages 220 illustrations and 10 Folding Plates; Printed on finest coated paper - - $5.00 net

Full descriptive circulars of these and other books on request.

(The Imprint of Authority.)

ENGINEERING NEWS
BOOK DEPARTMENT
220 Broadway. New York.

THE TORONTO PRESSED STEEL CO. LIMITED
TORONTO, CANADA



Our **SOLID PRESSED BOWL DRAG** and **WHEEL SCRAPERS** are the most satisfactory in the market. They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies including

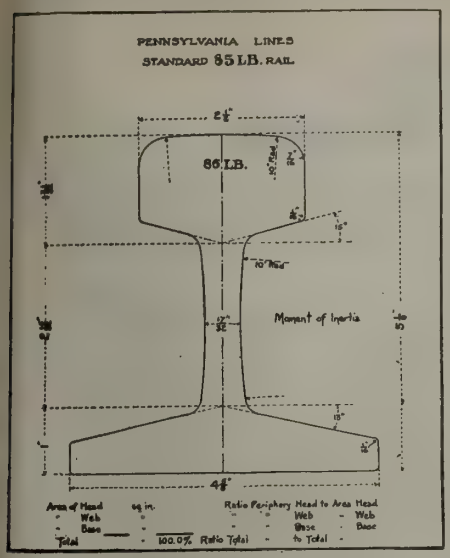
PLOUGHS **DUMP CARS**
DUMP WAGONS **DUMP CARTS**
WHEELBARROWS **TRUCKS**
CEMENT MIXERS **WAGONS**
etc., etc.

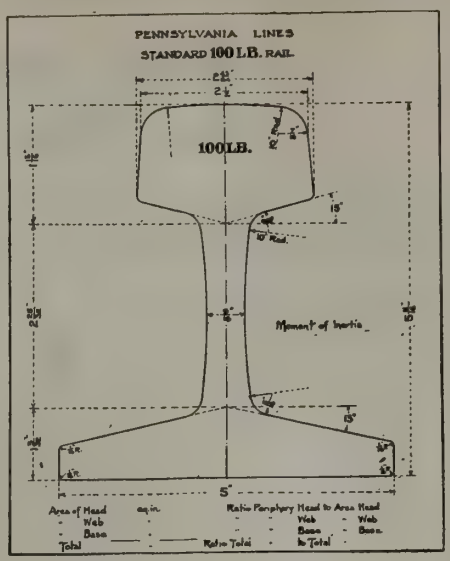
PROMPT SHIPMENTS **SEND FOR CATALOGUE**

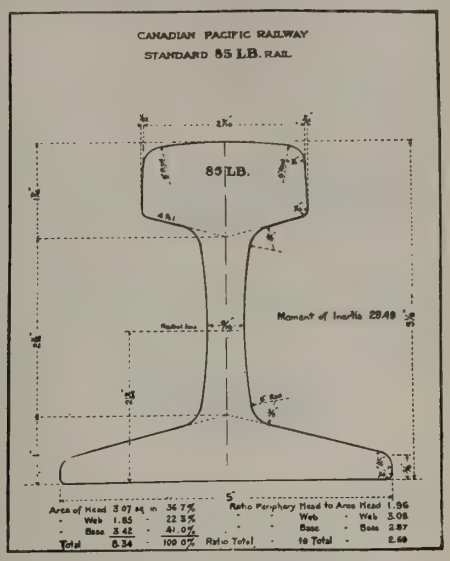
Champion Revolving Dump Car

The CHAMPION CAR is radically different from any now on the market. It is simple, strong, compact and being built entirely of iron except the bed, is extremely durable. The bed revolves and may be dumped on either side or end. Write for catalogue of cars and drums.

The Canadian Road Machine Co., Limited
HAMILTON, CANADA







though differing in detail; while the section used as standard by the N.Y.C. & H.R.R.R. is clearly of type A. The C.P.R. standard 85-lb. section is between the two typical sections.

It is believed by the sub-committee that a careful study of these sections will prove not only interesting but most instructive, and that it would be inopportune at this time to present for consideration any general specification pertaining to chemical composition or mill practice.

The report is signed by H. G. Kelley, Chairman, the other members of the committee being: D. MacPherson, H. Holgate, H. D. Lumsden, F. P. Gutelius, W. McNab, J. G. Sullivan, T. C. Burpee, A Stansfield, B. B. Kelliher, A. F. Stewart, L. A. Vallee, H. A. Woods, R. McColl.

Board of Railway Commissioners.—A. J. Nixon, at present Assistant Superintendent, G.T.R., London, Ont., has been appointed as the Board's operating officer, his duties to commence Oct. 1.

Mrs. Sykes, wife of S. H. Sykes, C.E., of Mackenzie, Mann & Co.'s engineering staff, died at Toronto, Aug. 25, after a long illness.

When A. J. Nixon, Assistant Superintendent G.T.R., London, Ont., leaves that position about Sept. 15 to become operating officer Board of Railway Commissioners, at Ottawa, he will probably be succeeded by C. G. Bowker, at present Trainmaster at Stratford, Ont., who will probably be succeeded by J. A. McLar-

Grain Elevator Notes.

The Goose Lake Grain and Lumber Co., is erecting an elevator at Harris, Sask.

The Thunder Bay Elevator Co., Ltd., has increased the number of its directors from three to seven.

The National Elevator Co. is reported to be arranging for the erection of a large elevator at Fort William.

Paulson & Winkler are reported as having decided to build an elevator with capacity for 25,000 bush. at Loreburn, Sask.

The Atlas Elevator Co., Ltd., has been licensed under the Foreign Corporations Acts to carry on business in Manitoba and Saskatchewan.

Contracts have been awarded for the construction of elevators at Bruderheim and Pippin, Alta., for J. Gillespie and J. R. Spier, respectively.

The Claresholm Lumber and Grain Co. is reported to have disposed of its elevators at Granum and Stavely, Alta., to C. Terwilliger, Sioux City, Ia.

The Farmers' Elevator Co. of Killam, Ltd., has been incorporated under the Northwest Territories Companies Ordinance, with office at Killam, Sask.

The interest in the Northern Elevator Co. of N. Bawlf is reported to have been acquired by E. C. Warner, of Minneapolis, Minn. It has been stated that apart from this transfer of interest there will be no change in the name or management of the company. G. R. Crowe, Winnipeg, has been elected President.

The Clanwilliam Farmers' Elevator Co. Ld. has been incorporated under the Manitoba Companies Act, with a capital of $10,000, and office at Clanwilliam, to carry on a general grain warehousing and elevator business. The provisional directors are: W. B. Waddell, W. T. Bielby, R. Greenlaw, C. Averill, H. Woodcock, J. Proven, of Minto, and G. Frazer and H. F. Maulson, Minnedosa, Man.

It is announced that the Brackman-Ker Milling Co. has transferred all its grain elevators in Alberta with the exception of its storage plants at Edmonton and Strathcona, to the Alberta Grain Co., by which they will in future be operated. The elevators transferred are situated at Wetaskiwin, Leduc, Hobbema, Ellerslie, Stoney Plain, St. Albert, Bittern Lake, Fort Saskatchewan and Lamont.

The Dow Cereal and Milling Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of $200,000 and office in Winnipeg, to carry on a general milling business, to build and operate grain elevators, and carry on a general elevator business. The provisional directors are: G. Dow, M. L. B. Colquhoun, Pilot Mound, Man.; E. Nicholson, D. H. Bain, G. S. Laing, Winnipeg.

The Standard Elevator Co., Ld., has been incorporated under the Dominion Companies Act, with a capital of $250,000, and office at Winnipeg, to deal in wheat, grain and other cereals, and to own, construct or otherwise acquire, and operate elevators, warehouses, etc., for the storage of grain. The provisional directors are W. K. Chandler, E. Lockington, H. Phillips, H. W. Whitla, E. A. Fletcher, Winnipeg.

It was recently reported that the C.P.R. was about to establish a sacking plant at Vancouver, to deal with the shipment of grain at that point. Press reports, however, state that a communication was recently received by C.P.R. officials at Vancouver, from W. Whyte, Second Vice President, to the effect that no decision had been arrived at in the matter of making provision for the handling of grain there.

An extraordinary general meeting of shareholders of the Carlyle Farmers Elevator Co. was held at Carlyle, Sask., Aug. 3, to consider as to whether the proposed elevator should be built on the C.P.R. or the C.N.R. The directors had already decided that it was to be built on the C.P.R., but the shareholders decided, by a majority of 26, that it be built on the C.N.R. Upon the decision becoming known, the President and directors resigned.

Randall, Gee and Mitchell, Ltd., has been incorporated under the Dominion Companies Act, with a capital of $25,000 and office at Winnipeg, to carry on an elevator and warehouse business, and to erect and operate grain elevators, and to build, purchase or otherwise acquire and operate steam and other vessels for the transport of passengers and freight. The provisional directors are F. W. Piche, H. V. Lloyd, C. S. Blanchard, A. Campbell, C. Y. Mackenzie, Winnipeg.

A press report dated Aug. 19 states that the grain elevators at Kingston, Ont., have experienced the smallest grain delivery since 1884, which year had the smallest on record. In 1908 about 15,000,000 bush. were shipped to Kingston, which constituted a record, but this year only about a quarter of that amount has, so far, been received. Though cargoes will be received throughout the fall, it is considered doubtful if more than one-third of last year's figures will be reached.

The Matheson Grain Co., Ltd., has been incorporated under letters patent in Manitoba, with a capital of $100,000 and office at Winnipeg, to buy and lease lands and to erect buildings thereon, and equip same with the necessary machinery for the purpose of receiving, warehousing and delivering grain, etc.,

RENOUF
Publishing Co.
61 Union Avenue
Montreal

EIGHTH EDITION.
Recomputed from New and Precise Experimental Data.

PEABODY—**Tables of the Properties of Steam and Other Vapors, and Temperature-entropy Table.** 8vo, v+133 pages. Cloth, $1.00.

SECOND EDITION, REVISED AND ENLARGED.

PEABODY-MILLER — **Steam-boilers.** 8vo, viii+434 pages, 176 figures, 5 folding plates. Cloth, $4.00.

TWENTY-SECOND EDITION. ENLARGED.
Total issue, twenty-four thousand.

SINCLAIR — **Locomotive Engine Running and Management.** 12mo, xxxvi+442 pages, 52 figures, 11 plates. Cloth, $2.00.

SECOND EDITION, THOROUGHLY REVISED.

DURAND—**The Resistance and Propulsion of Ships.** 8vo, xiii+427 pages, 108 figures. Cloth, $5.00.

GOSS — **Locomotive Performance.** The result of a series of researches conducted by the Engineering Laboratory of Purdue University. 8vo, xvi+439 pages, 229 figures. Cloth, $5.00.

ORROCK—**Railroad Structures and Estimates.** 8vo, vi+270 pages, 93 figures. Cloth, $3.00.

SIXTH EDITION, RE-WRITTEN AND ENLARGED.

MERRIMAN & JACOBY—**A Textbook on Roofs and Bridges.** Part 1. Stresses in Simple Trusses. 8vo, cloth, $2.50.

SECOND EDITION, REVISED, WITH ADDITIONS.

SNOW—**The Principal Species of Wood. Their Characteristic Properties.** Large 8vo, xi+203 pages, figures in the text, 37 full-page half-tones. Cloth, $3.50.

New Ways To The Woods

The six railways of the Canadian Northern Railway system offer the widest choice of new territories for the fisherman, canoeist, camper and hunter.

IN NOVA SCOTIA the Halifax and Southwestern Railway, from Halifax to Yarmouth, serves seven hundred miles of ocean shore; two score generous trout streams and the famous Rossignol lake system.

IN CAPE BRETON, sixty miles of the Gulf of St. Lawrence shore is skirted by the Inverness Railway, which gives easy access to the Margaree valley—far-famed for its salmon fishing.

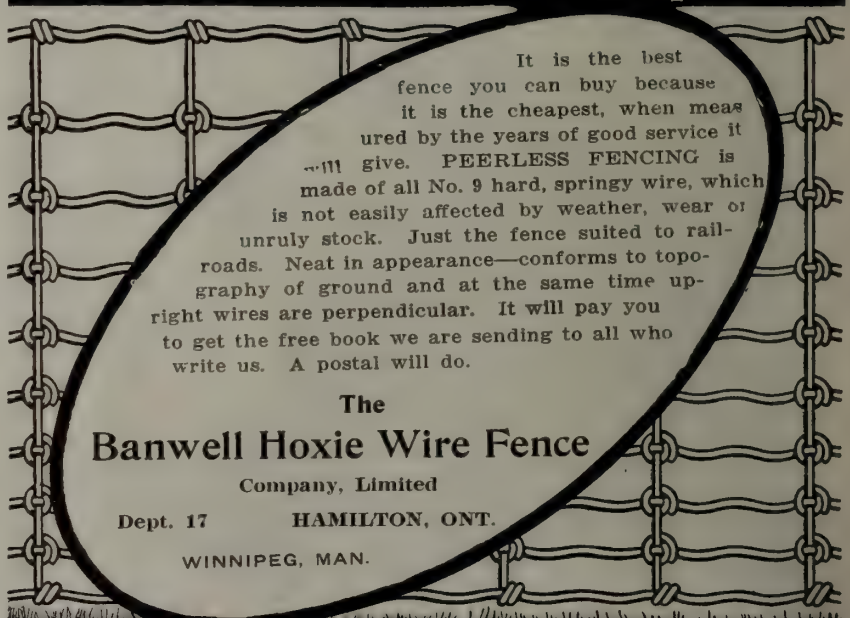
IN QUEBEC, the Canadian Northern, Quebec and Quebec, and Lake St. John Railways give easy access to the Saguenay, Upper St. Maurice, the Batiscan, the La Tuque game and fish preserve, and the valleys of the St. Lawrence and Ottawa. All good fishing waters, abounding with ouananiche, trout and bass.

IN ONTARIO, the entire range of the Muskokas, the Georgian Bay hinterland, the French, Pickerel, Still and Maganetawan rivers—well stocked with bass, mascalonge, and pickerel, are best reached by the Canadian Northern Ontario Railway.

IN WESTERN ONTARIO and the prairie provinces, the Canadian Northern Railway serves over three thousand miles of splendid territory. The Rainy River section follows the old Dawson fur trail, which is the finest canoe trip on the continent. There is an amplitude of sporting opportunities for the camera hunter, the fisherman and canoeist.

For literature and general or special information inquire of the information Bureau, Canadian Northern Railway System, Toronto.

PEERLESS
The Fence that saves Expense



It is the best fence you can buy because it is the cheapest, when measured by the years of good service it will give. PEERLESS FENCING is made of all No. 9 hard, springy wire, which is not easily affected by weather, wear or unruly stock. Just the fence suited to railroads. Neat in appearance—conforms to topography of ground and at the same time upright wires are perpendicular. It will pay you to get the free book we are sending to all who write us. A postal will do.

The
Banwell Hoxie Wire Fence
Company, Limited
Dept. 17 **HAMILTON, ONT.**
WINNIPEG, MAN.

STRONGER
Than Stock-Weather and Wear

and to take over the elevators owned by T. S. Matheson at Caron, Keeler, Midale, Griffin, Guernsey, Sask., and Stilson, Man. The provisional directors are: T. S. Matheson, Winnipeg; J. S. Matheson, R. M. Matheson, J. McQueen and J. W. Fleming, Brandon, Man.

E. J. Chamberlin, Vice-President and General Manager G.T.P.R., while in Montreal recently, is reported to have said that by the time the crop is ready there will be 102 elevators along the route to Edmonton, with a total capacity of 3,500,000 bush., ready to deal with it. In addition, there will be loading platforms all along the line. He stated that four elevator companies were now operating on the G.T.P.R. Regarding the Fort William elevator, he said that one section with a capacity of 3,800,000 bush. was approaching completion.

Regarding the question of handling wheat at Vancouver for shipment to Europe by the Pacific route, F. F. Busteed, General Superintendent C.P.R. Pacific Division, was reported to have stated recently that press reports to the effect that the C.P.R. was doing nothing in the matter were incorrect. When the time comes the C.P.R. will be ready, and is even now preparing to deal with all the grain that will come forward for shipment from that point. What the preparations were he was not in a position to state, but judging from previous statements on the point, it may be surmised that the method to be adopted will be that of sacking the grain.

The number of cars of grain inspected from Sept. 1 to the close of navigation at Fort William and Port Arthur, Dec. 12, 1908, was 55, 264. Of this number, 35,258 moved over the C.P.R., 15,823 over the C.N.R., 1,296 over the G.T.P.R., and 2,887 over the G.N.R. to Duluth, Minn. The grain inspected was divided as follows: wheat, 46,707 cars, 49,042,350 bush.; oats, 5,316 cars, 9,568,800 bush.; barley, 2,157 cars, 2,588,400 bush.; flax, 1,078 cars, 1,078,000 bush.; rye, 6 cars, 7,200 bush.; a total of 62,284,750 bush. During the same period, grain was received at the points named, as follows: wheat, 39,429,747 bush.; oats, 7,237,431 bush.; barley, 1,903,315 bush.; flax, 895,295 bush.; rye, 1,077 bush.; a total of 49,466,865 bush. The shipments were: wheat, 36,013,617 bush.; oats, 5,953,201 bush.; barley, 1,450,864 bush.; flax, 519,913 bush.; a total of 43,935,595 bush. The difference between the quantity received and the quantity shipped was unloaded at other points or absorbed locally.

Among the Express Companies.

The Canadian Northern Ex. Co. has opened a waybill office at Bowsman, Man.

S. Coates was sentenced to 5 years in the penitentiary, Aug. 5, on his pleading guilty to forging and uttering Dominion Ex. Co.'s money orders, at Montreal.

Complaint is being made in Winnipeg as to the alleged restricted limits, within which express companies deliver matter there. Since the companies first operated in the city, it has grown considerably, but it is claimed that the original limits have been maintained.

Press reports state that express companies operating throughout the Dominion have prepared a new schedule of rates, which will be laid before the Board of Railway Commissioners at its Sept. sittings for approval. The reports probably have reference to joint tariffs governing small packages when carried by two or more express companies. At the close of the hearing in Toronto in June, after argument of counsel, the Chief Railway Commissioner asked counsel if the express companies had considered the question of joint rates on that class of business. It was stated that many complaints had been received of the high charge on a package by express, when it passed over the lines of two companies, and counsel were asked to confer with the express companies to see if they were willing to make any concession in respect of such packages. A conference was held, and later the Board was advised that the companies were willing to make some concession, and the companies are now endeavoring to work out a schedule of charges to govern the traffic referred to, which will be somewhat less than the present charges on the same class of business.

Telegraph and Cable Matters.

The C.P.R. Telegraph Department has announced a reduction in cable rates between Australia and British Columbia, from 18c. to 9c. a word.

Miss M. G. Easson, daughter of R. F. Easson, Press Superintendent, Great Northwestern Telegraph Co., Toronto, was married recently to J. H. Stovel, of Cobalt, Ont.

J. J. Ross, heretofore supervisor of electric signals, M.C.Rd., has been appointed Superintendent of Telegraphs, with office at Detroit, Mich., succeeding the late E. H. Millington, who died recently at St. Thomas, Ont.

An Ottawa press dispatch states that the Department of Marine is considering the question of erecting three additional wireless telegraph stations on the Pacific coast, and that they are to be adapted for commercial purposes as well as for signalling.

J. Kent, Manager, and W. J. Camp, Electrical Engineer C.P.R. Telegraphs, left Montreal, Aug. 10, for an inspection trip over the western lines. B. S. Jenkins, General Superintendent of Telegraphs, Western Lines, joined them at Winnipeg, and the various superintendents were picked up en route through their divisions.

The Marconi wireless telegraph station at Glace Bay, N.S., was destroyed by fire, Aug. 21. The station, which was the only one on this side of the Atlantic capable of dealing with the trans-Atlantic wireless business, was opened in 1907, and arrangements were made at the recent annual meeting of the company in London, Eng., for the duplication of the plant. The business, which had grown to considerable dimensions, is temporarily suspended, but it is understood that the work of getting a new plant into order will be taken in hand at once. The official on the spot is stated to have said that the experience gained in constructing the station just destroyed would enable the company to put up a new one more capable of dealing with amount of work they now had to cope with.

ELECTRIC RAILWAYS

Canadian Street Railway Association

PRESIDENT, D. McDonald, Manager, Montreal St. Ry.; VICE-PRESIDENT, J. Anderson, Manager, Sandwich, Windsor and Amherstburg Ry.; SECRETARY TREASURER, Acton Burrows, Managing Director, Railway and Marine World.

ASSOCIATION'S OFFICE, 157 Bay St., Toronto.

EXECUTIVE COMMITTEE:—P. Dubee, Secretary, Montreal St. Ry.; E. A. Evans, General Manager, Quebec Ry. Light and Power Co.; R. J. Fleming, General Manager, Toronto Ry.; H. M. Hopper, Secretary-Treasurer, St. John Ry.; J. E. Hutcheson, Superintendent and Purchasing Agent, Ottawa Electric Ry.; C. B. King, Manager, London St. Ry.

ASSISTANT SECRETARY, Aubrey Acton Burrows, Secretary and Business Manager, Railway and Marine World.

Projects, Construction, Betterments, Etc.

Brandon, Man.—The city council has under consideration the desirability of constructing a system of street railways in the city. A proposal was made by J. H. Ingram, but the council, while it has not rejected it, is more favorably inclined to the construction of a municipal system.

Brantford St. Ry.—The laying of the new tracks and the second track on Colborne Street, Brantford, Ont., has been completed on one section, and the cars began running over it Aug. 10. The relaying and second track work on the rest of the street will be gone on with as soon as the concrete foundations have been laid. The whole of the lines in the city are being relaid with 80-lb steel, which is being supplied by the Algoma Steel Co. The special work is being supplied from England. (June, pg. 447.)

The British Columbia Electric Ry. Co. has made application to the Provincial Government for 30,000 miners inches of water from the Indian River, near Vancouver, and proposes to construct an auxiliary power plant.

Work has been started on the electrification of the line to Cloverdale. The poles being used are double the height of the ordinary poles and will carry both the trolley wires and the high voltage wires that will convey the power to Chilliwack.

Tracklaying has been started on the first section of the line from New Westminster to Chilliwack, which extends to Abbotsford, 38 miles. It is expected that this work will be completed by the end of November. Contracts are reported to have been let for the grading of the remaining mileage to Chilliwack, and for a twelve mile branch to the property of the Puget Sound Ditch and Dredging Co. (Aug., pg. 608.)

Calgary, Alta.—The city council placed in operation Aug. 12, a further section of its municipal street railway. This section extends over the Louise bridge for half a mile to the foot of the hill, where a temporary loop has been placed. The commissioners have filed with the Dominion Government plans for a number of extensions, which it is contemplated to construct in the future. (Aug., pg. 608.)

Dunnville, Wellandport and Beamsville Electric Ry.—The by-laws granting aid to the company for the construction of an electric railway through the townships, have been passed by Moulton and Gainsboro. The two townships have voted $5,000 each. The company pro-

poses to construct a line from Dunnville via Wellandport to Beamsville, Ont., and has already graded some few miles from Dunnville. (Aug., pg. 608.)

Fort William, Ont.—The taxpayers have, by a majority of 632, voted in favor of constructing a second track on the street railway in the city. It is said that the laying of the second track, as well as the constructing of an extension of the existing lines, will be started at an early date. (Aug., pg. 608.)

Hamilton Radial Ry.—The Dominion Power and Transmission Co., which owns this electric railway running from Hamilton to Oakville, Ont., is said to be making arrangements for the extension of its line from Oakville to Toronto. (July, 1908, pg. 509.)

Hamilton Street Ry.—The Dominion Power and Transmission Co., which owns this electric railway, has given notice to the Hamilton city council that it is prepared to go on with the relaying of the tracks on James street, from Herkimer street to the Incline Ry., and to do the paving between the rails at the same time. It is said that the city will repave the other portions of the street at the same time. (June, pg. 447.)

Laval Electric Co. was given power at the Quebec Legislature's last session, to construct tramways, wharves, docks, and other necessary buildings, and to operate steam and other vessels in connection with the businesses which it is authorized by its act of incorporation to carry on.

London and Northwestern Ry.—At a recent meeting of the provisional directors of this company, which was incorporated last session of the Dominion Parliament, held in London, Ont., it was decided to proceed with the sale of shares with the object of raising sufficient funds to engage an engineering staff to make surveys of the proposed route. The route is from London to Sarnia, with a branch from Lobo to Grand Bend. It was also decided that application be made to the different municipalities through which the line will pass for bonuses to aid in the financing of the proposition. Alderman D. A. Stewart, of London, is one of the principal promoters of the company. (Mar., pg. 173.)

Montreal and Southern Counties Ry.—The by-law granting a 20 year franchise to the company for a street railway in St. Lambert municipality, was finally passed Aug. 11. The work of constructing the line through the municipality will be gone on with at once. (June, pg. 523.)

Nipissing Central Ry.—The Board of Railway Commissioners has approved of the route of this electric railway from Cobalt to Haileybury, 5.1 miles. The line starts at Cobalt and runs northerly through Argentite and Port Cobalt to Haileybury. It will serve a population estimated at 25,000. The maximum gradient is 5%, and the maximum curvatures 20 degrees. The line crosses the Temiskaming and Northern Ontario Ry. on an overhead timber trestle 1,200 ft. long. Construction has been in progress for some time, and it is expected that the line will be completed to Haileybury by the end of Oct. We are advised that no contracts for power, electrical equipment or rolling stock have yet been let. The company proposes, upon the com-

The Improved
RAMAPO
Automatic, Safety
SWITCH STANDS
have no equal.

Canadian Ramapo Iron Works
LIMITED
Manufacturers
Niagara Falls, Ont.

AGENCIES:

Dominion Equipment & Supply Co.,
354 Main St. Winnipeg

C. L. Hacket.
605 Eastern Townships Bank, Montreal

Style No. 17 Style No. 20

Ask for Information about Six Other Styles.

IDEAL RAILWAY FENCING
MADE TO LAST
Large gauge (No. 9) hard steel wire is used throughout, decreasing cost of maintenance, insuring durability and serviceability.
IDEAL FENCE has been adopted as a standard by all the leading Railways in Canada. More IDEAL is used by Railways this year than all other makes combined.
Write for Prices and Catalogue.
The McGregor Banwell Fence Co.
Limited
WALKERVILLE, ONTARIO.

pletion of the line into Haileybury, to undertake the construction of an extension to New Liskeard, a further distance of six miles. G. E. Henry is Chief Engineer in charge of construction. (Aug., pg. 609.)

Peoples Ry.—Surveys are being made for this projected line of electric railway. H. B. Stewart is in charge of the surveys, and A. N. Warfield, New Hamburg, Ont., is consulting engineer. The map of the projected lines show a main line running from New Hamburg through Zubrig, Tavistock, Stratford, Sebringville, Mitchell and Dublin to Seaforth. A line runs southerly from New Hamburg through Haysville, Plattsville, and Innerkip to Woodstock, and northerly to Wellesley. From Sebringville, it is proposed to run three branch lines: one northerly through Rostock to Monkton; one southerly through Avonbank and Avonton to St. Marys; and one southwesterly through Carlingford, Russeldale, Fullerton, Farquhar to Exeter. The survey has been completed from New Hamburg to Wellesley. The township of Wellesley on July 14 voted in favor of a by-law to subscribe $15,000 of preference stock in the company by way of bonus. The surveys have been completed from New Hamburg to Stratford, and it is hoped to be able to start construction at an early date. W. A. Bugg, who is active in the promotion of the company, stated recently that it had been decided to move the offices of the company to Stratford. (Aug., pg. 609.)

Quebec and Saguenay Ry.—The Quebec Legislature at its last session, continued and renewed the rights and privileges conferred by the company's act of incorporation. The construction of the railway is to be commenced within two years and completed within five years. R. Forget, W. McL. Walbank, W. G. Ross, Montreal; Hon. E. B. Garneau, Hon. C. Langelier, and Hon. P. A. Choquette, Quebec, are among the promoters. (July, pg. 523.)

Quebec County Ry.—The Quebec Legislature at its last session, directed that the company's powers of construction shall not be exercised over any of the roads under the control of the Quebec North Shore Turnpike Trust, without the consent of that body, nor along the road belonging to a municipality without the consent of such municipality. The company is also given power to lay out pleasure grounds, and to acquire lands for building lots, etc., in connection with its business.

Rainy River Radial Ry.—Application will be made at next session of the Dominion Parliament for an act to incorporate a company with this title to construct and operate a line of railway from the International boundary near Fort Frances to the Lake of the Woods, near the mouth of Big Grassie River, and from that line of railway to the International boundary near Rainy River; to the International boundary near the Long Sault Rapids, on the Rainy River; to the Lake of the Woods near the mouth of the Little Grassie River; to the International boundary near the mouth of Rainy River, and from Fort Frances to the southwest shore of the northwest bay of Rainy Lake. Power will also be sought to carry on the general business of a telephone, express, power, light and heat, shipping; warehousing and forwarding company and general commission merchant; to build and operate hotels, parks and pleasure resorts, coal and ore docks, grain elevators, etc., and to enter into agreements with other railway and transportation companies and municipalities. W. A. Dowler, Fort William, is acting for the applicants.

St. Thomas Street Ry.—The St. Thomas, Ont., city council has had under consideration a report of the commissioners operating the street railway with reference to the repairs which are urgently required. The estimated cost of the repairs which it is considered should be made at once is about $7,000. It was decided to undertake certain of the work at once, and to take up the consideration of the less urgent parts of the work at a time when it could be undertaken without interfering with the earning capacity of the line. (June, pg. 449.)

Toronto and York Radial Ry.—Engineers have been going over the Mimico division with a view of securing a new route at a number of points between Sunnyside and Port Credit, Ont. It is desired to secure a private right of way so as to run faster cars and to be able to handle freight traffic to greater advantage than can be done over the present route, which is almost entirely along the public road. The adoption of a new route would enable the company to cut out the sharp curves, of which there are a number along the line. It is thought probable that a new bridge will be constructed across the Etobicoke River. (June, pg. 449.)

Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for June, $200,624; operating expenses, $116,025; operating earnings, $84,599; renewal funds, $13,958; net earnings, $70,641; approximate income from investments, $13,550; net income, $84,191; against, $157,727 gross earnings; $96,729 operating expenses; $60,998 operating earnings; $10,750 renewal funds; $50,248 net earnings; $11,036 approximate income from investments; $61,284 net income for June, 1908. Aggregate gross earnings for 12 months ended June 30, $2,298,778; net earnings, $1,027,116; against $1,926,924 gross, and $912,928 net for same period 1907-08.

Calgary St. Ry.—Gross earnings for July, $5,392; expenses, $1,397; net earnings, $3,995.

Halifax Electric Tramway.—Railway receipts for 3 weeks ended Aug. 21, $14,828.54, against $13,519.74 for same period 1908.

Hull Electric Co.—The Quebec Legislature passed an act last session altering the date of the annual meeting to the first Wednesday in Sept. in each year.

London St. Ry.—Gross earnings for July, $24,802.95; operating expenses, $15,767.84; net earnings, $9,035.11; against, $22,062.63 gross earnings; $14,556.24 operating expenses; $7,506.39 net earnings for July, 1908. Aggregate gross earnings for 7 months ended July 31, $135,978.89; operating expenses, $97,176.72; net earnings, $38,802.17; against, $129,054.05 aggregate gross earnings; $95,616.26 operating expenses; $33,437.79 net earnings for same period 1908.

Montreal Central Terminal Co.—A meeting of the shareholders was held Aug. 9, for the purpose of authorizing the issue of first mortgage bonds, and to authorize the making of agreements with other companies. F. E. Came is Secretary.

Montreal St. Ry.—Passenger earnings for July, $334,237.57; miscellaneous earnings, $11,335.99; total earnings, $345,573.56; operating expenses, $180,412.11; net earnings, $165,161.45; city percentage on earnings, $34,945.22; interest on bonds and loans, $14,439.62; rent leased lines, $498.67; total charges, $49,883.51; surplus, $115,277.94; against, $313,353.20 passenger earnings; $13,171.19 miscellaneous earnings; $326,524.39 total earnings; $162,413.90 operating expenses; $164,110.49 net earnings; $32,317.33 city percentage on earnings; $16,583.23 interest on bonds and loans; $444.43 rent leased lines; $49,344.99 total charges; $114,763.50 surplus for July, 1908. Aggregate passenger earnings for 10 months ended July 31, $3,064,270.17; miscellaneous earnings, $73,276.66; total earnings, $3,137,546.83; operating expenses, $1,894,815.41; net earnings, $1,242,731.42; city percentage on earnings, $204,187.00; interest on bonds and loans, $150,763.70; rent leased lines, $4,824.01; total charges, $359,774.71; surplus, $882,956.71; against, $2,939,601.00 aggregate passenger earnings; $59,686.92 miscellaneous earnings; $2,999,287.92 total earnings; $1,184,428.44 operating expenses; $1,184,859.48 net earnings; $188,992.65 city percentage on earnings; $175,785.05 interest on bonds and loans; $4,130.86 rent leased lines; $368,908.56 total charges; $815,950.92 surplus for same period 1907-08.

Port Arthur-Fort William Street Ry.—The total earnings for June were $11,455.94, and the total operating expenses $5,233.37, leaving net earnings of $6,222.57. The car mileage was 38,570; the earnings per mile 29.70; operating per car mile 13.57; net earnings per car mile, $16.13.

South Western Traction Co.—At the annual meeting, Aug. 11, the retiring officers and directors were re-elected. The reports as to earnings were stated to be satisfactory. It was stated that the earnings for every month this year showed an increase, the earnings for July amounting to over $15,000, an increase of $2,000 over those for July, 1908.

It is probable that an order for the sale of the company's line, franchises and other property will shortly be granted by the courts. The business has been managed for some little time past by receivers on behalf of the English bondholders. The financial difficulties of the company arose from handling the floating debt of $100,000 incurred by the adoption of the three-phase system of operation and its necessary abandonment.

Toronto Ry.—Gross earnings for June, $330,608; operating expenses, $157,234; net earnings, $173,374; against, $302,242 gross earnings; $155,221 operating expenses; $147,021 net earnings for June, 1908. Aggregate gross earnings for 6 months ended June 30, $1,814,283; net earnings, $882,744; against $1,675,548 gross and $724,562 net for same period 1908. Gross earnings for July, $329,403.94, against $299,245.75 for July, 1908. The amount of percentage paid to the city for July, was $65,963.91, against

WROUGHT PIPE
STANDARD WEIGHT
for Steam, Water and Gas
EXTRA HEAVY
for Car Heating

Our Pipe is made by experienced workmen, from the best material we can procure. Every length tested under high pressure, and carefully inspected before leaving our Mill.

Our trade mark on every bundle is a guarantee of quality.

TRADE M.R.M. CO. MARK

The Montreal Rolling Mills Co.

WILLIAM WARREN
Laggan, Alta. and Field, B. C.

Guide and Outfitter to all points in Canadian Rockies

FISHING AND HUNTING PARTIES (fully equipped) a specialty

Seven years' experience on some of the most extensive private trips ever made since this greatest hunting and recreation ground has been opened.

References Furnished

TORONTO BOLT AND FORGING CO.
LIMITED

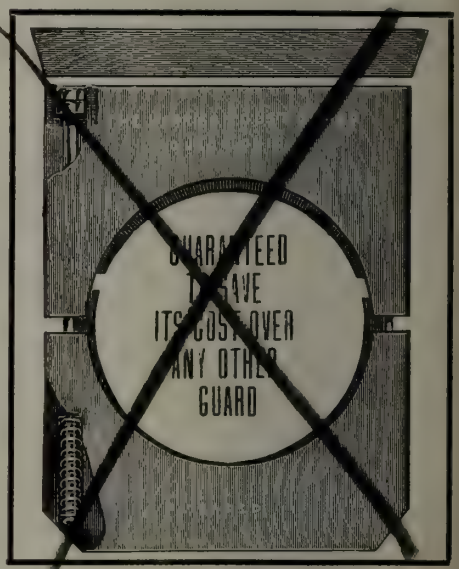
Manufacturers of

BOLTS AND NUTS

OF ALL KINDS, INCLUDING

Track Bolts
Track Spikes
Lag Screws
Boiler and
Bridge Rivets

TORONTO — CANADA



STEEL, PEECH & TOZER
Limited,
SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada

Sole Agents:

James Hutton & Co., Montreal

$55,255.10 for July, 1908.

Winnipeg Electric Ry.—Gross earnings for June, $193,800; operating expenses, $95,100; net earnings, $98,700; against, $171,100 gross earnings; $86,400 operating expenses; $84,700 net earnings for June, 1908. Aggregate gross earnings for 6 months ended June 30, $1,210,800; net earnings, $602,200; against $1,019,100 gross earnings, $509,900 net earnings for same period 1908.

Electric Railway Notes.

The Calgary St. Ry. has received a further 2 semi-convertible cars, from the Ottawa Car Co.

Calgary ratepayers by a majority of 510 decided, Aug. 5, in favor of running cars on the municipal street railway on Sundays.

The Hull Electric Co., has added to its rolling stock, 2 vestibule cars, with 21 ft. bodies, fitted with longitudinal seats, built by the Ottawa Car Co.

D. Lizabel was fined $5 and costs recently at Montreal, for having retained coat buttons, after having left the Montreal St. Ry. service.

The Montreal St. Ry. Mutual Benefit Association's picnic was held at Dominion Park, Montreal, during the week ended Aug. 21 and Aug. 23 and 24.

W. Gillespie, a roadmaster on the Toronto Ry., fell from a car roof while fixing a trolley pole and received considerable injuries July 26.

The Ottawa Electric Co., has recently received 2 additional pay-as-you-enter cars from the Ottawa Car Co. A description of these cars has already been given in a former issue.

The Montreal and Southern Counties Ry. has ordered 8 centre aisle interurban cars, with bodies 49' 4" long, each provided with a smoking compartment, from the Ottawa Car Co.

The Board of Railway Commissioners has approved of Standard Local Passenger Tariff C.R.C. 8, on a basis of 2½c. a mile, for the Quebec Ry., Light and Power Co.'s Montmorency Division.

The request of the Winnipeg Electric Ry., for permission to erect poles on certain streets in the city was referred to the city solicitor, Aug. 3, for advice as to the controlling power on the streets.

The joint board controlling the Fort William and Port Arthur electric railways intends to prohibit smoking on the cars, and it is understood that the smoking compartments on closed cars will be abolished.

The first accident on the Calgary St. Ry., occurred Aug. 6. A letter carrier alighted from a car while it was in motion, passed round the back of the car, and was run down by a car on the other track.

The Winnipeg Electric Ry. is gathering statistics connected with the issues of transfers. A new form of transfer is said to be under consideration, with the view of preventing abuses, which have frequently led to prosecutions.

Geo. Cruickshanks has entered an action against the Winnipeg Electric Ry., claiming $2,000 damages for alleged assault and battery, and for being wrongfully ejected from a street car belonging to the company by one of its servants.

The ratepayers of the municipality of Assiniboia voted July 22 by a majority of 233 in favor of the operation of street cars in the villages of St. Charles and Headingly, near Winnipeg. The by-law was finally adopted at the council's August sitting.

The B.C. Electric Ry. has ordered 2 combination smoking and baggage cars, 55 ft. long over all, and 2 combination passenger and smoking compartment vestibule cars, 55 ft. long over all, for use by the Vancouver Power Co., from the Ottawa Car Co.

Guy Boyer, heretofore Superintendent of Car Construction, Montreal St. Ry. Suburban Lines, has been appointed Superintendent of Construction of the whole system. He has had an efficient training in the motive power department, in which he has served in various capacities.

The Winnipeg Electric Ry. Co. has appealed to the County Judge against the conviction of one of its motormen by the Winnipeg Police Magistrate for not stopping his car when the Ninetieth Rifles were crossing the track on June 1. The appeal will probably be heard in September.

Complaint was made, Aug. 21, to the Brantford city council, that the Brantford St. Ry., was refusing to carry passengers from the north ward to the outside gate of Mohawk Park, Hamilton road, for 5c. The committee having charge of such matters has announced that no person should pay more than 5c.

The wage rate of the carmen on the Fort William and Port Arthur street railways has been increased, for beginners, as follows:—first 6 months, 21c. an hour against 20c.; second 6 months, 23c. against 22½c.; second year, 25c. against 22½c.; third year, 26c against 25c.; and beginning with the fourth year, the maximum rate of 27½c. an hour, which is unchanged.

The Winnipeg Electric Ry. is starting a campaign against the practice of children and young people stealing rides on the vestibule steps while the conductor is collecting fares, jumping on the fender, and holding on to the cars while riding bicycles and on skates. A number of cases have been dealt with in the juvenile court, chiefly with the intention of bringing to notice of parents, the danger involved, which might be avoided by proper control of the children.

The Judicial Committee of the Privy Council has refused the Montreal St. Ry. leave to appeal from the judgment of the Supreme Court of Canada, by which the city's claim for $39,691.80, the amount of assessment for the years 1902 to 1905 inclusive, on the company's poles, wires, rails and motive power, was allowed. The company claimed that the contract with the city, exempted the property from all taxes, excepting the ordinary assessments for real estate, water rates and school taxes.

As the result of the accident which took place July 25, at the corner of Logan and Main streets, Winnipeg, by which the death of two pedestrians was caused, T. C. Taylor, motorman in the employ of the Winnipeg Electric Ry., in charge of the car alleged to be responsible, was committed for trial on a charge of manslaughter, Aug. 5. The magistrate said that while there might not be sufficient evidence to commit, a section of the criminal code gave him discretionary powers, which he was acting upon

The city of Hamilton recently applied to the Ontario Railway and Municipal Board to recover $2,418.45 from the Hamilton St. Ry. for repairs to the asphalt pavement on certain streets and for 2 ft. outside of the rails of its lines, claiming this amount in the nature of damages for breach by the company of its obligation to repair the streets named in the petition. The question arose as to whether or not the city could recover for damages through the intervention of the Board, involving the subject of its jurisdiction, which, in this particular instance, the board did not want to assume unless it was clearly its duty to do so, as it might mean inroads on the jurisdiction of the courts. The board finally decided to adjourn the hearing until after the Court of Appeal has determined the question of its jurisdiction. In filing its opinion the board quoted extensively from the act creating it, and gave the city leave to amend its claim and give particulars.

Buffalo, Lockport and Rochester Railway.

Judge Hasel, of Buffalo, N.Y., appointed receivers for this company, Aug. 5, on the application of the National Bond and Share Co., of Toronto. Counsel for the company admitted its inability to meet its obligations and joined in the application for the receiver. J. M. Campbell, Rochester, N.Y., Manager of the railway company, and M. W. Childs, Medina, N.Y., were appointed receivers. The line is operated between Lockport and Rochester through Medina. It was originally the Albion Street Ry., and was incorporated as the B.L. & R.R. in June, 1905, and formally opened in Sept., 1908. Its mortgage liability is $3,400,000; capital stock, $4,000,000. The bonds were taken by the Lincoln Trust Company, of New York, with the security of a collateral mortgage. The company has failed to meet interest on the bonds and apparently the object of the action by the National Bond & Share Co. is to forestall any attempt by the New York concern to foreclose on the mortgage. The Toronto concern holds 2,340 shares of the railway company's stock, and besides that claims to be a creditor of the company for $28,333.34 advanced Feb. 1, 1909.

The B.L. & R.R. bonds are largely held in Canada, the principal holders being a group of Toronto financial men, among whom are F. Nicholls, E. R. Wood and Sir Henry Pellatt. According to a statement issued by these bondholders the receivership was applied for in order to enable the company's undertaking to be carried on without interference from creditors and other parties until its full earning capacity can be demonstrated.

The company has until recently been unable to obtain an entrance into the city of Rochester, owing to its inability to secure the consent of the Public Service Commission to a level crossing over the New York Central Rd. This has now been secured and the necessary connection will shortly be made.

It is said that the receivers will operate the road until it can be placed on a paying basis. There is no intention of allowing the New York Central Rd. or any other organization to get control of the road. This will remain in Canada.

BALDWIN LOCOMOTIVE WORKS

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND

LOCOMOTIVES

Mine, Furnace and Industrial Locomotives
Electric Locomotives with
Westinghouse Motors and Electric Trucks

Principal Offices and Works, 500 North Broad Street
PHILADELPHIA, PA., U.S.A.
Cable Address;—"Baldwin," Philadelphia

STANDARD STEEL WORKS CO.

Harrison Building, Philadelphia, Pa., U.S.A.

THE BRYDGES ENGINEERING AND SUPPLY CO. Limited
WINNIPEG, MAN. Representatives

Wheels mounted on axles fitted with motor gear ready for application to equipment

STANDARD

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

DOMINION BUREAU

ROBERT W. HUNT & CO.
ENGINEERS

BUREAU OF INSPECTION TESTS AND CONSULTATION

Chemical and Cement Laboratories, Montreal

NORFOLK HOUSE, CANNON ST., LONDON

CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

At every Underwood office there is a Stenographers' Department for the convenience of business men. Stenographers are carefully tested and graded. You get the right one for the job.

Last month in Toronto alone we received over 400 applications for stenographers, and filled over 350 positions.

The service which goes with the Underwood costs you nothing, but you can't get it with any other typewriter at any price.

UNITED
TYPEWRITER COMPANY LIMITED
Adelaide Street East
TORONTO
and all other Canadian Cities

Weld Frames Without Dismantling

Why go to the bother and expense of taking down a locomotive frame to weld it? Thermit enables you to weld it in place and return your engine to service with the least possible delay. Some shops are making a regular practice of doing the entire job in twelve hours or less. The process is equally advantageous for repairing driving wheel spokes, connecting rods, mud rings, crank shafts and for general repair work.

Write for pamphlet No. 25 N and for "Reactions," the Thermit Quarterly which give full information.

GOLDSCHMIDT THERMIT CO.
103 Richmond St. West, Toronto, Ont.
General Offices: 90 West St., New York.
Pacific Coast Branch, 432-436 Folsom St., San Francisco

MARINE DEPARTMENT.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade. Montreal.

Dominion Marine Association.

PRESIDENT, C. J. Smith, Montreal; COUNSEL, F. King, Kingston, Ont.

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Montreal Harbor Report.

The Commissioners' report for 1908 states that the volume of tonnage exceeds that of 1907, which latter had the largest in the port's history. This result has been attributed to the large quantities of grain which have been attracted to the St. Lawrence route, owing to the additional aids to navigation and to the increased handling facilities in the harbor. During the months that navigation was open, the average depth of water in the ship channel was about 34 ft., the highest stage being in May, when it was 41 ft., and the lowest in Nov., 30.5 ft. During the year, the cost of handling freight was reduced by 22c. a ton, thus effecting a saving of over $90,000. The Commissioners first took over the handling of rail traffic in May, 1907, and during that year about 70,000 cars were received and dispatched. the motive power being rented from the railway companies. In 1908 the number of cars handled was less than in the previous year, but the number of cars loaded and discharged direct into the sheds and vessels exceeded that of 1907 by 10,900, and the handling of them was carried on by the Commissioners' own locomotives. The elevator was worked to its full capacity, the quantity handled being 8,661,350 bush. against 1,078,289 bush. in 1907. The system of grain conveyors connecting the elevator direct to 10 of the new steel sheds so that grain is now delivered to the ships at their own berths without interfering with the general handling of cargo, has been in operation through the season. The question of adding to the facilities and storage space is under consideration. A considerable amount of construction work was completed during 1908, including 14 double deck steel and concrete freight sheds with a floor space of over 1,250,000 sq. ft., the grain conveyor system, new permanent railway tracks throughout the high level harbor, relaying railway tracks throughout the low level wharves, and additional permanent wharf space for the Dominion Coal Co.

The revenue for the year was $386,867.28, a decrease of $17,407.28 from 1907. The decreases were: wharfages on imports, $24,973.70, and wharfages on exports, $1,527.03; total decreases. $26,500.73. The increases were: local wharfages, $1,899.19; rentals, etc., $7,194.26; total increases, $9,093.45; making a net decrease of $17,407.28. The revenue from the grain elevator was $45,351.56, an increase of $38,260.93 over 1907, and the expenditure was $65,104.93. Rentals were received for 7 of the new steel sheds, amounting to $29,500, an increase of $14,900 over 1907. For switching cars on the wharves. $68,343.45 was received, a decrease of $3,472.48 from the previous year. The receipts on revenue account from all sources were $530,062.29, an increase of $31,401.17 over 1907, and the disbursements were $651,093.13. Interest on loans amounted to $386,131.16, an increase of $49,853.30. The amount disbursed on capital account was $1,564,-297.88, made up as follows:—steel sheds, $779,044.27; harbor improvements, $452,-732.96; grain elevator conveyor equipment, $199,246.16; new floating crane, $90,662.17; and locomotives, $42,612.32.

The harbor master reports that 739 sea-going vessels arrived in port during 1908, having a tonnage of 1,958,604 tons. a decrease of 3 vessels and an increase of 32,618 tons over the previous year. Of the vessels 711 were of iron and steel, with a tonnage of 1,995,758 tons, and 28 were built of wood, with a tonnage of 2,851 tons. Of inland vessels, there arrived 12,434, with a tonnage of 3,589,424 tons, a decrease of 1.986 vessels and a tonnage of 31,526 tons.

Wasaga-Paul Collision.

An investigation was held at Montreal, July 24, Aug. 3, 4 and 6, by Capt. L. A. Demers, assisted by Capts. A. Reid and F. Nash, into the circumstances attending the collision on June 30, between the s.s. Wasaga and the tow of the tug J. Paul, on Lake St. Louis, near Chateauguay, when one of the two barges which constituted the tow, was totally destroyed, and the other sustained certain damages. The court having carefully enquired into the circumstances attending the casualty, finds that the cause of the collision was due to the careless navigation of the s.s. Wasaga, by the altering of her course, without any apparent reason, this action being due to the fact that the captain, H. N. Smith,was in a state, if not of inebriety, at least through the results of such, that instead of keeping his course, or stopping, or reversing his engine, in order to avoid a collision, which by the evidence adduced was not apparent, he acted in contravention to articles 19 and 21 of the Rules of the Road, and that the same was done by the wrongful act and default of Captain H. N. Smith of the Wasaga.

In the circumstances disclosed by the evidence that the captain, H. N. Smith, was addicted to strong drink, and that at the time of the casualty he was still under the influence of liquor, and moreover, in view of the fact that he has disregarded all summonses which were duly and lawfully made to him to attend court, thereby showing utter contempt of the court, we think that by allowing him to retain his certificate, he would prove a menace and danger to shipping, the court orders that his certificate, no. 436, be cancelled, but in the event, that after one year from date, he produces satisfactory evidence that he has reformed, the Minister of Marine may return his certificate.

The following is an answer in the recent Ontario schools examinations on history: "British Columbia joined Confederation in 1876, because she was so near the water, and on condition that England should build a bridge across the Pacific Ocean in 10 years."

Vessels Removed from the Register.

The following vessels have been removed from the register, for the causes assigned:—Steam—Boss, New Westminster, B.C., 12 tons, broken up; Campana, Quebec, 1,154 tons, ashore; Carrie, Hamilton, Ont., 2 tons, out of existence; Laprairie, Montreal, 372 tons, burnt; Lytton, New Westminster, B.C., 285 tons, broken up; Ospray, Winnipeg, 14 tons, dismantled; Venture, Victoria, 489 tons, burnt. Sailing—Anna Helen, Chatham, N.B., 12 tons, stranded; Cygnet, Parrsboro, N.S., 77 tons, broken up; Daisy Linden, Digby, N.S., 97 tons, wrecked; Dianthus, Charlottetown, P.E.I., 45 tons, condemned; Drusie, Paspebiac, Que., 99 tons, abandoned; Fleetly, Lunenburg, N.S., 174 tons, transferred to Barbadoes; Gazelle, Weymouth, N.S., 97 tons, broken up; Kate F. Troop, St. John, N.B., 1,097 tons, sold to foreigners; Marcella, Halifax, 32 tons, wrecked; Omega, Charlettetown, P.E.I., 82 tons, wrecked; Serene, Parrsboro, N.S., 54 tons, broken up; Suva, Parrsboro, N.S., 69 tons, condemned; Torato, Lunenburg, N.S., 79 tons, stranded; Viking, Lunenburg, N.S.. 95 tons, foundered; W. M. McLauchlan, St. John, N.B., 471 tons, lost.

Notices to Mariners

The Department of Marine has issued the following:—

No. 65. July 23. 163.—Quebec, River St. Lawrence, mouth of the Saguenay River, Prince shoal, lightship placed, gas buoy withdrawn. 164.—Quebec, River St. Lawrence below Quebec, traverse of St. Roche, lower end, lightship no. 7 replaced by lightship no. 17.

No. 66. July 26. 165.—Quebec, River St. Lawrence, Cape Chat, new tower, change in character of light. 166.—Quebec, River St. Lawrence, Goose Cape, hand fog horn at light station.

No. 67. July 28. 167.—Quebec, River St. Lawrence, Riviere du Loup, change in color of light. 168.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Batiscan traverse, change in character of buoy. 169.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Cap Madeleine to Three Rivers, change in character of buoys. 170.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Ile a l'Aigle, change in character of buoy.

No. 68. Aug. 5. 171.—British Columbia, Chatham Sound, Skeena River, middle passage, Kennedy Island, change in color of beacon, change in character of light. 172.—British Columbia, Hecate Strait, Browning entrance, gas and whistling buoy established off northwest end of Banks Island. 173.—Japan, Iyo-nada, Ya-shima, lighthouse established.

No. 69. Aug. 6. 174.—British Columbia, Hecate Strait, southern approach to Edye passage, rocks located, hydrographic notes. 175.—British Columbia, Hecate Strait, western approach to Edye passage, rocks located, hydrographic notes.

No. 70. Aug. 7. 176.—Quebec, River St. Lawrence, Quebec, change in color of front range lighthouse. back range day mark. 177.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Lake St. Peter, curve no. 2, new front range lighthouse.

No. 71. Aug. 7. 178.—Ontario, River

KERR'S GLOBE AND GATE VALVES

STRICTLY HIGH GRADE. TESTED & PACKED

THE KERR ENGINE CO. LIMITED

VALVE AND HYDRANT MANUFACTURERS

WALKERVILLE, ONT.

Otto Brothers

FIELD, B.C. LAGGAN, ALTA.

GUIDES and OUTFITTERS

for the greatest scenic spot of the world,

The Canadian Rockies

Mountain climbing, exploring, hunting and fishing parties arranged on short notice. Reliable men and horses. References.

1909

Ontario Jockey Club

Woodbine Park, Toronto

AUTUMN MEETING

September 18th to 25th

Racing and Steeplechasing

JOS. E. SEAGRAM, President

W. P. FRASER, Sec'y and Treas.

JOHN S. METCALF CO.

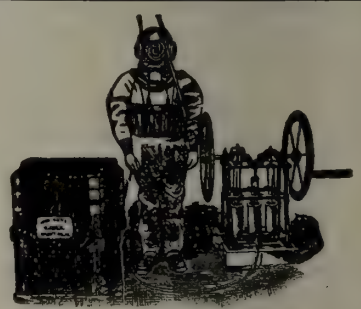
ENGINEERS AND CONTRACTORS FOR

GRAIN ELEVATORS ONLY

CONCRETE—STEEL—WOOD

Plans and Specifications our Specialty

MIDLAND, ONTARIO CHICAGO, ILL.



JOHN DATE

MANUFACTURER OF

DIVING APPARATUS

FOR SALE OR HIRE

Brass Founder & Coppersmith

152 Craig St. West, Montreal

WE MAKE "WILLIAMS BOLTLESS RAIL JOINTS"
"20TH CENTURY STEEL TIES"

AND

"AUTOMATIC CAR SEALS"

AND HANDLE

"Hercules" and "Little Giant" Bumping Post

Hold Fast Spike, Automatic Nut Lock,

Steel Trolley and Signal Poles.

WILLIAMS BOLTLESS RAIL JOINT MANUFACTURING CO.

315 Dearborn Street, Chicago, Ill.

FOR TICKET CASES AND COMMERCIAL FURNITURE

of all descriptions to stock or special design, apply to

The Canadian Office & School Furniture Co. Limited

Preston Ontario

St. Lawrence, Howe Island, Cold Bath shoal, color of gas buoy light. 179.—Ontario, Lake Huron, north channel, Sheguiandah, range lights established. 180.—United States of America, Lake Ontario, Charlotte harbor entrance, Genesee light station, fog syren established.

No. 72. Aug. 11. 181.—Ontario, Lake Huron, north channel, Killarney east, lighthouse rebuilt. 182.—Ontario, Lake Huron, north channel, Killarney west, lighthouse rebuilt. 183.—Ontario, St. Joseph channel, Shoal island, lighthouse rebuilt. 184.—United States of America, Detroit River, wreck, light exhibited. 185.—United States of America, St. Clair River, Fort Gratiot range front light station, new structure.

No. 73. Aug. 16. 186. Nova Scotia, Bay of Fundy, Chignecto channel, Ragged Reef point, bell buoy established. 187. Newfoundland, Notre Dame Bay, Herring Neck, Caplin Cove head, lighthouse established. 188. Newfoundland, Twillingate, wharf light. 189. Newfoundland, south coast, Placentia bay, Marticot island, lighthouse established. 190. Newfoundland, south coast, eastern entrance to Fortune bay, Green island, description of light. 191. Newfoundland, west coast, Port au Port, Long point, lighthouse established. 192. Labrador, Cape North, lighthouse established. 193. Labrador, Packs Harbor, lighthouse established. 194. Labrador, Cutthroat point, lighthouse established.

No. 74. Aug. 19. 195.—Nova Scotia, south coast, Little Liscomb harbor, Redman Head, lighthouse established.

No. 75. Aug. 20. 196.—Ontario, depths in harbors in Lake Ontario and Georgian Bay, hydrographic notes.

No. 76. Aug. 21. 197.—New Brunswick, Chaleur Bay, Restigouche River, Dalhousie harbor, range lights discontinued. 198.—Quebec, Gulf of St. Lawrence, Pointe aux Esquimaux range lights, additional information, corrections.

Among the replies by Ontario pupils in the recent examinations was the following: "Newfoundland joined the Confederation in 1870, and wanted a railway built connecting it with remote places."

The Department of Marine is reported to have awarded the contract for the construction of a steam vessel for hydrographic survey purposes to Swan, Hunter and Wigham Richardson, Newcastle-on-Tyne, Eng. It is stated that the vessel will have twin screws, and be 273 ft. long, the hull to be classed 100 A1 at Lloyds. She is also to be provided with two gasolene launches, each 27 ft. long, and of the latest type.

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING JULY, 1909.

Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Billiken	126,544	Vancouver, B.C., 1909	Screw 2 n. h. p.	29.2	28.0	1.4	9	6	Vancouver, B. C.	R. F. Likely, Vancouver, B. C.
City of Lund	126,545	Lund, B.C., 1909	" 9 "	55.5	13.5	6.9	49	34	"	F. G. Thulin, M.O., Lund, B. C.
Des Brisay	126,554	Vancouver, B.C., 1909	" 7 "	48.5	13.2	5.2	33	23	"	Rat Portage Lumber Co., St. Boniface, Man.
Dorothy Symons	126,542	Pingston Creek, B.C., 1909	" 2 "	49.5	9.6	3.7	10	7	"	A. M. Symons, Pingston Creek, B. C.
Ebros	126,546	Vancouver, B.C., 1908	" 1 "	38.4	5.3	2.9	4	3	"	P. & E. Easthope, Vancouver, B. C.
G. A. McLaurin	126,049	Peterboro, Ont., 1909	" 1 "	36.9	10.0	4 4	17	12	Port Arthur, Ont.	G. A. McLaurin, Savanne, Ont.
Glen Erie	121,958	Port Stanley, Ont., 1909	" 16 "	60.0	16.6	7.1	43	29	Port Stanley, Ont.	O. H. Smith & J. Howe, Port Stanley, Ont.
Harrison Princess	126,553	Vancouver, B.C., 1909	" 1 "	22.5	6.0	2.7	3	2	Vancouver, B. C.	A. A. Ouellette, Vancouver, B. C.
Harrison Queen	126,547	Vancouver, B.C., 1909	" 2 "	28.3	8.2	3.5	5	3	"	E. Easthope, Vancouver, B. C.
Helen Anita	126,463	Kingston, Ont., 1909	" 2 "	42.8	11.3	4.4	19	9	Kingston, Ont.	J. H. Davis, Kingston, Ont.
Hosmer	126,551	Nelson, B.C., 1909	" 36 "	109.8	20.9	8.4	154	105	Vancouver, B. C.	C. P. R., Montreal
Ka-Yex	126,548	Vancouver, B.C., 1909	" 2 "	42.4	10.0	5.0	20	14	"	G. T. P. R., Montreal
Lisgar	126,493	Sorel, Que., 1909	" 46 "	91.8	22 1	10.7	210	118	Montreal	Minister of Public Works, Ottawa
Lispeth	126,447	Fort Francis, Ont., 1909	" 3 "	45.0	10.4	4.0	25	17	Kenora, Ont	Rat Portage Lumber Co., St. Boniface, Man.
Macy	107,429	Brockville, Ont., 1905	" 2 "	39.6	9.0	3.3	8	6	Brockville, Ont.	J. H. Simpson, Lyn, Ont.
Miyako	126,550	Steveston, B.C., 1909	" 4 "	56.4	14.0	4.7	28	19	Vancouver, B. C.	T. Nakanishi, Steveston, B. C.
Murbros	126,549	Vancouver, B.C., 1909	" 4 "	35 0	10.5	4.3	15	10	"	F. P. Murray, M.O., Vancouver, B. C.
T.McL	126,440	" " "	" 3 "	38.0	10.1	4.5	15	10	"	G. W. McLelan, Vancouver, B. C.
Minnie Martin	122,419	Midland, Ont., 1908	" 4 "	50.8	12.0	5.7	30	12	Midland, Ont.	M. Martin, Midland, Ont.
Newminko	126,413	Gravenhurst, Ont., 1909	" 13 "	84.0	16.5	5.7	128	81	Toronto	A. L. Casselman, et al, Port Carling, Ont.
Nox	126,029	Baddeck, N.S., 1909	" 1 "	29.0	9.2	3.7	9	7	Sydney, N.S.	F. J. McFarlane, Baddeck, N. S.
Omineca	126,248	Victoria, 1909	Paddle 17 "	137.5	31.4	5.4	168		Victoria	J. W. Stewart, Vancouver, B. C.
Queen of Temagami	126,415	Temagami, Ont., 1909	Screw 130 "	71.5	12.6	6.0	36	25	Toronto	Temagami Steamboat and Hotel Co., Temagami, Ont.
Rome	126,048	Cleveland, Ohio, 1879	" 133 "	265.0	37.0	14.8	2045	1164	Port Arthur, Ont.	Consolidated Steamship Co., Ltd., Port Arthur, Ont.
Ruth M	107,428	Brockville, Ont., 1909	" 3 "	41.8	8.8	3.6	9	6	Brockville	G. Marron, Owen Sound, Ont.
Sin-Mac	126,492	Dumbarton, Scotland, 1909	" 165 "	130.4	26.2	13.3	322	49	Montreal	Sincennes-McNaughton Line, Montreal
Surety	122,556	Meaford, Ont., 1904	" ½ "	36.9	8.7	2.6	4	4	Collingwood, Ont.	C. C. Jenkins & W. Cooper, Meaford, Ont.
Strongheart	126,555	Port Essington, B.C., 1908	" 1 "	34.3	8.0	3.1	10	7	Vancouver, B. C.	W. J. O'Neill, Port Essington, B. C.
Viola M	126,412	Hamilton, Ont., 1901	" 15 "	29.0	7.0	4.0	8	7	Toronto	H. Wallace, Minett, Ont.
Wm. Bonfield	126,097	Cleveland, Ohio, 1888	" 3 "	51.5	14.2	6.6	23	13	St. Catherines, Ont.	J. Mossip & G. R. Gorrell, Haldimand, Ont.
Wabash	126,247	Victoria, 1909	" 4 "	40.3	10.2	5.0	14	8	Victoria	F. R. & F. A. McFarlane, Cobble Hill, B.C.
What Shan	126,552	Nakusp, B.C., 1909	" 27 "	89.8	19.0	8.1	106	72	Vancouver, B. C.	C. P. R., Montreal
Yachiyo	126,541	Steveston, B.C., 1909	" 3 "	43.0	10.0	4.5	18	12	"	K. Ringin, Steveston, B. C.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING JULY, 1909.

Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
Aggie Curry	117,168	Harbourville, N.S., 1908	Schr.	51.0	14.6	6.2	21	Windsor, N. S.	E. L. Curry, Harbourville, N. S.
Aspinet	122,586	Pubnico, N.S., 1909	Sloop	37.0	14.8	6.4	14	Yarmouth, N. S.	T. W. McComiskey, M. O., Pubnico, N. S.
C. T. W.	122,034	Plympton, N.S., 1909	Schr.	86.0	23.6	8.0	99	Weymouth, N S.	C. T. Warner, Plympton, N. S.
Caberfeidgh	126,561	Ingonish, N. S., 1909	"	34.4	11.4	5.6	12	Sydney, N.S.	J. S. McDonald, Ingonish, N. S.
Cadeco J	126,495	Longue Point, Que., 1909	Drdge.	82.8	32.1	7.5	336	Montreal	Societe Canadienne d'Enterprises Generales a Responsabilite Ld., Montreal.
Chum	126,379	Mahone Bay, N. S., 1907	Sloop	29.6	7.3	4.2	3	Halifax	M. R. Morrow, Halifax.
Erzie G. Mildred	126,344	Port Clyde, N.S., 1908	"	28.5	11.9	5.2	10	Barrington, N. S	S. Nickerson, M. O. Lowerwoods Harbor, N. S.
Ferida	126,543	Vancouver, B.C., 1908	"	25.3	7.2	5.0	6	Vancouver, B. C.	H. A. Bulwer, Vancouver, B. C.
Joseph Touzin	126,494	Vercheres, Que., 1900	Scow	101.0	31.5	7.0	244	Montreal	J. Touzin, Montreal.
Joy Folger	126,030	Ingonish, N.S., 1909	Schr.	43.0	13.0	7.0	17	Sydney, N. S.	J. C. Williams, Ingonish, N. S.
Major N. H. Ferry	126,130	Ferrysburg, Mich., 1867	"	117.0	24.0	8.2	168	Kingston, Ont.	J. F. Sowards, M. O., Kingston, Ont.
Lemay	126,446	Kenora, Ont., 1909	Scow	51.0	14.3	2.8	17	Kenora, Ont.	N. Lemoy, Norman, Ont.
Mina German	122,585	Meteghan, N.S., 1909	Schr.	93.6	27.6	9.6	148	Yarmouth, N. S.	T. German, Meteghan, N. S.
Miss Swift	126,439	Vancouver, B.C., 1909	Scow	31.0	19.9	2.5	68	Vancouver B. C.	B. G. Duggan, Vancouver, B. C.
Nathalie	126,187	Allendale, N. S., 1909	Schr.	53.2	16.4	6.5	28	Shelbourne N. S.	W. McMillan, Lockport, N. S.
W.J.P.Co., No. 1	126,396	Montreal, 1902	Scow	97.2	27.0	9.6	174	Lunenburg. N. S.	W. J. Poupore Co., Montreal.
" " 2	126,397	Lunenburg, N. S., 1908	"	97.2	27.0	9.6	174	"	" "
" " 3	126,398	"	"	97.2	27.0	9.6	174	"	" "
" " 4	126,399	Montreal, 1902	"	98.0	30.0	7.0	183	"	" "
" " 5	126,400	Liverpool, N. S., 1907	"	33.8	19.4	3.0	18	"	" "
Warbler	126,571	Cheticamp, N. S., 1909	Schr.	35.9	15.0	6.0	10	Pt. Hawkesbury, N. S	C. R. Collas Co., Ltd., Halifax.

The McConway & Torley Co.

PITTSBURG, PA.

Manufacturers of the

JANNEY,

JANNEY "X"

AND

PITT FREIGHT COUPLERS

BUHOUP 3-STEM EQUIPMENT

BUHOUP VESTIBULE EQUIPMENT

MALLEABLE IRON AND STEEL CASTINGS FOR RAILROAD USE

THE CANADIAN PACIFIC RAILWAY CO.

Dividends for the half-year ended 30th June, 1909, have been declared as follows:—

On the Preference Stock, two per cent.

On the Common Stock, three per cent.

A further sum equal to one-half of one per cent. on the Common Stock will be paid thereon at the same time out of interest on the proceeds of land sales.

Warrants for the Common Stock Dividend will be mailed on 30th September next to Shareholders of record at the closing of the books in Montreal, New York and London respectively.

The Preference Stock Dividend will be paid on Friday, October 1st next, to Shareholders of record at the closing of the Books at the Company's London Office, No. 62 Charing Cross, London, S.W.

The Common Stock Transfer Books will close in Montreal, New York and London, at 3 p.m., on Wednesday, September 1st. The Preference Stock Books will also close at 3 p.m. on Wednesday, September 1st.

All books will be reopened on Thursday, October 7th next.

By order of the Board,

W. R. BAKER,
Secretary.

Montreal, 9th August, 1909.

THE CANADIAN PACIFIC RAILWAY CO.

NOTICE TO SHAREHOLDERS.

The Twenty-Eighth Annual General Meeting of the Shareholders of this Company for the election of Directors to take the places of the retiring Directors, and for the transaction of business generally, will be held on Wednesday, the 6th day of October next, at the principal office of the Company at Montreal, at twelve o'clock noon.

The Common Stock transfer books will be closed in Montreal, New York and London at 3 p.m. on Wednesday, the first day of September; the Preference Stock books will be closed in London at the same time.

All books will be reopened on Thursday the seventh day of October.

By order of the Board,

W. R. BAKER,
Secretary.

Montreal, August 9th, 1909.

GENERAL RAILWAY SIGNAL COMPANY.

ROCHESTER, N.Y.

DESIGNERS AND MANUFACTURERS OF

SIGNALING APPLIANCES

FOR STEAM AND ELECTRIC RAILWAYS

ELECTRIC AND MANUAL INTERLOCKING SYSTEMS

AUTOMATIC and CONTROLLED MANUAL BLOCK SYSTEMS, TELEPHONE SELECTORS, RELAYS, INDICATORS,

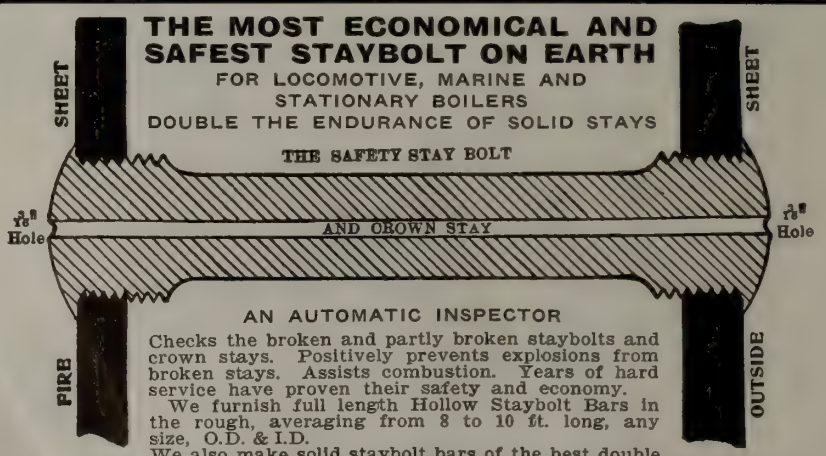
CIRCUIT CONTROLLERS, LOCKS, CROSSING GATES, DERAILS. CATALOGUES, ESTIMATES AND PLANS ON REQUEST.

CHICAGO: 1339 Monadnock Bldg. NEW YORK: 708 Night and Day Bank MONTREAL: 605 Easterntownships Bank

THE MOST ECONOMICAL AND SAFEST STAYBOLT ON EARTH

FOR LOCOMOTIVE, MARINE AND STATIONARY BOILERS

DOUBLE THE ENDURANCE OF SOLID STAYS



AN AUTOMATIC INSPECTOR

Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO

Representatives Dominion of Canada: Brydges Engineering and Supply Co., Winnipeg, Canada; Mussens Limited, Montreal, Canada.

LEGG BROS. ENGRAVING CO.

MAKERS OF FINE ½ TONES LINE ENGRAVINGS WOOD CUTS, ELECTROS

DESIGNERS, ILLUSTRATORS

FINE CATALOGUE MAKERS

PRICE LOW QUALITY HIGH

'PHONE MAIN 5003. No. 5 JORDAN ST.

TORONTO

Improvements in the Navigation of the St. Lawrence.

By Lieut.-Col. Wm. P. Anderson, Chief Engineer Department of Marine and Fisheries, Past President Can. Soc. C.E., M. Inst. C.E., F.R.G.S.

The commercial successes of a country being proportionate to the facilities which exist for the free interchange of products by water with other countries, the immense importance to Canada as a national trade route of a thoroughfare like the River St. Lawrence can be appreciated. This noble river is unique in permitting ocean traffic to penetrate 1,000 miles into the heart of a great and fertile country, where, at the head of ocean navigation, it meets traffic brought from all parts of the great lakes system in smaller vessels over a route extending 1,200 miles farther into the continent. In this paper no attempt will be made to describe the improvements in navigation effected on the great lakes. These have been carried out in great measure by the United States Government, and have been principally for the benefit of shipping; they are worthy of special attention and deserve a special article, but the following details with reference to the improvements made in the navigation of the St. Lawrence, to fit in for the requirements of modern shipping, may prove of interest.

IMPROVEMENT OF CHANNEL.

ABOVE MONTREAL, from Kingston, at the head of the river, to Montreal, a distance of 170 miles, navigation is limited by the capacity of the canals which, originally accommodating vessels of 9 ft. draft only, were, in the autumn of 1899, opened with locks of the same dimensions as those in the Welland canal, having a width of 45 ft., an available depth of 14 ft., and a minimum length of 270 ft. There are in this stretch six canals, aggregating 45 miles in length, having 21 locks, overcoming a fall of 206 ft., connecting navigable stretches of the river, which are all well buoyed and lighted, insuring safe and easy navigation.

ABOVE QUEBEC, from Montreal to Quebec, 160 miles, a ship channel has been dredged where deepening was required, and with the exception of two points, this channel has now a minimum depth of 30 ft., and a minimum width of 450 ft., with easy and wide curves. At Cape a la Roche there is a rock cut which is at present only 27 ft. deep, with a width of 300 ft., but it is expected that this will be improved to standard width and depth during the coming season. St. Augustin bar has also a depth at extreme low water of only 27 feet, but as the range of tide is here some 16 ft., it occasions very little detention to shipping. From this point to Quebec, 16 miles, the river required no improvement.

Originally the depth between Quebec and Montreal was limited by the depth in Lake St. Peter, which reached the minimum of about 10 ft. during the low water of autumn. An improved channel through the lake, as well as an increased depth at all other points, where works undertaken by the Montreal Harbor Commissioners, and the width and depth of the channel were increased from time to time to keep pace with the increase in size of ocean vessels. Up to March 31, 1898, a total of 56,000,000 yards of dredged material had been removed at a cost to the Harbor Commissioners and the Government of $10,000,000. This work was, in 1899, assumed by the Dominion Government as a national work, and the present aim of the Minister of Marine is to secure everywhere a least depth of 30 ft., with a minimum width of 450 ft., at all points between Montreal and the sea.

PLANT.—The dredging plant consists of six large elevator dredges, capable of removing hard pan or even bedded rock, these deliver the material through a side spout into hopper scows; one hydraulic dredge, provided with a cutter head, used for dredging clay, mud, sand and gravel, and washing the dredged material through pipes to an outlet ⅛ mile from the channel; and two sea going suction dredges, raising the material loosened by a cutting head into their own hoppers and acting on their own lighters. An auxiliary fleet of rock drilling machines, boulder lifters, scows, tugs and tenders is also in use, all of them maintained from a Government shipyard located at Sorel. Each portion of the work as completed is tested by sweeping before vessels are admitted to it.

FROM QUEBEC TO THE SEA.—Below Quebec the river is tidally navigable by any vessel afloat, and at only two points, St. Thomas flats and Beaujeu channel, 40 miles below Quebec, is dredging required to give a depth exceeding 40 ft. at extreme low water. Beaujeu channel has been dredged to a minimum depth of 33 ft., and a minimum width of 1,000 ft. Dredging operations on St. Thomas flats are in progress.

AIDS TO NAVIGATION.

The Dominion Government in the desire to make the navigation of the river and gulf as safe as possible, has bestowed special pains on improving all aids to navigation. These will now be briefly described:—

LIGHTING.—The axes of the several dredged portions of the ship channel, as well as the other tangents between Quebec and Montreal, are marked by pairs of range lights, and in order to establish these above the reach of ice, and of the spring freshets, it has been necessary to build many of them on foundations of extensive concrete monolithic blocks. There are in the river more than 65 pairs of these ranges. Many of the rear range towers are skeleton structures of galvanized steel which can be erected very easily, and sometimes attain a height of 100 ft. We usually surmount them by wooden watchrooms and lanterns. Most of the range light towers are equipped with catoptric apparatus, which has proved the most economical arrangement for projecting a strong beam of light over a restricted are, though for sea coast lights our catoptric installations have nearly all been replaced by dioptric lenses. Below Quebec the usual arrangement of sea coast lights with single towers on headlands is more prevalent, and these are now established on nearly every salient point. There are 71 lights of various descriptions in the river below Quebec.

During the early years of the country, when rigid economy was essential, the lighthouses were somewhat primitive buildings, cheap wooden structures, surmounted by cast iron lanterns, containing catoptric illuminating apparatus. Of late years, as ships have become more valuable, and as speeds have increased, necessitating more powerful and more easily identified aids to navigation, the country has been replacing these primitive structures by more permanent towers, surmounted by gun metal lanterns, with curved glazing, holding modern quick flashing illuminating apparatus. We are dependent upon British and French manufacturers for our illuminating apparatus, but build a large portion of our lanterns ourselves. Our most powerful light is that on Cape Race, a first order dioptric hyperradial light, giving a flash every five seconds from the summit of a reinforced concrete tower 100 ft. high.

It may be stated in general terms that to-day from the northern entrance to the gulf at the strait of Belle Isle and the southern entrance at Cape Race a mariner is scarcely ever out of sight of a light, while in the narrower stretches there are always several lights in sight at once.

LIGHTED BUOYS.—Besides the lighthouses and lightships, gas buoys are extensively used on the River St. Lawrence, there being 21 below Quebec, usually marking isolated dangers, and 71 between Quebec and Montreal, usually marking the curves connecting the tangents that are marked by range lights.

Our first gas buoys were established in 1893 on the Pintsch system. Since 1902 the Pintsch buoys have steadily been replaced by acetylene buoys, on the ground that the acetylene lights are more brilliant and that buoys can be established without any necessity for maintaining a gas producing plant. The first acetylene buoys were filled with the gas under compression, but the buoys now used are designed to carry sufficient carbide to generate their own acetylene for periods running through the whole season of navigation, producing acetylene automatically as it is consumed. There is no question as to the brilliancy of the acetylene light, and as to the convenience of using a buoy that can be charged with an illuminant at a distance from any base of supplies, but the question of relative merit of the Pintsch and acetylene gas systems has not been conclusively settled. Acetylene under compression is undeniably dangerous. Acetylene generated as required without any excessive pressure does not appear open to the same objection, but in practice slight explosions have occurred in refilling the generators with carbide, and no evidence is yet available as to the comparative cost of the two systems.

BUOYS.—In addition to the lighted buoys, dangers and the edges of the channels are marked by large numbers of buoys and spars, including whistling and bell buoys. The whistling buoys are all on the Courtenay principle, which has stood the test of long use, and remains the most reliable automatic signal buoy. In the swifter portions of the river a special arrangement of anchorage of both cans and spars is adopted, ensuring uprightness. The bottom of the buoy is weighted and the mooring chain or wire is fastened to a bridle attached to the buoy at the centre of pressure.

FOG ALARMS are maintained at light stations in the river and gulf of St. Lawrence in the following numbers:—siren, 1; whistles, 4; reed horns, 2; diaphones, 19; and explosive signals, 6.

ESTABLISHED 1849

BRADSTREET'S

Capital and Surplus $1,500,000

Offices throughout the Civilized World

Executive Offices:

NOS. 346 and 348 BROADWAY, N. Y. CITY, U. S. A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

Correspondence Invited.

OFFICES IN CANADA:

Halifax, N.S.; Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.; Toronto, Ont.; Vancouver, B.C.; Calgary, Alta.; Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

NOVO SUPERIOR

THE NEWLY-INVENTED

HIGH SPEED STEEL

HARDENS IN

WATER—OIL—AIR BLAST

The Steel accounts of which were so extensively published in the Trade Journals, Periodicals and Papers.

CUTTING Power and Durability many times greater than that of present high speed steels.

Hermann Boker & Co.

332 ST. JAMES ST. - - MONTREAL

Schools of the Sisters of the Church

(ANGLICAN)

36 Walmer Road, Toronto
330 Kent St., Ottawa

VISITORS: The Lord Bishop of Toronto and the Lord Bishop of Ottawa.

Boarding and Day School for Girls. Kindergarten, Primary, Secondary and Collegiate Departments. Preparation for Matriculation. Next School year will begin Thursday Sept. 9th. Apply to

Sister in Charge.

THE CLIFTON HOTEL

NIAGARA FALLS, CANADA.

Rates $4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

The only Hotel that Commands an Unrivalled View of Both Falls.

HOW TO REACH THE CLIFTON HOTEL.

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes. Arriving on Michigan Central Rd., Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make Canada plain in the address.

C.P.R. LANDS

The Canadian Pacific Railway Company have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally)	8.00 to per acre.
Map No. 5 South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160	Acres at	$ 8.00	per	acre,	cash payment	$191.70	first year's interest	$ 65.28	and nine instalments of	$160.00
"	"	9.00	"	"		213.70	" " "	73.46	" "	180.00
"	"	10.00	"	"		239.70	" " "	81 62	" "	200.00
"	"	11.00	"	"		263.60	" " "	89.78	" "	220.00
"	"	12.00	"	"		287.60	" " "	97.96	" "	240.00
"	"	13.00	"	"		311.55	" " "	106.10	" "	260.00
"	"	14.00	"	"		335.60	" " "	114.32	" "	280.00
"	"	15.00	"	"		359.50	" " "	122.44	" "	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

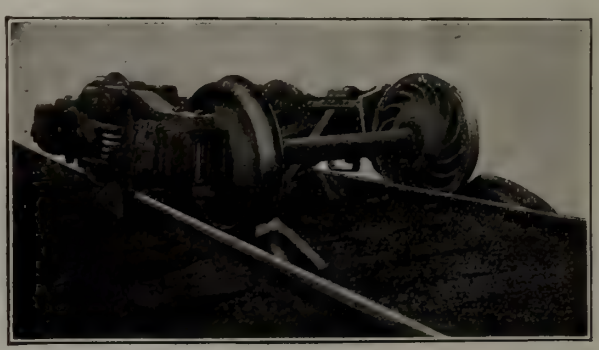
F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-selected districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

The Alexander Car Replacer



60,000 PAIRS IN USE.

Manufactured at Montreal, Que., and Scranton, Pa., of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY

F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

The earliest installations were steam whistles, usually 10 inches in diameter. It is claimed that the whistle on Partridge island, at the entrance of St. John harbour, in the Bay of Fundy, established in the early sixties by the colony of New Brunswick, was the first steam fog alarm installed by any country. For the years from 1873 to 1900 the Canadian Government used almost exclusively a reed horn of very simple mechanism, operated with compressed air supplied direct from a single acting steam driven air compressor with the diameter of air cylinder much greater than that of steam cylinder. Defects in this plant were that as air was compressed and a blast given during the upward stroke of the engine, single blasts only could be given and the pitch of the note varied as the air pressure gradually lessened. It was also difficult to keep the reeds in adjustment. Notwithstanding these defects the apparatus was fairly efficient, being easy to operate, and exceedingly economical both in construction and in maintenance. The writer has heard one of these horns for 26 statute miles across a moderate breeze with snow falling.

In 1900 the demands of the larger and faster liners for more powerful fog alarms were met by the installation of a few English and Scotch sirens. One of these, on the south west end of Belle Isle, at the northern approach to the gulf, is operated with air compressed by water power, and this source of energy has proved very satisfactory and economical. Since 1902 all other fog alarms have been supplanted by diaphones, undoubtedly the most powerful sound producing device yet invented. This machine consists essentially of a cylindrical chamber, having parallel slits cut through its walls, and concentrically within the chamber, a cylindrical hollow piston with similar slits and a flange on one end; the whole enclosed in an outer casing. A gas under pressure is admitted to the outside casing and drives the piston rapidly backwards and forwards by opening and closing connection to the back of flange; this permits the main body of gas to escape through the slits in the cylindrical chamber in a series of puffs. The principle is not unlike that of the siren, but the slits being symmetrically spaced all the vibrations are synchronous and the note produced is consequently a pure one. The mechanism is so arranged that the piston's travel is accurately controlled and the note is constant. Air is used at a pressure of 30 lbs. per square inch, which we have found by experience to give the best practical results. The sound is intensified by a resonator properly attuned. In comparative trials of the diaphone with other sound producing devices, we have found that it gives uniformly better results per unit of power. Usually advantage has been taken of the decreased cost of operation to increase the length and frequency of blasts. The diaphone gives its full note from the very beginning to the end of a blast, and responds so quickly to the driving impulse that it is an easy matter to differentiate between different stations by any desired arrangement of Morse or other code. High and low notes could also be introduced by providing differently tuned instruments, as is done with the siren, but this method is cumbersome and unsatisfactory and we have abandoned it. All our diaphones are designed to give the note of F sharp in the middle register, having 180 vibrations per second. The installations most commonly used in our stations have pistons 4¼ in. in diameter, using 11 cub. ft. of air per second of blast, but at important stations like Cape Race a piston 8½ in. in diameter, using 27 cub. ft. per second of blast is installed, and the patentees are now experimenting with a monster instrument having a piston 14 in. in diameter. In practice it is found that 16 h.p. per cubic foot of free air consumed is the gross power required to run a plant.

SUBMARINE BELLS.—Submarine bells have been installed on four lightships in the river St. Lawrence. This system of signalling was invented by A. J. Mundy, of Boston, Mass., and relies for its efficiency on the fact that water, being of a more uniform density than air, will transmit sounds more reliably. Mariners as well as scientists know the distracting and unforeseeable aberrations of ordinary aerial fog signals, and the submarine signal has been developed in the effort to overcome this source of uncertainty. The sounding apparatus is simply a submerged bell, rung either automatically by the motion of the waves, electrically or mechanically. The last named method has proved most satisfactory in practice; blows struck automatically lack force, and electrical connections are difficult to keep insulated under water through long periods of time. The hammers on the lightship bells are operated by compressed air. The receiving apparatus consists of a chamber attached to the skin of a ship, from which the impulses received are transmitted telephonically to ear pieces in the wheelhouse. By placing a receiver on each side of the ship, and comparing the intensity of the sound, the direction of its source is approximately determined, and by swinging the ship until the intensity is equal in the two receivers a ship can be steered for the bell.

From a series of reports made by masters of vessels equipped with receiving apparatus passing a bell operated from a lightship in Lake Erie, it has been determined that loaded vessels found the signals efficient over a radius of five miles, while the range of light vessels was about two miles, or in other words, that when the receivers were well submerged their efficiency was less affected by the noise of the bow wave. The submarine bell is greatly esteemed by those masters who have vessels equipped with receiving apparatus, and the Canadian Government has received cumulative evidence of its utility, but its use is somewhat restricted. The cost of equipping vessels with receiving apparatus is large, and militates against its adoption by small vessels, and moreover it is somewhat expensive to maintain the bell striking mechanism in working order except in situations where it can be lifted frequently for examination and regulation.

Four stations have been established on our Atlantic coast (but not on the St. Lawrence route) where the bell carried on a tripod submerged below wave action is operated through a cable from an electric station on shore. The acting Commissioner of Lights reports that two bells so installed off Chebucto Head in 1907 are yet in commission. The further extension of the system is being watched with interest.

COMMUNICATION.

GOVERNMENT TELEGRAPH.—A serious problem which confronted the Government in connection with navigation in the gulf, for hundreds of miles along a practically uninhabited coast, was the difficulty of securing communication with vessels in case of shipwreck. Soon after Confederation the Dominion Department of Public Works began extending Government telegraph lines along both shores of the gulf and to the outlying islands over territory where a telegraph installation would not pay as a commercial venture. The Government telegraph system now lines both shores of the gulf, the northern line extending to the Strait of Belle Isle. Anticosti, St. Paul Island, and the Magdalen Islands are all connected with existing telegraph systems by cable, and it is a significant fact that since telegraphic communication was extended to Anticosti

SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie Canals during July :

ARTICLES.			CANADIAN CANAL	U. S. CANAL	TOTAL
Copper	Eastbound	Net tons	294	16,920	17,214
Grain	"	Bushels	1,074,122	1,068,076	2,142,198
Building stone	"	Net tons	.....	100	100
Flour	"	Barrels	213,475	487,971	701,446
Iron ore	"	Net tons	3,834,202	2,633,080	6,467,282
Pig iron	"	"	.....	4,084	4,084
Lumber	"	M. ft. B.M.	5,364	71,513	76,877
Wheat	"	Bushels	1,984,360	2,101,283	4,085,643
General merchandise	"	Net tons	9,494	12,879	22.373
Passengers	"	Number	4,025	4,144	8.169
Coal, hard	Westbound	Net tons	52,060	129,524	181,584
Coal, soft	"	"	498,569	923,532	1,422,101
Flour	"	Barrels	230	.....	230
Grain	"	Bushels	.....	.....	.....
Manufactured iron	"	Net tons	35.811	41,791	77,602
Iron ore	"	"	2,352	.....	2,352
Salt	"	Barrels	24,522	96,241	120,763
General merchandise	"	Net tons	67,089	58,755	125.844
Passengers	"	Number	5,118	3,920	9,038
Vessel passages		Number	993	1,910	2,903
Registered tonnage		Net	2,881,999	4,260,842	7,142,841
Freight—Eastbound		Net tons	3,954,326	2,924,884	6,879,210
" —Westbound		"	659,418	1,168,038	1,827,456
Total Freight		"	4,613,744	4,092,922	8,706,666

THE INTERNATIONAL MARINE SIGNAL CO.

OTTAWA, CANADA

Manufacturers of

Automatic Acetylene Gas Buoys, Beacons and Fog Signals

Mariners describe our lighted buoys as "floating lighthouses."

Can Ship at Once

Bucyrus 70 ton Steam Shovel, modern (2) @	$7,000
Victor 55 ton Steam Shovel, (used 6 months)	4,000
Marion 70 ton Steam Shovel, Model 60; modern	6,000
Marion 90 ton Steam Shovel, 3½ yard; modern	7,900
Thew No. 1 Full Circle Shovel, 1 yard (Traction)	3,650
Traction Shovel "Little Giant," 1 yard	2,500
Western 36 in. gauge 4 yard dia. frame Cars (30), @	90
Austin "New Era" Grader; new belt; fine	650

We solicit the enquiry of Contractors in the Dominion, assuring them of prompt attention; the released equipment we offer is dependable. We have special bargains in locomotives, dump cars, air compressors, drills, crushers, hoisting engines, concrete mixers, etc.. and we issue a printed list of our offerings with prices and location given. Send for it and let us know your requirements in our line.

WILLIS SHAW MACHINERY COMPANY

No. 171 La Salle St., Chicago, Ill.

Engineer and Purchasing Agent

alike, are always on the lookout for goods they use, properly constructed, of good material and offered at a fair price.

On enquiry you will find that the "Dillon" Hinge-Stay and "Monarch" Stiff-Stay Woven Fences of all No. 9 wire, will fill these requirements.

Write for Catalogue, samples and other information.

The Owen Sound Wire Fence Co. LIMITED

OWEN SOUND, ONTARIO

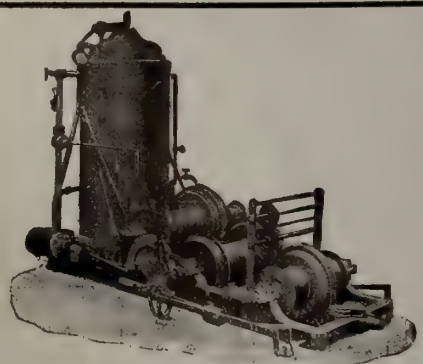
NEW AND RELAYING RAILS

FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.

LOCOMOTIVES, CARS AND OTHER EQUIPMENT.

John J. Gartshore

83 Front Street West - TORONTO



M. Beatty & Sons, Limited Welland, Ont.

Dredges - Ditchers - Derricks

Steam Shovels

Steel Dump and Deck Scows

Submarine Rock Drilling Machinery
Mine Hoists, Hoisting Engines
Centrifugal Pumps, Clam Buckets
Steel Skips, Coal and Concrete Tubs
and other Contractors' Machinery.

that district has become unfashionable as a depository for worn-out ships. At frequent intervals along the Government telegraph line, usually at light stations, marine signal stations have been established from which vessels are reported to Quebec and Montreal. These stations are supplied with the international code of flags, and the principal ones are kept specially informed respecting the state of the ice in the river and gulf during the months of April and May.

TELEPHONE.—During the past season the means of promptly locating vessels in the river have been greatly improved by the installation of a telephone service operated by the Marine Department. Telephone offices are established every few miles between Crane Island and Montreal, from which watchmen report the passing of vessels. In this way a vessel can be timed to arrive at Montreal or Quebec within a very few minutes.

WIRELESS TELEGRAPH.—The Government has entered into a contract with the Marconi Wireless Telegraph Co. whereby it has established stations at 12 points in the river and gulf. These stations are bound to receive messages from ships equipped with any system of wireless apparatus and transmit the same either by wireless or by connecting lines to shipping centres.

STORM SIGNALS.—At most of the ports on the St. Lawrence the Meteorological Service of Canada, under the control of the Marine Department, maintains storm signals, mariners being warned by a code hoisted on conspicuous masts of the probable approach of dangerous gales. Daily weather probabilities are issued from the head office in Toronto and the approach of important depressions is communicated by wireless to vessels at sea. Reports by wireless of the state of the ice and the warnings respecting aids to navigation are also communicated to approaching ships.

SURVEYS.

TIDES.—A survey of the tides and currents in Canadian waters is organized under the control of the Marine Department, and Dr. Dawson, the officer in charge of this survey, has paid particular attention to the St. Lawrence route in view of its commercial importance. Admirable tide tables based on several years' records are published yearly for important points in the river, and tidal differences for intermediate points are referred to these tables. It is yet necessary to increase the number of places for which tidal differences are given, and this list is being extended yearly, as accurate information can be secured.

CURRENTS.—A vessel has also been devoted for several seasons to an examination of the currents, especially in the estuary, and in both entrances to the gulf. The results of these examinations are contained in Government publications and are available to all mariners. There is no question that the results of the work done by the current survey off Cape Race, and off the Gaspe coast, have greatly decreased the number of shipwrecks. The work in the strait of Belle Isle has laid at rest the old fable of a serious influx of the Arctic current through that entrance into the gulf of St. Lawrence.

HYDROGRAPHY.—The charts of the gulf are based upon the admirable surveys of Lieut. (ultimately Admiral) Bayfield, made early in the last century, but the river and all critical parts of the gulf have been resurveyed and recharted by the Admiralty or the Marine Department. The Canadian Government now has a surveying steamer in commission, which this year is working near the mouth of the Saguenay. The narrower portion of the river has all been elaborately surveyed of late years, and large scale charts in color are being published by the Canadian Hydrographic Office, in charge of W. J. Stewart, Chief Hydrographer, a graduate of the Royal Military College, who received his training from Admiralty surveying officers.

ICE.

NAVIGABLE SEASON.—The important element of climate must not be overlooked in any consideration of work done on the St. Lawrence river. During practically five months in every year navigation is closed, and all shipments must be crowded into the seven months of open navigation. From Kingston to Quebec the river freezes over every winter, except at points where the current is unusually rapid. Below Quebec, although there is heavy border ice, the river never freezes over.

ICE CONDITIONS.—The ice problem confronts the engineer at every step, and must be reckoned with in designing terminals, in ship and lighthouse construction, and in buoy maintenance. Large elevators must be provided to store grain over winter; wharves and docks must be made ice proof; lighthouse piers must be heavy enough and high enough to resist ice shoves, and buoys and other floating aids must be rushed into place as soon as the ice has passed down in the spring and hurriedly removed at great risk after the last vessel has gone to sea in the autumn. It is almost impossible for any one not accustomed to ice conditions to realize what a difference all this makes in planning structures, and how it modifies designs and increases cost.

WINTER NAVIGATION.—Efforts have been made to prolong the navigable season by using specially constructed steamers as ice breakers, and it is claimed that the season of navigation could be materially lengthened, and winter floods prevented, by keeping the river open to Montreal. A Government steamer has been devoted to the task for some winters past, and has probably cleared the river of ice somewhat earlier in the spring. Winter ferries are maintained at several points on the river, and operate successfully, though sometimes irregularly. Last winter successful trips were made to the north shore of the gulf, and there seems no reason to doubt that specially built steamers could navigate the St. Lawrence all winter if the trade proved profitable. Only one attempt has been made to cross the gulf to England; this was in the winter of 1898-9, and the venture was unsuccessful, but primarily because a weak and unsuitable vessel was used.

PORTS.

The principal ocean ports on the river are: Quebec, at the head of the estuary; Three Rivers, at the head of tide water; Sorel, at the mouth of the Richelieu river; and Montreal, at the head of ocean navigation. Quebec and Montreal are under the control of Harbor Commissioners, appointed by the Government, and are assisted by the Dominion with guaranteed loans.

QUEBEC.—At Quebec there is a Government graving dock, which has been outgrown by modern steamers, and large wet and tidal docks at the mouth of the St. Charles River. The timber wharves that line the city front, and which a generation ago were thronged by sailing vessels, are forsaken and dilapidated, and the traffic of to-day centres at the more easterly basin.

MONTREAL.—At Montreal extensive new wharves have been built, and here it proved a difficult problem to guard against damage by ice. Soon after the river freezes over each winter, there is a local rise of about 10 ft. in the level of the water in the harbour, caused by restriction of the channel by anchor ice; and in the spring of the year, when the volume of water is augmented, this obstruction leads to a further rise, in 1886 reaching a height of 27 ft. above ordinary low water, and flooding the low parts of the city. To prevent future floods a dyke was in 1887 built along the river front. The old wharves were much below this flood level and were covered every year, necessitating the removal annually of all buildings and goods. To prevent this inconvenience the Commission decided to make the new wharves, built as groynes against a continuous embankment, high level wharves, and they have been so constructed, of concrete, and surmounted by permanent steel sheds provided also with grain conveyors from an immense central elevator. With the material excavated from the deepened harbor a guard pier has been built in front of the whole upstream side of the harbor.

The above paper was read before the British Association for the Advancement of Science, at its meeting in Winnipeg recently.

Grounding of s. s. Inishowen Head.

The formal investigation into the causes of the grounding of the s.s. Inishowen Head at Timons Cove, about 5 miles above Quebec, on Oct. 1, 1908, was held Aug. 2, a preliminary investigation having been held Oct. 12, 1908, when the main facts were elicited. The following judgment was delivered, Aug. 3, by Capt. L. A. Demers, Acting Wreck Commissioner, concurred in by Capt. A. Reid and A. Angers, Pilot, who sat as assessors:

The Court, having carefully inquired into the circumstances attending the above-mentioned casualty, finds that the pilot A. Briere has been guilty of a gross error of judgment, and that the grounding of the ship was caused by his fault; but owing to the fact that this is the first mishap during the 18 years of his service as pilot, and in view of the recommendations as to his capacity, the Court orders that he be fined $50, to be paid in two monthly instalments, the first payment to be made immediately. The captain and crew of the vessel are exonerated from all blame in this casualty.

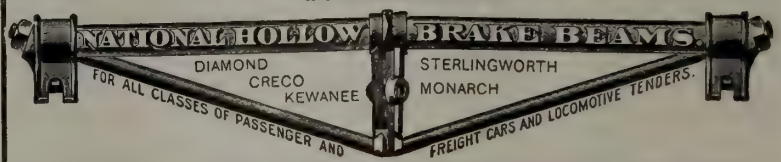
During June, 5 employes were killed and 16 injured in the course of their work in Canadian navigation. Of the fatalities, 4 were due to drowning and 1 to machinery, while of the non-fatal accidents, 6 were due to falls, 5 to explosions, 2 each to falling material and to machinery and 1 to flying material. In addition to those already mentioned 16 longshoremen were nearly asphyxiated by grain in the hold of a vessel at Montreal,

E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES
46th, Robey and Lincoln Streets.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.
Manufacturers of



DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:
22 St. John Street
MONTREAL, QUEBEC

I. A. YOUNG,
AGENT

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.
BRIDGES
TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds
BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

JAMES THOMSON, Pres. and Mang. Director. J. G. ALLAN, Vice-President. JAMES A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO.
LIMITED
MANUFACTURERS OF
CAST IRON PIPE
3 Inches to 60 Inches diameter
FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS
FOR WATER, GAS, CULVERT AND SEWER
HAMILTON, ONT.

TANKS AND STEEL SUBSTRUCTURES

STEEL AND WOOD TANKS, HOSE TOWERS, FLAGSTAFFS, STEEL TOWERS AND SIGNAL TOWERS, ETC.

Ontario Wind Engine & Pump Co.
LIMITED
TORONTO, ONTARIO

OCEAN STEAMSHIP OFFICES

AMERICAN LINE
Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.
Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE
New York—London
Sailing from New York Saturday.

WHITE STAR—DOMINION LINE
Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Docks
(Bristol and Antwerp)

RED STAR LINE
New York—Dover—Antwerp
Sailing from New York Saturdays.

WHITE STAR LINE
New York — Holyhead — Liverpool — Queenstown
Sailing from New York Saturdays.
N.Y.—Plymouth—Cherbourg—Southampton
Sailing from New York Wednesdays.
Boston—Queenstown—Liverpool
Regular Departures.

NEW YORK AND BOSTON MEDITERRANEAN SERVICE
To Italy via Azores—Gibraltar
Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured.

H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO
41 KING ST. EAST, TORONTO.

Atlantic and Pacific Ocean Marine.

Press reports state that the C.P.R. and the Allan Line have come to a working agreement regarding the Atlantic freight business.

The Allan Line s.s. Victorian in arriving at Rimouski, Que., from Liverpool, Eng., in 5 days, 18 hrs., created a new record for vessels of that fleet.

A record passage was made recently by the C.P.R., when passengers from Liverpool, Eng., were landed in Toronto in 6 days, 22 hours, after embarking at Liverpool on the s.s. Empress of Ireland.

The s.s. Crown of Galicia, under charter by the Dominion Iron and Steel Co., sailed from Sydney, N.S., Aug. 17, for Prince Rupert, B.C., by way of the Horn, with 5,000 tons of steel rails for the G.T.P.R.

Elder, Dempster and Co. have commenced their service connecting Montreal with Puerto Mexico, the Atlantic terminus of the Tehuantepec National Ry., in conection with the Canadian-Mexican Pacific Steamship Co.'s service between Salina Cruz, the Pacific terminus, and British Columbia ports.

The s.s. Jeanara, outward bound from Montreal to Buenos Ayres, with lumber, which ran aground at Cranberry Head, near Sydney harbor, N.S., Aug. 13, was floated the following day and taken to Sydney, where a survey was made to ascertain the damage, which was found to be slight. She subsequently proceeded on her voyage.

In response to a question in the British House of Commons, recently, as to whether the all-red scheme had been definitely abandoned, the Prime Minister said, "I am informed that the investigations of the committee which has been enquiring into the scheme have not hitherto succeeded in removing the many difficulties by which it is attended. At the same time, there is no reason to assume that those difficulties will prove insuperable."

Furness Withy & Co. Ld. has declared a dividend of 5% for the past financial year. Sir Christopher Furness said the company's ability to pay a dividend this year was a proof of its stability. The shipping industry of the whole world had labored in the trough of depression during the past year, and the outlook to-day was not all that could be desired. As a result of its general trading the company's profit for the year was in excess of that of the previous year by £16,088 16s. 9d. The past year was the first under the profit sharing scheme which Sir Christopher Furness introduced with a view to the prevention of strikes and other labor difficulties.

The C.P.R. steamships Empress of Britain and Empress of Ireland have been equipped with electric masthead signalling apparatus, similar to the system which was adopted by the British Navy some time ago and which has been pronounced to be a great success. The system comprises an ordinary telegraph keyboard, situated on the bridge, and connected with an electric lantern on the mast head. The Morse system is used; the vessels are thus enabled to keep in communication with shore stations and report ice and weather conditions. This equipment, which is additional to the wireless telegraph installation already on these vessels, places the C.P.R. steamships first among the vessels on the St. Lawrence route as regards means of communication with the land.

On his return from an inspection trip through the St. Lawrence ship channel, G. J. Desbarats, Acting Deputy Minister of Marine, is reported to have said, that of the improvements at present under way, Beaujeu Bank, about 50 miles below Quebec, has been widened 700 ft., with a 30 ft. depth of water at low tide. Dredge 9 is working there, and before the end of the season will have the channel widened to 1,000 ft. Five rock dredges are operating at Cap a la Roche and one dredge is at Champlain, clearing the channel. The work at Cap a la Roche will probably result in finishing the widening of the Grondines range this year and lights will be erected on the new centre line. Hydraulic dredge 7 is in Lake St. Peter, working on the last stretch of the channel widening. This dredge has cut one mile this season, leaving about 4 miles still to be widened.

A special meeting of the Montreal Board of Trade council was held, Aug. 10, to consider the porterage charges, which were made effective July 26, as a result of the recent Canadian North Atlantic conference. T. Robb, Secretary of the conference, pointed out that the charge for master porterage was to cover the cost of handling, sorting and placing of goods on the wharves after they had been discharged from the vessels. Although the rates for carriage only covered delivery from the vessels' tackles, the agents of the steamers had in practice been doing the foregoing work at the expense of the vessel. With the increase in expense of handling cargo on the wharves through higher labor charges, etc., the cost of this work had become a serious item, especially having regard to the moderate rates of freight now charged, that the companies had felt compelled to place at least a portion of this charge on the consignees, who were really entitled to bear it all. The council after listening to the explanation, decided that a special meeting might be called, if desirable, to further discuss the matter.

Maritime Provinces and Newfoundland.

The Dartmouth, N.S., ferry steamer Halifax broke her shaft, Aug. 2, and was taken off the route for repairs.

The Gorton Pew Fisheries Co.'s schooner Orinoco capsized and sank near Sambro, N.S., Aug. 18, only one out of a crew of 12 being saved.

The construction of the new wharf at St. John, N.B., is proceeding rapidly. The fourth crib was sunk in position, Aug. 12. One more crib still remains to be placed.

The Newfoundland schooner Myrtle was driven on the rocks at North Lingan Head, N.S., Aug. 11. The captain and crew of six men are missing. The vessel sailed from North Sydney, Aug. 8.

The steamships Sandsend and Winifred put into Halifax, N.S., Aug. 21, the former damaged through the shifting of cargo during a gale and the latter with bottom damages caused by grounding at Anticosti.

The Halifax and Sheet Harbor Steamship Co.'s s.s. Margaret while en route from Halifax for eastern shore ports struck on Thrum Cap shoal, Aug. 19, in rough weather. The passengers were all landed safely. She was floated later, by tugs, the only apparent damage being the loss of her foremast, to which a tow line had been fastened.

The Dartmouth Steam Fishing and Curing Co., Ld., has been incorporated under the Nova Scotia Companies Act, with a capital of $30,000 and office at Dartmouth, N.S., to conduct a general fishing and curing business, and in connection therewith to own and operate steam and other vessels. R. Christie, W. G. Main, and A. G. Allardyce, Dartmouth, N.S., are among the provisional directors.

The s.s. Turret Bell, which was wrecked on the north shore of Prince Edward Island in the later part of 1906, and which was recently floated, was brought into Charlottetown, P.E.I., under her own steam, Aug. 1, and subsequently was towed to Quebec, where she was docked. At the time of the disaster the vessel was under charter to the Inverness Ry. and Coal Co., and after the wreck she was abandoned to the underwriters, who undertook to float her. She was offered for sale by public tender, Aug. 31,, for the benefit of the underwriters.

At the recent meetings of the Maritime Board of Trade, at Charlottetown, P.E.I., a resolution was adopted, asking the Dominion Government to operate its own ferry across Northumberland Strait all the year round instead of only during the winter months. A resolution was also adopted, requesting that a complete survey be made of the approaches and pier sites on Tatamagouche Bay, and if found feasible, that the Charlottetown-Brule route be adopted instead of the Pictou route as at present, as experience showed that the former was shorter and less blocked than the latter. Some desultory talk took place as to the proposed tunnel with the main land, but it was decided to drop the matter and deal with something that might be considered to be attainable.

The steel steam tug, which the New Burrell-Johnson Co. is building at Yarmouth, N.S., for the Department of Public Works, will be used by the Department for towing, in connection with dredging at various points in the Maritime Provinces. The dimensions of the vessel are: length, over all 100 ft.; breadth, 22 ft.; depth of hold, 11 ft.; draught, 9.6 ft. The hull and deckhouses are built entirely of steel. The propelling machinery consists of triple expansion engines, with cylinders 12, 19 and 30 ins. diam., by 20 ins. stroke, supplied with steam by a horizontal return tubular boiler, 11 ft. by 9' 6", at a working pressure of 180 lbs. It is fitted with the usual auxiliary pumps, including a centrifugal circulating pump. A combined hand and steam windlass is supplied for the convenient handling of the chains and anchors, and steam steering machinery is placed in the pilot house. The boat, which will be classed A1 at Lloyds, will be very powerful. In connection with the construction of this vessel, it has been claimed that it is the first steel vessel to be constructed in Nova Scotia, but we are advised that a steel schooner was built at New Glasgow a few years ago.

CRUCIBLE SAW AND SHEET STEEL

MADE BY

JESSOP STEEL CO.

Washington Pa., U.S.A.

TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools.

Jessop's "Ark" High Speed Air Hardening Steel

is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings.

WILLIAM JESSOP & SONS, Limited, SHEFFIELD, ENG.

CHAS. L. BAILEY, Agent, 80 BAY STREET, TORONTO, ONTARIO

JAMES T. GARDNER

RAILWAY EQUIPMENT

615 Railway Exchange

CHICAGO, ILL.

Has on hand at all times

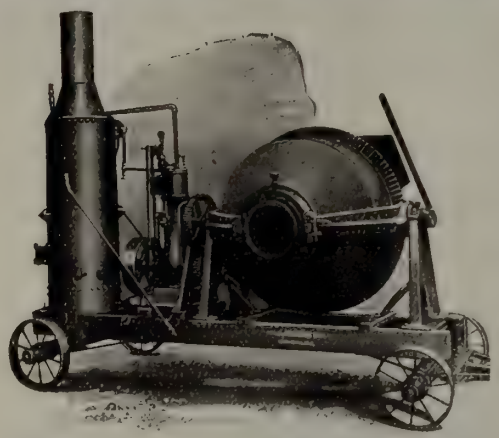
First-Class Freight and Passenger Locomotives

Also

Contractors' Locomotives Cars, Rails, Etc.

Specifications with Prices on Application

Marsh Concrete Mixers



Simplest, Lightest, Most Durable and sold at Popular Prices.

Especially adapted to Canadian business.

Write for catalogues.

Marsh Co.

Old Colony Bldg.,

Chicago, Ill.

CARS

NEW and REBUILT

Box, Flat, Gondola and Tank

Steam Shovels, Rails, Locomotives and Contractors' Equipment

Immediate and Prompt Deliveries
Correspondence Solicited

ROBT. M. BURNS & CO.

Railway Exchange

CHICAGO

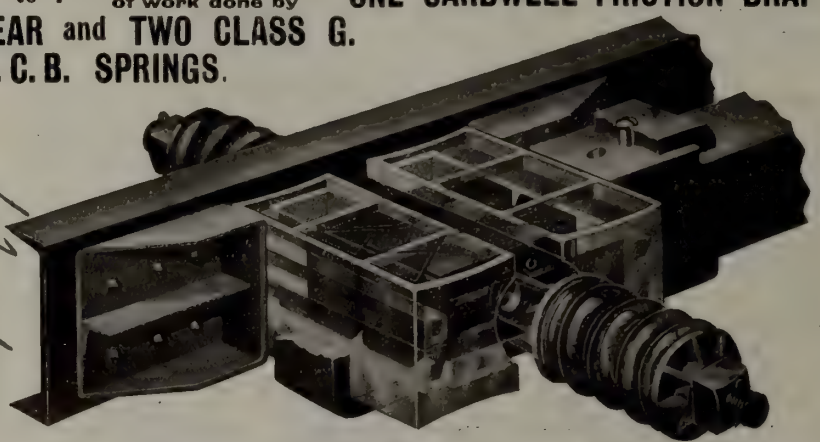
NOTICE

The Consolidated Car-Heating Company is the owner of Canadian patent No. 113,350 to James F. McElroy, for Regulating Devices for Steam Heating Systems. This patent covers the system of vapor heat for railway trains. Arrangements have been made for manufacturing this device at Coaticook, Canada, and it is prepared to fill Canadian orders from such manufacture.

(Signed),

CONSOLIDATED CAR-HEATING COMPANY.

35 to 1 is the relative amount of work done by **ONE CARDWELL FRICTION DRAFT GEAR and TWO CLASS G. M. C. B. SPRINGS.**



CARDWELL FRICTION DRAFT GEAR—MADE BY

UNION DRAFT GEAR CO., CHICAGO, ILL.

FOR STREET PAVING MATERIAL

SCORIA BLOCKS are the cleanest, most noiseless and, durability considered, the cheapest yet discovered. And the supply is unlimited.

FOR ALL INFORMATION ADDRESS

W. H. KNOWLTON

Aberdeen Building, Toronto,
or Merchants Bank Building, Montreal

SESSIONS-STANDARD

Friction Draft Gear

Simplest and Best

Both Made by

Standard Coupler Co.

2 RECTOR STREET NEW YORK

STANDARD STEEL PLATFORMS

Used by all Canadian Railways

Province of Quebec Marine

The Quebec and Levis Ferry Co. recently commenced a car ferry service between the points named.

The name of the barge Belle, no. 96868, registered at Montreal, has been changed by order in council to Coteau.

C. C. Ballantyne, one of the Montreal Harbor Commissioners who has been visiting England, in connection with the proposed construction of a dry dock at Montreal, returned home Aug. 6.

It is reported that the contract with the Quebec and Levis Ferry Co., for the operation of a ferry service between these two points, will be renewed next year, when the present contract expires, on a new basis. The municipalities of Quebec and Levis have each obtained authority from the Legislature to operate a ferry service.

The Canadian Graving-Dock and Ship-Building Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $2,000,000 and office at Montreal, to own, build or otherwise acquire and operate docks, slips, steam and other vessels, and to carry on the business of common carriers on the high seas and the inland waters of Canada. The provisional directors are: M. J. O'Brien, J. A. O'Brien, Renfrew, Ont.; F. W. Rous, G. A. Dillon, Montreal; J. R. Roy, Ottawa.

The traffic returns of the Lachine canal for July show that the following passengers, vessels and merchandise were dealt with:—Passengers, 24,903; Canadian owned vessels, steam 656, barges 500; U.S. owned, steam 43, barges, 43; tonnage of vessels, 464,861; wheat, 1,512,874 bush.; corn, 22,000 bush.; oats, 117,626 bush.; barley, 43,357 bush.; flaxseed, 81,959 bush.; eggs, 1,870 boxes; butter, 465 boxes; cheese, 59,936 boxes; lard, 425 barrels; whiskey, 1,063 hds.; coal, 23,773 tons; lumber, 23,640 tons.

The appeal of the Richelieu and Ontario Navigation Co. against the decisions of the Canadian courts, whereby it was held responsible for the damage caused to the Pittsburg and Erie Coal Co.'s steamboat Havana, about two years ago when its steamboat Prescott broke the lower lock in the Lachine canal, was dismissed by the judicial committee of the Privy Council in London, Eng., recently. The judgment of the Canadian courts was upheld. The owners of the Havana claimed $30,000.

Ontario and the Great Lakes.

The name of the steam tug Eagle, no. 92,304, registered at Collingwood, has been changed, by order in council, to M. Maree.

The Toronto harbormaster issued an order, Aug. 9, to restrain owners of vessels from dumping cinders, etc., in Toronto bay.

The cables operating the lower gates of the Sault Ste. Marie Canadian canal were broken, Aug. 8, the damage, however, was soon repaired.

The Department of Railways and Canals is asking for tenders for the reconstruction of the north pier at the upper entrance to the Canadian canal at Sault Ste. Marie.

It is announced that dock accommodation is to be built at Port Cobalt, with facilities sufficient to accommodate the largest steam vessels that can navigate Lake Temiskaming.

The Upper Lake Navigation Co.'s steamboat Adrelexa caught fire, Aug. 2, while en route to Cobalt from Elk Lake. The passengers, crew and mails were saved.

The steamboat City of Montreal was brought into Toronto, Aug. 7, with a broken piston rod. The repair was speedily made and she continued on her route with no loss of time.

The name of the steamboat A. Weston, no. 126,268, registered at Toronto, and owned by the Conger Coal Co., Toronto, has been changed, by order in council, to Congercoal.

The Merchants' Steamship Co.'s steamboat Mapleton, which recently arrived from England, and which ran ashore at Grave Island shoal, near Detour, was refloated Aug. 5, having received considerable damage to her bows.

The Toronto Ferry Co.'s steamboat John Hanlan, which was sunk by the s.s. H. M. Pellatt recently at Toronto, has been raised for repairs. Her machinery is intact, but she will not be ready for further service until next year.

M. J. Haney, Toronto, has applied to the Governor in council for the approval of plans for the extension of his wharf in front of water lots 22 and 23 according to plan 5A deposited in the Toronto Eastern Division Registry Office.

The Dominion Government is carrying out dredging work at the mouth of the Rainy River. The low water there this year has caused some inconvenience. The Rainy River Navigation Co.'s steamboat Keenora, has been laid up during the whole season.

The Montreal Transportation Co.'s schooner Augustus was towed into Prescott Aug. 13, having struck a rock in coming up the St. Lawrence. She was docked there and temporary repairs made to allow her to proceed to her destination on Lake Ontario.

Orders have been issued for the removal of the wreck of the steamboat Nimick, which came to grief off Whitefish Point in Lake Superior about two years ago. The wreckage has long been considered a menace to navigation in the vicinity.

The Inland Navigation Co.'s steamboat Glenellah, while bound from Montreal to Fort William, Aug. 2, struck the east breakwater at Port Colborne, causing considerable damage to her bows and displacing a portion of the breakwater. It is said that the cause of the trouble was the clogging of the steering gear.

Regarding reports to the effect that the control of the Richelieu and Ontario Navigation Co. was about to pass into other hands, R. Forget, M.P., President, recently said: "I have been approached on the matter, but I do not think that under existing circumstances the directors will let go the control of the company."

The construction of a dam at the foot of Lake Temiskaming is progressing, about 100 men being employed. It is estimated that it will be completed in about two years. It is intended to form a part of the proposed Georgian Bay canal scheme, of which C. R. Coutlee is Engineer in Charge. The contractors are Kerby and Stewart.

The Haileybury Navigation Co.'s steamboat Silverland made her maiden trip, Aug. 6. She is being operated on a half-daily service between Haileybury and South Lorraine. The vessel was built at Haileybury by the Doty Engine Works, Goderich, and is equipped with a fore and aft compound engine, capable of a speed of 15 miles an hour.

It is reported that an estimate of the damage caused by the recent ramming of the lock gates at the Sault Ste. Marie Canadian canal places the cost of repairs to the lock gates at $50,000. A press report states that after an enquiry into the causes of the disaster the license of the second engineer of the Perry G. Walker, who was in charge of the vessel at the time, has been revoked.

The steamboat Glengarry, owned by J. Richardson & Sons, Kingston, struck the pier of the bridge at Montreal, Aug. 14, and sank with her cargo of 20,000 bush. of wheat. She is a screw-driven vessel, with engine of 300 n.h.p., and was built at St. Catharines in 1872, and re-built at Kingston in 1886. Her dimensions are: length, 170 ft.; breadth, 26 ft.; depth, 11.2 ft.; tonnage, 732 gross, 438 register.

The ratepayers of Port Arthur, Aug. 10, ratified a bylaw granting a bonus of $25,000 a year for 10 years and a free site for the construction of a dry dock and ship-building plant there by the Western Drydock and Shipbuilding Co. Ld. The site at Bare Point has been surveyed and soundings taken, and it has been stated that work will be commenced immediately. The cost of the plant has been mentioned as $1,000,000.

The Pioneer Exploration and Development Co., Ld., has been incorporated under the Dominion Companies Act, with a capital of $100,000 and office at Ottawa, to carry on the business of a development company, and in connection therewith, to build, purchase or otherwise acquire and operate steam and other vessels. The provisional directors are: J. S. Crawford, W. E. Brown, J. W. Gamble, J. J. Collins, and C. W. Patton, Ottawa.

The U. S. Lake Survey reports the stages of the various lakes for July, in feet above tide water, as follows: Superior, 602.16; Michigan and Huron, 581.12; Erie, 573.03; Ontario, 247.16. It was anticipated that during Aug. Superior would be 1½" higher; Michigan and Huron ¼" lower; Erie, 2" lower, and Ontario 3" lower. Compared with the average stages for the past 10 years, Superior is 9" lower; Michigan and Huron 1¼" lower; Erie, 2½" higher; Ontario, 5½" higher.

The Western Drydock and Shipbuilding Co.'s proposed drydock and shipbuilding plant at Port Arthur, it is said, will cost about $700,000 and be the most complete on the Great Lakes. The Port Arthur city council has agreed to bonus the company to the extent of 100 acres of land and payment of $25,000 a year for 10 years, in addition to which the company will be exempt from taxes for 20 years, with the exception of $2,000 a year for school purposes. The dock which it is proposed to build will be 700 ft. long.

The Turbine Steamship Co.'s s.s. Turbinia caused some little damage to a number of vessels at Charlotte, N.Y., Aug.

THE CANADIAN BRIDGE CO., LIMITED

WALKERVILLE, ONTARIO

LOCOMOTIVE TURNTABLES ROOFS STEEL BUILDINGS

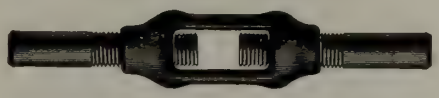
Manufacturers of

Railway and Highway

BRIDGES

STRUCTURAL IRON WORK OF ALL DESCRIPTIONS

TURNBUCKLES



FORGINGS OF ALL KINDS

CLEVIS NUTS

CLEVELAND CITY FORGE & IRON CO.

CLEVELAND, OHIO, U.S.A.

Largest Dealers Rebuilt Equipment in United States

TWO SEPARATE PLANTS

EAST PLANT

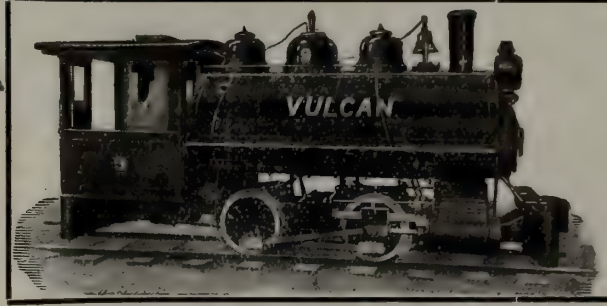
Capacity, 25 New Freight Cars per day
10 New Coaches per month

WEST PLANT

Capacity, 10 Heavy Repairs Locomotives per month
Besides Coach and Freight Car Repairs

PROMPT DELIVERY—New Passenger and Freight Equipment—Rebuilt Locomotives, Passsenger and Freight Equipment

HICKS LOCOMOTIVE AND CAR WORKS, = = Chicago, Ill.



LOCOMOTIVES

FOR ALL CLASSES OF SERVICE

VULCAN IRON WORKS

WILKES-BARRE, PA., U.S.A.

Canadian Representatives - MUSSENS LIMITED, MONTREAL

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA

A PURELY CANADIAN COMPANY

JOHN EMO, General Manager H. W. PEARSON, Secretary-Treasurer D. MURPHY, President

AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

JAMES PLAYFAIR, Pres. & Gen'l Mgr. D. L. WHITE, Vice-President. J. W. BENSON, Sec'y-Treas.

MIDLAND TOWING & WRECKING CO., LIMITED, MIDLAND, ONT., CANADA

FIRST-CLASS TUGS FOR WRECKING, RAFT TOWING, ETC.
STEAM PUMPS, DIVERS, JACKS, HAWSERS AND LIGHTERS

15. Owing to some unexplained cause, full steam was applied to the Turbinia, while she was moored to the wharf, and she collided with the Richelieu and Ontario Navigation Co.'s s.s. Kingston, which ran into two other vessels. The damage done was comparatively small, as the vessels named were able to proceed on their trips. Official enquiries will be held by Canadian and U.S. authorities, but in the meantime the second engineer of the s.s. Turbinia, who was in charge, has been dismissed.

The Farrar Transportation Co.'s s.s. Collingwood was sunk in collision with the U.S. s.s. George L. Craig in the Detroit River, Aug. 24. It is stated that the latter vessel rammed the Collingwood, and that the cause of the disaster was probably a misunderstanding of the whistle signals. The Collingwood had a large hole torn in her side, about amidships below the water line. The captain, F. A. Basset, attempted to beach the vessel, but she sank forward when within 100 yards from shore, in 40 ft. of water. She had a cargo of 7,000 tons of coal, and was bound for Fort William. The Collingwood was built at Collingwood in 1907, and was equipped with engine of 163 n.h.p., driving a screw. Her dimensions are: length, 386 ft.; breadth, 50 ft.; depth, 23 ft.; tonnage, 4,529 gross, 3,480 register.

The Dominion Department of Public Works has recognized the need of dredging the shoal at the outlet of the Niagara River. Surveys have been made, and shallow places discovered that are a menace to navigation. About three miles from shore a sand bar has existed for many years, and the constant deposits from the river which were increased by the ice jam last spring, have gradually formed a shoal that demands attention. Vessels have grounded at this point, and at present deep draught boats trading on Lake Ontario to and from the Welland canal could not safely seek shelter in the Niagara River. Even the regular passenger steamers operating between Toronto and Niagara have experienced difficulty, and are obliged to run at reduced speed in crossing the bar. The dredge Quebec is at work upon this shoal and will provide a safe channel, which when completed should be well marked with lighted bell buoys.

On the question of the construction of a dam at the Long Sault Rapids, in connection with a proposed power development scheme, the Minister of Railways and Canals is reported to have said, at Brockville, Aug. 22, that "the proposition will have to be decided from the standpoint of the Canadian people. The plans at first presented to the Government were objected to at once. The engineers of the three departments particularly interested, the Marine, Railways and Canals and Public Works, were named to investigate the proposition, and as a result of their protest several important changes have been made in the plans, which would tend to safeguard Canadian interests. Outside of the objections raised in some quarters on account of the obliteration of the rapids, the effect it would have on the great water carrying trade of Canada must be carefully investigated. The cheap rates of transportation afforded by the St. Lawrence route on which Canada has spent many millions are of such vital importance to the trade of the country that no scheme that would interfere with them could be countenanced."

The freight truckers employed by the C.P.R. at Fort William struck work Aug. 9, without notice, causing some little dislocation of traffic. The men, who are of mixed nationalities, caused some disturbance and a riot ensued during which several of the C.P.R. police were wounded. The introduction of the military quieted things somewhat, and the men returned to work Aug. 16. It is reported that an application has been made to the Minister of Labor to appoint a board of conciliation to enquire into the men's alleged grievances.

Hon. Mackenzie King, Minister of Labor, has received a telgram from F. A. Acland, Deputy Minister, announcing that he left Fort William for Ottawa, Aug. 25, with the report of the board of conciliation which inquired into the difficulties between the C.P.R. and its dock laborers. He reports that the board reached a unanimous finding which is believed to be acceptable to both parties. The work of the board was expeditiously performed, the evidence being taken and the report framed in six days.

Captain Young, of Fort William, was the chairman, Alderman Rankin, of that city, represented the men, and W. J. Christie, of Winnipeg, the company. Mr. Acland was on hand throughout the sittings to give the board the benefit of his advice.

Manitoba, Saskatchewan and Alberta.

The steamboat Orillia arrived at Medicine Hat, Alta., from Saskatoon, Sask., Aug. 14, and it is understood that she left there with the intention of proceeding to Lethbridge.

The Manitoba Beach Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of $100,000 and office at Winnipeg, to carry on the business of land improvement company, and in connection therewith to own and operate vessels of all kinds, and do a general transportation business. The provisional directors are: D. C. Cameron, G. J. Lovell, A. L. Serkau, J. Mahood, C. Goodday, Winnipeg.

The British America Mills and Timber Co., Ld., has been incorporated under the Dominion Companies Act, with a capital of $25,000 and office at Winnipeg, to carry on a general timber and merchandise business, and in connection therewith to purchase, lease or otherwise acquire and operate all such transportation facilities by land and water as may be necessary for the conduct of such business, and also to carry on the business of general carriers of passengers and freight. The provisional directors are: M. G. Curran, D. McCleave, D. W. McKerchar, W. Wilson, and H. R. Patriarche, Manager Candian Car Service Bureau, Western Lines, and Manager and Secretary-Treasurer Canadian Freight Association Western Lines Freight Inspection Bureau, Winnipeg.

In an interview at Winnipeg, Aug. 12, the Minister of Public Works said: "The possibility of connecting Winnipeg and Edmonton by a water route was brought to my attention again, while in Alberta, and I secured much additional information on the subject, which I deemed worthy of the most careful consideration. The locks at St. Andrews, on which a large sum of money has been spent, will soon be completed, enabling vessels traversing Lake Winnipeg to reach this city. By the expenditure of a reasonable sum it appears that it would be possible to secure water communication by way of the Red River, Lake Winnipeg, and the Saskatchewan River, between Winnipeg and Edmonton. The public benefit resulting from this improvement would be very great. The most serious difficulty in connection with the proposal is created by the rapids between Cedar Lake and Lake Winnipeg at Grand Rapids, on the Saskatchewan. There are very long stretches of navigable water on the Saskatchewan, with only an occasional sandbar, which latter could be readily removed. Further information would be necessary before coming to any conclusion on the matter, but there would seem to be little doubt regarding the practicability of the scheme."

B.C. and Pacific Coast Marine.

F. C. Stratford, Vancouver, has been appointed a Fisheries Protection officer, with the rank of master mariner.

P. Wylie has been appointed shipping master for the port of Vancouver, and H. Dunn has been appointed measuring surveyor of shipping for the port of Prince Rupert.

The New Westminster Pilotage Authority's by-laws have been approved by the Minister of Justice and the Minister of Marine, and have been submitted to the Governor General in council for approval.

The contract for the construction of the hull of the vessel to be operated by the Royal Navigation Co., was placed in New Westminster, Aug. 2. It is expected that the vessel will be completed and on its route, early in November.

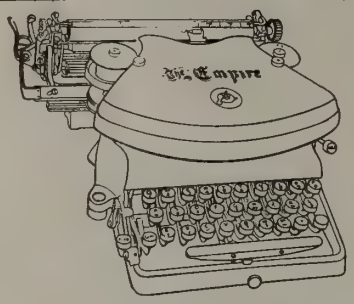
The Canada Shipping Act has been amended by order in council, by the addition of clause 50 prohibiting the navigation of the waters of Victoria Arm above Point Ellice bridge, Victoria harbor, by motor boats, at a greater speed than 6 miles an hour.

The Canada Dredging Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $2,500,000, to acquire certain dredging leases, and among other things to build, purchase or otherwise acquire steam and other vessels and conveniences conducive to any of the company's objects.

The Cariboo Navigation and Development Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $500,000, to build, purchase or otherwise acquire and operate steam and other vessels propelled by whatever power the company may desire, for the transportation of passengers and freight on any B.C. waters, and for other purposes.

Reports continue to be circulated by presumably responsible papers to the effect that the G.T.P.R. has placed an order in Newcastle, Eng., for the construction of a fast steamer, to be operated between Victoria, Vancouver and Prince Rupert. We have been officially advised that arrangements relative to the company's proposed Pacific coast service are not sufficiently advanced to warrant the statement mentioned.

The Judicial Committee of the Privy



THE

EMPIRE TYPEWRITER

PRICE $60.00 ONLY

Perfect in Construction

Permanent Alignment

Hardened Steel Type

Visible Writing

Made in Canada

BUILT FOR HARD WORK

Will Outlast any Standard Machine made, irrespective of price.

Agents Wanted in every part of Ontario

Communicate Direct with us.

THE WILLIAMS MANUFACTURING CO., LIMITED

P. O. Box 2424 - MONTREAL, P. Q.

Ticket Agents — Please Note

ILLINOIS CENTRAL RAILROAD — CENTRAL MISSISSIPPI VALLEY ROUTE

Where ILLINOIS CENTRAL RAILROAD COMPANY has through car service both Coach and Sleeper and Free Chair Cars.

Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California.

NEW ORLEANS ROUTE TO THE PACIFIC COAST.

Special low rates to Canadian Northwest and Yukon-Alaska Exhibition at Seattle, all summer, via St. Paul or Omaha.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Pass'g'r Agent.
305 Ellicott Square, Buffalo, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

WIRE ROPE

"ACME" BRAND

GREENING

Highest grade of hoisting rope made. Extra tensile strength for heavy work.

Use Greening's Rope Grease for Lubrication

THE B. GREENING WIRE CO., Limited

HAMILTON, ONT. MONTREAL, QUE.

E. L. DREWRY

REDWOOD BREWERY

WINNIPEG, MANITOBA

MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE, EXTRA STOUT AND REDWOOD LAGER

Also the **GOLDEN KEY BRAND**

AERATED WATERS

RAILWAY SPRINGS

ELLIPTIC

SEMI-ELLIPTIC

AND SPIRAL SPRINGS

OF EVERY DESCRIPTION

MANUFACTURED BY

B. J. Coghlin & Co., 432 St. Paul St., Montreal, Can.

THE **POSITIVE LOCK WASHER**

Is the BEST Nut LOCK for all purposes

We also make plain coils and tail nut locks.

The Positive Lock Washer Co.
Sole Mfrs., Newark, N.J.
F.H. HOPKINS & CO., Agts., Montreal

SHERIFFS

MANUFACTURING CO.

MILWAUKEE, WIS., U.S.A.

ESTABLISHED 1854

Delaware & Hudson

"The Leading Tourists' Line"

Shortest, Quickest and Best Line between

MONTREAL AND NEW YORK

Through Pullmans

Trains leave Montreal 7.00 p.m. daily, 8.01 p.m. daily, 7.16 a.m. daily, and 10.05 a.m. Sunday.

Perfectly equipped trains. Handsome, large steamers on Lake Champlain and Lake George connect with trains for Saratoga Springs, Albany and New York.

A. A. HEARD, G.P.A., Albany, N.Y.

IMPERIAL BANK

OF CANADA

Capital Authorized - - $10,000,000.00
Capital Paid Up - - - 5,000,000.00
Reserve Fund - - - - 5,000,000.00

HEAD OFFICE - - - - TORONTO

AGENTS—London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.

Sterling exchange bought and sold. Letters of credit issued available in any part of the world.

A general Banking business transacted. **Branches throughout the Dominion of Canada.**

SAVINGS DEPARTMENT—Interest allowed on deposits from date of deposit.

Council has decided in favor of the C.P.R. in its appeal against the decision of the Canadian Court, by which the company had to pay damages to the relatives of a number of persons who were drowned as the result of a collision between the company's s.s. Princess Victoria and the s.s. Chehalis in 1906. The judgment of the first Canadian Court in favor of the C.P.R. has been reinstated, with costs.

The C.P.R. has added an electric crane to its equipment at its docks at Vancouver. The crane, which has a capacity of 25 tons, has a beam 16" by 18", and a radius of 78 ft. The mast is 52 ft. high, and 18" by 18", supported by two legs, each 75 ft. by 16" by 16". It is worked by an electric motor, and is also fitted with a hand winch. The boom will project 28 ft. over each side of the wharf, and enable materials to be lifted from cars to the vessel direct.

The Department of Public Works has completed surveys for the proposed improvements in Vancouver harbor. The improvements comprise the widening of the first narrows, the removal of Parthia and Burnaby shoals, the dredging of a mooring basin in Coal harbor and a channel in False Creek about 3 miles long by 300 ft. wide. It is estimated that about 5,000,000 cubic yards of material will have to be moved. G. A. Keefer, Resident Engineer, New Westminster, is in charge of the work.

Capt. H. Glide, an old-time mariner of the Pacific coast, recently celebrated the 56th anniversary of his landing at Victoria. He was one of the first mariners to be identified with that port, and during his career, he performed a feat which will long be remembered in the annals of local seamanship. He shares with Capt. Vancouver, the discoverer of the island, the distinction of having sailed a square-rigged vessel from Victoria, through the Straits of Georgia and round the north end of the island, through the tortuous channels and skirting the numerous islands, without an accident. He was born in 1834 and landed at Victoria in 1853.

The Skeena River Transportation Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $25,000, to purchase the steamboat Craigflower from J. J. Sloan and R. J. McDonell, Port Essington, B.C., together with the goodwill and business carried on by them under the name of the Skeena River Transportation Co.; to own and operate steam and other vessels, and to carry on the general business of ship owners and carriers by land and water. The steamboat Craigflower is a paddle wheel steamer with engine of 2 n.h.p., and she was built at Victoria in 1908. Her dimensions are: length, 65 ft.; breadth, 12.3 ft.; depth, 2.8 ft.; tonnage, 21 gross, 12 register.

A steamboat named Argonaut has recently been built at Dawson, Y.T., with a method of propulsion which is somewhat novel. The paddle wheels are placed aft and work in a horizontal position with a vertical lift. The boat has been designed and built for light draught service on the side streams of the Yukon for carrying prospectors and supplies as far into the interior as possible. The propelling machinery is stated to be a modification of the Whiteworth quick return motion, as used on shapers and other tools in machine shop practice, and the experiment has proved entirely satisfactory and has demonstrated the practicability of the application of the present high speed internal combustion or other high speed engines for the propulsion of light draught, stern propelled river boats. The engine utilized was made locally and is naturally somewhat crude. It is of 25 h.p. On an experimental run, she passed over several bars with but 9" of water, and will carry 5 tons of freight on a 13½" draught.

Grain Clearing House at the Dual Ports.

A meeting of the Dominion Marine Association was held at Toronto, Aug. 19, when the establishment of a grain clearing house was discussed. C. Ruttan, secretary Lake Shippers' Clearing House Association, Winnipeg, was present and outlined the purpose of the association, which is to arrange for the loading of vessels at Fort William and Port Arthur, from one or two elevators, instead of at a greater number as at present, thus obviating the delay which now takes place. Those present endorsed the proposed arrangement, and undertook to bear their proportion of the expense in maintaining such a clearing house.

The expense of maintaining this system will be considerable, as there is to be an accounting staff at Winnipeg, as well as an office at Fort William or Port Arthur, where the loads will be adjusted. The charges which have proved acceptable to the shippers, are.

For a load taken at one house only, 30c. per 1,000 b.
" " " two houses....20c " "
" " " three or more houses.....10c. "

This, it is anticipated, will pay a large proportion of the expense. Under the scheme, shippers at Winnipeg will turn over their railway bills of lading with orders attached, and the clearing house at the shipping port will take them, and all others that may have come in, and rearrange the shipments, with a view to lessening the number of houses at which any vessel will have to call. For example, five shippers may be sending five vessels to five houses each, and the clearing house may be able to so adjust the shipments, that each of the vessels may be able to get her full load at one, two, or at most, three houses. Under the schedule of charges mentioned, the vessel will be under less expense, according as her shipments entail more time and trouble in loading. The matter is now well in hand, and seeing that vessel owners have undertaken a large share of the expense, the scheme should be put on a good working basis very shortly. The Bankers' Association and the owners of the terminal facilities have agreed to the scheme. In carrying out the work, the terminal operators will recognize orders from the clearing house, the shipper having no direct relations with them. An important feature of the scheme is that all shipments will be on this basis, the vessel fee will be collected in cash, and consequently every vessel will be subject to the arrangement, U. S. vessels as well as Canadian. It is understood that the U. S. owners have expressed their concurrence with the arrangements made. The owners of terminal elevators have taken out insurance policies to provide against collapse, and this enables shippers to escape risk of loss in allowing the shuffling of their grain shipments or orders, as other risks are covered.

At the same meeting, it was unanimously resolved to ask that the system of weighing into vessels at these ports under Government supervision be abolished, on the ground that it is not only useless but embarrassing. Hitherto, the Association has asked that the system be extended to the lower ports, and that the Government guarantee the outturns, but this is not considered to be feasible, so it now seeks to have the whole system abolished.

Smithers, reading from a newspaper: "I see that the new ocean liner can steam 26 knots an hour."

His wife: "I suppose they steam the knots so that the poor sailors can untie them more easily."

The Purchasing Agents' Guide

To the Manufacturers of and Dealers in Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph Telephone and Contractors' Supplies, &c.

Aerated Waters
E. L. Drewry ..... Winnipeg.

Air Brakes and Fittings
Canadian Westinghouse Co. Hamilton, Ont.

Ales
E. L. Drewry.. .....Winnipeg.

Anchors, Ground
Ground Anchor Co. .....Montreal.

Angle Bars
Hamilton Steel & Iron Co...Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia Steel & Coal Co., Ltd., ...New Glasgow, N.S.

Anti Rail Creepers
The Holden Co., Ltd.....Montreal.

Automobiles
Polson Iron Works, Ltd.....Toronto

Axes
Hamilton Steel & Iron Co..Hamilton, Ont.
James Smart Mfg. Co.....Brockville, Ont.

Axles
James Hutton & Co.....Montreal.
Nova Scotia Steel & Coal Co., Ltd., ...New Glasgow, N.S.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Beacons
International Marine Signal Co....Ottawa.

Bearings, Side
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co...Montreal.
Union Draft Gear Co. .....Chicago, Ill.

Blankets and Bedding
The Hudson Bay Co.....

Boilers
Babcock & Wilcox, Ltd.....Montreal.
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Boilers, Portable
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co, Ltd..Amherst, N.S.

REAMERS ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited
MONTREAL, CANADA

BARE AND INSULATED ELECTRIC WIRE
Electric Light Line Wire. Incandescent and Flexible Cords,
RAILWAY FEEDER AND TROLLEY WIRE
Americanite, Magnet, Office and Annunciator Wires,
Cables for Aerial and Underground Use.

NICKEL
THE CANADIAN COPPER COMPANY
NICKEL FOR NICKEL STEEL
THE ORFORD COPPER COMPANY
WRITE US FOR PARTICULARS AND PRICES
General Offices: 43 Exchange Place, NEW YORK

HEADLIGHTS-WE MAKE THEM
For OIL, for Pyle ELECTRIC equipment or SPECIAL to Blue Print, and carry a large stock of standard headlight reflectors, burners, burner parts, felt wicks and chimneys.
The HIRAM L. PIPER CO., Limited
17 to 23 Normand Street, Montreal.
Get our No. 30 Catalogue. (Between St. Peter and McGill Sts.)

MALLEABLE IRON CASTINGS
of Superior Quality
GALT MALLEABLE IRON CO., LIMITED, - GALT, ONT.

THE CANADIAN BRONZE COMPANY, LTD.
Brass Wearing Parts for Locomotives.
Journal Bearings for Freight and Passenger Service.
BABBITTS. Miscellaneous Brass Castings for Railroads.
Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

DUNER CAR CLOSET
ENAMELED IRON WET OR DRY CLOSET
DUNER CO. 116 SO. CLINTON ST., CHICAGO

LEHIGH VALLEY RAILROAD
BEST LINE FROM TORONTO AND ONTARIO POINTS
— TO —
NEW YORK, PHILADELPHIA AND SOUTH
For particulars, write to or call on
MR. ROBERT S. LEWIS
Canadian Passenger Agent
54 King St. East - - - - Toronto

THE IMPERIAL GUARANTEE AND ACCIDENT INSURANCE CO.
46 King St. West, TORONTO
Capital Subscribed $1,000,000
ACCIDENT AND SICKNESS Insurance protects your income in case of disablement.
GUARANTEE BONDS protect you against loss from dishonest employees.
Write us if you need a Bond or want an Accident Policy.

RAILWAY AND STEAMSHIP PRINTING

WOOD PATTERNS
—ALL KINDS—
High Grade. Right Prices. Prompt Delivery.
THE HAMILTON PATTERN WORKS
HAMILTON, ONT.

Standard Paint & Varnish Co. Limited
Makers of High Grade Varnishes, Japans, Paints, Colors & Enamels.
Windsor Ont.

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS MACHINERY, address
THE ROBERTSON MACHINERY CO.
WELLAND, ONT. Limited

The Parry Sound Lumber Co.
Limited
1315 Traders Bank Bldg., Toronto.
Manufacturers of
PINE, HEMLOCK, LUMBER, BRIDGE TIMBER, RAILWAY TIES, TELEGRAPH POLES, LATH, SHINGLES, BOX SHOOKS.

Boilers, Stationary and Marine
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd..Amherst, N. S.

Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

Boilers, Steam
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.

Boilers, Water Tube
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.

Bolsters
Dominion Car and Foundry Co..Montreal.

Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.

Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
Toronto Bolt and Forging Co.....Toronto.

Books
Engineering News Book Dept...New York.
Renouf Publishing Co.....Montreal.

Borers, Car Wheel
John Bertram & Sons Co.....Dundas, Ont.

Braces, Cross Arm
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Brake Beams
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co..Montreal.

Brake Shoes
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.
The Holden Co., Ltd.....Montreal.

Brake Shoes, Electric Ry.
Am. Brake Shoe & F'dry Co..Mahwah, N.J.

Brake Shoes, Locomotive Driver
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.

Brass and Copper Cloth
The B. Greening Wire Co..Hamilton, Ont.

Bridge Numbers
Acton Burrows, Limited .....Toronto.

Bridges
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Buckets, Coal, Ore and Concrete
Brown Hoisting Machinery Co. Cleveland.

Buildings, Steel
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Bumping Posts
The Holden Co., Ltd..... .....Montreal.
McCord & Co. .....Chicago, Ill.

Buoy Lighting
Safety Car Heat. & Light. Co..New York.

Buoys
International Marine Signal Co....Ottawa.

Cables Electric and Feeder
E. F. Phillips Electrical Works....Montreal.
The Wire and Cable Co.....Montreal.

Car Loaders, Box
Mussens, Ltd. .....Montreal.

Car Movers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Cars
American Car & Equipment Co....Chicago.
R. M. Burns & Co.....Chicago, Ill.
Canada Car Co., Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Dominion Car and Foundry Co.....Montreal.
J. T. Gardner.....Chicago, Ill.
Hart-Otis Car Co., Ltd.....Montreal.
Hicks Locomotive and Car Works. Chicago.
Ottawa Car Co. Ltd.....Ottawa.
Preston Car and Coach Co., Ltd..Preston.
Rhodes, Curry & Co.....Amherst, N.S.
Silliker Car Co., Ltd.....Halifax, N.S.

Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
Standard Steel Works Co..Philadelphia, Pa.

Castings, Brass
Canadian Bronze Co.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.
Tallman Brass & Metal Co., Ltd.Hamilton.

Castings, Car
American Brake Shoe & Fdry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.

Castings, Iron
Canada Car Co., Ltd.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Castings, Iron and Steel
American Brake Shoe & F'dry Co.Mahwah.

Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.

Castings, Manganese Steel
Montreal Steel Works, Ltd.....Montreal.

Castings, Steel
Canada Iron Corporation, Ltd....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Chains
B. J. Coghlin & Co.....Montreal.

Closets, Car
Duner Co.....Chicago, Ill.

Coal
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.

Compressors, Air
Canadian Rand Co.....Montreal.

Concrete Mixers and Rock Crushers
F. H. Hopkins & Co. .....Montreal.
Mussens Limited.....Montreal
Toronto Pressed Steel Co..... .Toronto

Contractors' Supplies
F. H. Hopkins & Co.....Montreal
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Conveyors, Coal and Ash
Babcock & Wilcox, Ltd.....Montreal.

Copying Presses
James Smart Mfg. Co.....Brockville, Ont.

Couplers, Car and Locomotive
Dominion Car and Foundry Co..Montreal.
McConway & Torley Co....Pittsburgh, Pa.
National Malleable Castings Co..Cleveland
Taylor & Arnold.....Montreal.

Cranes
Brown Hoisting Machinery Co..Cleveland.

Cranes, Electric
Babcock & Wilcox.....Montreal.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.

Cranes, Locomotive
American Hoist and Derrick Co..St. Paul.

Cranes, Wrecking
Mussens Limited.....Montreal.

Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Curtains and Fixtures, Car
The Holden Co., Ltd.....Montreal.

Cuts
Acton Burrows, Limited.....Toronto.

Derailing Devices
Hayes Track Appliance Co..Geneva, N.Y.

Derricks
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Mussens Limited.....Montreal.

Dies
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Ditchers
M. Beatty & Sons.....Welland, Ont.

Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.

Doors, Steel Rolling
Mussens Limited.....Montreal.

Door Signs
Acton Burrows Limited.....Toronto.

Draft Gear
Farlow Draft Gear Co.....Baltimore, Md.
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.
Union Draft Gear Co. .....Chicago, Ill.
Waugh Draft Gear Co.....Chicago, Ill.

Draughtsmen's Supplies
John A. Hart & Co.....Winnipeg.

Dredges
M. Beatty & Sons.....Welland, Ont.

Drills, Air
Canadian Rand Co.....Montreal.

Dry Goods
The Hudson's Bay Co.....

Dump Cars (Contractors')
Canadian Road Machine Co. Ltd.Hamilton.
F. H. Hopkins & Co.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Dump Cars, Hand
Meaford Wheelbarrow Co., Ltd..Meaford.

Dust Guards
Harrison Dust Guard Co.....Toledo, O.

Dynamos
Northern Electric & Mfg. Co., Ld.Montreal.

Dynamo and Electric Castings
American Brake Shoe & F'dry Co.Mahwah.

Economizers
Babcock & Wilcox (Ltd.).....Montreal.

Electric Car Route Signs
Acton Burrows Limited.....Toronto.

Electric Apparatus
Northern Electric & Mfg. Co., Ld.Montreal.

Elevators, Grain
John S. Metcalfe Co.....Chicago, Ill.

Enameled Iron Signs
Acton Burrows Limited.....Toronto.

Engines, Automatic
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Corliss
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Gasoline
Ontario Wind Engine & Pump Co.Toronto.

Engines, Hoisting
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Robertson Mfg. Co. .....Welland, Ont.

Engines, Stationary and Marine
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Steam Steering, for Tugs
Sheriffs Mfg. Co.....Milwaukee, Wis.

Explosives
Standard Explosives Limited....Montreal.

Express Office Signs
Acton Burrows Limited.....Toronto.

Fencing
McGregor Banwell Fence Co..Walkerville.
Owen Sound Wire Fence Co..Owen Sound.

Fire Brick
Mussens Limited.....Montreal.

Flags
The Hudson's Bay Co.....

Flour
The Hudson's Bay Co.....

Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co..Cleveland.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton.
Nova Scotia Steel & Coal Co., Ltd..
.....New Glasgow, N.S.
Standard Steel Works Co.Philadelphia, Pa.

Foundry Appliances
Goldschmidt Thermit Co.....Toronto.

Frogs
Canadian Ramapo Iron Wks.Niagara Falls.

Furnaces, Corrugated
Continental Iron Works....Brooklyn, N.Y.

Fuse Batteries
Standard Explosives Limited....Montreal.

Fuse Detonators
Standard Explosives Limited....Montreal.

Fuses, Electric
Standard Explosives Limited....Montreal.

Gaskets
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Gates
McGregor Banwell Fence Co..Walkerville.
Owen Sound Wire Fence Co..Owen Sound.

Gates, Crossing
General Railway Signal Co. Rochester, N.Y.
The N. L. Piper Ry. Supply Co..Toronto.

Gauges, Locomotive
Taylor & Arnold.....Montreal.

Generators, Electric
Northern Electric & Mfg. Co., Ld.Montreal.

Grates, Shaking
Babcock & Wilcox, Ltd.....Montreal.

Groceries
The Hudson's Bay Company.....

Guides and Outfitters
Otto Bros. ..... Field, B.C.

Hammers, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.
James Smart Mfg. Co....Brockville, Ont.

Handcars
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....".Montreal.
Mussens Limited.....'.....Montreal.
Rice Lewis & Son.....'.Toronto.
Toronto Pressed Steel Co.....Toronto.

Hardware
The Hudson's Bay Co.....
Rice Lewis & Son..'.....Toronto.

Headlights
The N. L. Piper Ry. Supply Co..Toronto.
Pyle National Elec. Headlight Co..Chicago.

Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.

Heaters, Feedwater
Robb Engineering Co., Ltd..Amherst, N.S.

Heating, Car
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car Heating & L'ting Co.New York.

Hoists, Electric
American Hoist & Derrick Co....St. Paul.

Hoists (Pneumatic)
Taylor & Arnold.....Montreal.

Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co.Cuyahoga Falls.

Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.

Hydrants
Kerr Engine Co.....Walkerville, Ont.

Illustrations
Acton Burrows Limited.....Toronto.

Inspections
R. W. Hunt & Co. .....Montreal

Insurance, Accident
Canadian Ry. Accident Ins. Co....Ottawa.
Imperial Guarantee & Ac. Ins. Co.Toronto.

Insurance, Boiler
Canadian Casualty & Boil. Ins. Co.Toronto.

Interlocking Plant and Signals
General Railway Signal Co. Rochester, N.Y.
Montreal Steel Works.....Montreal.
Saxby and Farmer, Ltd.....Montreal.

Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton.

Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.

Iron Signs
Acton Burrows Limited.....Toronto.

Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

Jacks
H and E Lifting Jack Co..Waterville, Que.
F. H. Hopkins & Co, Ltd.....Montreal.
Montreal Steel Works, Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.
A. R. Williams Mchy. Co., Ltd....Toronto.

Japans
The Dougal Varnish Co. Ltd....Montreal.

Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.

Journal Boxes
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Journal Jacks
A. R. Williams Mchy. Co., Ltd....Toronto.

Lager Beer, &c.
E. L. Drewry.....Winnipeg.

Lagging and Covering, Locomotive
Taylor & Arnold.....Montreal.

Lamps, Arc
Northern Electric & Mfg. Co, Ltd.Montreal.

Lamps, Incandescent
Canadian Westinghouse Co..Hamilton, Ont.

Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.

Lamps, Switch
The N. L. Piper Ry. Supply Co..Toronto.

Lathes
John Bertram & Sons Co.....Dundas, Ont.

Laths
J. Harrison & Sons Co..Owen Sound, Ont.

Launches
Polson Iron Works, Ltd.....Toronto.

Lighting, Car
Canadian Gold Car H'g & L'g Co.Montreal
Safety Car H't'g & L't'g Co..New York.

Lights, Contractors' and Wrecking
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Locomotives (Compressed Air)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co...Kingston, Ont.
Montreal Locomotive W'ks (Ltd.).Montreal.

Locomotives (Electric)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Locomotive W'ks (Ltd.).Montreal.

Locomotives (Logging)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.

Locomotives (Rack)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.
Montreal Locomotive Works.....Montreal.

Locomotives (Steam)
American Car & Equip. Co....Chicago, Ill.
Burnham, Williams & Co. Philadelphia, Pa.
R. M. Burns & Co.....Chicago, Ill.
Canadian Locomotive Co....Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hicks Locomotive & Car Works..Chicago.
Montreal Locomotive W'ks.....Montreal.
Vulcan Iron Works.....Wilkesbarre, Pa.

Lorries, Trackla ying
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.

Lubricators
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.

Lumber
Parry Sound Lumber Co.....Toronto.
J. Harrison & Sons Co., Owen Sound, Ont.

Machinery, Cement
Jas. W. Pyke & Co.....Montreal.

Machinery and Plant, Contractors'
American Hoist & Derrick Co....St. Paul.
M. Beatty & Sons.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
J. T. Gardner.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Willis Shaw Mchy. Co.....Chicago, Ill.
Toronto Pressed Steel Co.....Toronto.

Machinery, Hoisting
American Hoist & Derrick Co....St. Paul.
Brown Hoisting Machinery Co..Cleveland.

Machinery, Marine
Sheriffs Mfg. Co.....Milwaukee, Wis.

Machinery, Tracklaying
F. H. Hopkins & Co.....Montreal.

Machines, Boring and Turning
John Bertram & Sons Co.....Dundas, Ont.

Machines, Drilling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Milling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Planing and Shaping
John Bertram & Sons Co.....Dundas, Ont.

Machines, Radial Drilling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Shaping
John Bertram & Sons Co.....Dundas, Ont.

Machines, Slotting
John Bertram & Sons Co.....Dundas, Ont.

Machine Tools
John Bertram & Sons Co.....Dundas, Ont.

Manhole Frames and Covers
American Brake Shoe & F'dry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.

Marine Repairs
Goldschmidt Thermit Co.....Toronto.

Marine Supplies
Rice Lewis & Son.....Toronto.

Metal, Anti-friction
W. Abbott.....Montreal.

Metal, Babbit
Tallman Brass & Metal Mfg. Co. Hamilton.

Metals
Goldschmidt Thermit Co.....Toronto.

Metal Work, Structural
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Montreal Locomotive W'ks (Ltd.).Montreal.
Jas. W. Pyke & Co.....Montreal.

Milepost Numbers
Acton Burrows Limited.....Toronto.

Motors
McCord & Co.....Chicago, Ill.

Motors, Electric
Northern Electric & Mfg. Co. Ld.Montreal.

Motors, Turntable
Taylor & Arnold.....Montreal.

Nickel
The Orford Copper Co.....New York.

Nickel for Nickel Steel
The Orford Copper Co.....New York.

Numbers
Acton Burrows Limited.....Toronto.

Nut Locks
Positive Lock Washer Co....Newark, N.J.

Nuts, Clevis
Cleveland City Forge & Iron Co..Cleveland.

Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Oakum
The Hudson's Bay Company.....

Office Fittings
Can. Office & Sch'l Furniture Co..Preston.

Office Signs
Acton Burrows Limited.....Toronto.

Oils
Galena Signal Oil Co..Franklin & Toronto.

Packing
The N. L. Piper Ry. Supply Co..Toronto.

Paints
Standard Paint & Varnish Co., Ltd. .....Windsor, Ont.

Patterns
Hamilton Pattern Works....Hamilton, Ont.

Pile Drivers, Railway
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Pinch Bars
The N. L. Piper Ry. Supply Co..Toronto.

Pipe, Culvert (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Gas (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Sewer (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe Stocks
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Pipe, Water (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Planers
John Bertram & Sons Co.....Dundas, Ont.

Platforms, Steel
Standard Coupler Co.....New York City.

Ploughs, Contractors'
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Ploughs, Grading
Meaford Wheelbarrow Co., Ltd...Meaford.

Poles
J. Harrison & Sons Co., Owen Sound, Ont.

Porter
E. L. Drewry.....Winnipeg.

Posts
J. Harrison & Sons Co., Owen Sound, Ont.

Powder, Blasting
Standard Explosives Limited.....Montreal.

Printing
Southam Press.....Toronto.

Propeller Wheels
Sheriffs Mfg. Co.....Milwaukee, Wis.

Pumps
S. F. Bowser & Co., Limited.....Toronto.
Ontario Wind Engine & Pump Co..Toronto.
James Smart Mfg. Co.....Brockville, Ont.

Pumps (Centrifugal)
M. Beatty & Sons.....Welland, Ont.

Rail Benders, Roller
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

BABCOCK & WILCOX
LIMITED

Patent Water-Tube Boilers
(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes = MONTREAL
BRANCH—TRADERS BANK BUILDING, TORO[illegible]

The Purchasing Agents' Guide—Continued.

Rail Drilling Machines
A. B. Jardine & Co.....Hespeler, Ont.

Rails (new)
Dominion Iron & Steel Co....Sydney, N.S.
Drummond, McCall & Co. .....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co...'.....Montreal.

Rails (for relaying)
F. H. Hopkins & Co...'.....Montreal.
J. J. Gartshore.....Toronto.
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.

Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada....Montreal.
Williams Boltless Rail J'nt Mg. Co.Chicago.

Railway Supplies
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Rice Lewis & Son.....Toronto.

Ranges
Stearnes Steel Range Co.....Chicago, Ill.

Reamers
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Replacers, Car and Locomotive
Alexander Car Replacer Mfg. Co..Scranton.
The Holden Co., Ltd.....Montreal.
F. H. Hopkins & Co.....Montreal.

Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Roofing, Car
Drake & Wiers Co.....Cleveland, O.

Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Company.....

Ropes, Coal Haulage
The B. Greening Wire Co..Hamilton, Ont.

Ropes, Derrick
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.

Ropes, Switch
The B. Greening Wire Co..Hamilton, Ont.
F. H. Hopkins & Co.....Montreal.

Scoria Blocks
W. H. Knowlton.....Toronto.

Scows, Dump and Deck
M. Beatty & Sons.....Welland, Ont.

Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Screw Plates
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Screws, Coach and Lag
Montreal Rolling Mills Co.....Montreal
Toronto Bolt and Forging Co.....Toronto.

Seats, Station
James Smart Mfg. Co....Brockville, Ont.

Semaphore Arms
Acton Burrows Limited.....Toronto.

Semaphores
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer Ltd.....Montreal.

Shafting, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Shingles
J. Harrison & Sons Co..Owen Sound, Ont.

Ships
Polson Iron Works.....Toronto.

Shops
The Hudson's Bay Co.....

Signal House Numbers
Acton Burrows Limited.....Toronto.

Signals
General Railway Signal Co. Rochester, N.Y.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer, Limited.....Montreal.

Signals, Fog
International Marine Signal Co....Ottawa.

Signs
Acton Burrows Limited.....Toronto.

Skylights
A. Edgcumbe Rendle.....Montreal.

Slack Adjusters
Chicago Railway Equipment Co..Chicago.

Sledges
James Smart Mfg. Co.....Brockville, Ont.

Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.
Rhodes, Curry & Co.....Amherst, N.S.

Solder
Tallman Brass & Metal Mfg. Co. Hamilton.

Spikes, Railway, Ship or Pressed
Hamilton Steel & Iron Co., Ltd.Hamilton.
F. H. Hopkins & Co.....Montreal.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
Toronto Bolt and Forging Co.....Toronto.

Spreader Cars
F. H. Hopkins & Co.....[illegible]

Spring Dampeners
McCord & Co.....[illegible] Ill.

Springs
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Station Name Signs
Acton Burrows Limited.....Toronto.

Staybolt Bars, Charcoal Iron
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolt Iron
Taylor & Arnold.....Montreal.

Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolts, Flexible
Flannery Bolt Co.....Pittsburg, Pa.

Staybolts, Locomotive
Falls Hollow Staybolt Co..Cuyahoga Falls.
Flannery Bolt Co.....Pittsburg, Pa.

Staybolt Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Steam Couplers
Safety Car H't'g & L't'g Co....New York.

Steam Hammers
John Bertram & Sons Co.....Dundas, Ont.

Steam Shovels
M. Beatty & Son.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Steamships
Polson Iron Works.....Toronto.

Steamship Signs
Acton Burrows Limited.....Toronto.

Steel
W. Abbott...'.....Montreal.
Hermann Boker & Sons.....Sheffield, Eng.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
Wm. Jessop & Sons.....Sheffield, Eng.

Steel, Fire Box
Taylor & Arnold.....Montreal.

Steel for Axes
Montreal Steel Works.....Montreal.

Steel for Saws
Montreal Steel Works.....Montreal.

Steel for Springs
James Hutton & Co.....Montreal.

Steel Shafting
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.

Steel, Speedicut High Speed
Montreal Steel Works.....Montreal.

Steel, Nickel, for Nickel
The Orford Copper Co.....New York.

Steel Plates
Jas. W. Pyke & Co.....Montreal.

Steel, Tool
W. Jessop & Sons.....Sheffield, Eng.
Montreal Steel Works.....Montreal.

Stokers, Mechanical
Babcock & Wilcox (Ltd.).....Montreal.

Stoves
James Smart Mfg. Co.....Brockville, Ont.

Superheaters
Babcock & Wilcox (Ltd.).....Montreal.

Switches
Canadian Ramapo Iron W's Ld.Niagara Fs.
Hayes Track Appliance Co....Geneva, N.Y.
Montreal Steel Works.....Montreal.

Switch Boxes
General Railway Signal Co. Rochester, N.Y.

Switch Stands
Canadian Ramapo Iron W's, Ld.Niagara Fs
Hayes Track Appliance Co....Geneva, N.Y.

Switch Targets
Acton Burrows Limited.....Toronto.

Tanks and Tank Fixtures
Ontario Wind Engine & Pump Co..Toronto.

Tanks, Oil
S. F. Bowser & Co., Limited.....Toronto.

Tapes, Measuring
Lufkin Rule Co .....Saginaw, Mich.

Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Telegraph and Telephone Apparatus
Northern Elec. & Mfg. Co., Ltd.Montreal.

Telegraph and Telephone Office Signs
Acton Burrows Limited.....Toronto.

Thermit
Goldschmidt Thermit Co.....Toronto

Ticket Cases
Can. Office & School Furniture Co.Preston.

Tie Plates
B. J. Coghlin & Co.....Montreal.
Hamilton Steel & Iron Co..Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
J. Harrison & Sons Co..Owen Sound, Ont.

Tie Plugs
J. Harrison & Sons Co..Owen Sound, Ont.

Ties
J. Harrison & Sons Co..Owen Sound, Ont.
Parry Sound Lumber Co.....Toronto.

Tires, Steel
James Hutton & Co.....Montreal
Jas. W. Pyke & Co.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Tools and Supplies
James Smart Mfg. Co.....Brockville, Ont.
A. B. Jardine & Co.....Hespeler, Ont.

Tools, Track
John Bertram & Sons Co.....Dundas, Ont.
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Mussens Limited.....Montreal.

Tools, Pneumatic
The Holden Co., Ltd.....Montreal.

Tools, Cast Steel Track
American Brake Shoe & F'dry Co.Mahwah.

Track Equipment
Canadian Ramapo Iron W's Ld.Niagara Fs.

Tramway Equipment
J. J. Gartshore.....Toronto.

Trolley Wheels
Tallman Brass & Metal Co., Ltd.Hamilton.

Trucks
James Smart Mfg. Co.....Brockville, Ont.

Trucks (Electric Car)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Steel Works.....Montreal.

Trucks (Railroad and Warehouse)
Toronto Pressed Steel Co.....Toronto.

Trusses, Roof
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Tubes, Boiler
Jas. W. Pyke & Co.....Montreal.

Turnbuckles
Cleveland City Forge & Iron Co.Cleveland.
Montreal Steel Works.....Montreal.

Turntables
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Typewriters
United Typewriter Co.....Toronto.

Valves, Brass Gate
Kerr Engine Co.....Walkerville, Ont.

Valves, Brass Globe
Kerr Engine Co.....Walkerville, Ont.

Valves, Iron Gate
Kerr Engine Co.....Walkerville, Ont

Valves, Locomotive Pop
Taylor & Arnold.....Montreal

Varnishes
The Dougal Varnish Co., Ltd....Montreal.
Standard Paint & Varnish Co., Ltd. ....
..... Windsor, Ont.

Vessels
Polson Iron Works.....Toronto.

Washers
Montreal Rolling Mills Co.....Montreal.

Waste
B. J. Coghlin & Co.....Montreal.
N.L. Piper Railway Supply Co....Toronto.

Water Softeners
Babcock & Wilcox, Ltd.....Montreal.

Welding
Goldschmidt Thermit Co.....Toronto.

Wheelbarrows
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Toronto Pressed Steel Co.....Toronto.

Wheels, Car
Canada Car Co., Limited.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.
Standard Steel Works Co..Philadelphia, Pa.

Wheels, Locomotive
Canada Iron Corporation, Ltd....Montreal.

Wheels, Rolled, solid forged
Standard Steel Works Co..Philadelphia, Pa.

Wheels, Steel tired
Standard Steel Works Co..Philadelphia, Pa.

Windmills
Ontario Wind Engine & Pump Co..Toronto.

Windows, Fireproof
A. Edgcumbe Rendle.....Montreal.

Wire and Wire Rope
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.
Mussens Limited.....Montreal.
The Wire and Cable Co.....Montreal.

Wire Cloth
The B. Greening Wire Co..Hamilton, Ont.

Wire, Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Electric
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Insulated Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire Rope Clips
American Hoist & Derrick Co.....St. Paul.

Wire, Telegraph and Telephone
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Transmission and Trolley
The Wire and Cable Co.....Montreal.

Wrenches, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.

Yachts
Polson Iron Works, Ltd.....Toronto.

DOMINION CAR & FOUNDRY CO.
LIMITED

FREIGHT CARS

(ALL-STEEL AND COMPOSITE)

CAR TRUCKS **STEEL UNDERFRAMES**

FORGINGS OF ALL KINDS

SIMPLEX

Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works---MONTREAL WEST

P. O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.

The Railway and Marine WORLD

With which are incorporated The Western World and
The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 222.
New Series, No. 140.

TORONTO, CANADA, OCTOBER, 1909.

For Subscription Rates, See Page 749.

WIRES AND CABLES

FOR TELEPHONE, TELEGRAPH, ELECTRIC RAILWAY AND POWER PURPOSES

THE WIRE AND CABLE CO., MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL.

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

LUFKIN MEASURING TAPES
MADE IN CANADA AND THE BEST IN THE WORLD
SEND FOR CATALOG.
THE LUFKIN RULE CO. OF CANADA, LTD.
WINDSOR, ONT.

THE HOLLENDEN
CLEVELAND
EUROPEAN PLAN
600 Rooms $1.50 to $5.00

ENAMELLED IRON SIGNS
For Steam and Electric Railways, Steamship, Express, Telegraph, Telephone and General Advertising Purposes. For prices, etc., address
ACTON BURROWS, LIMITED - - 157 BAY ST., TORONTO

The Canadian Casualty and Boiler Insurance Company
Head Office - TORONTO
ACCIDENT, SICKNESS AND BOILER CONTRACTS
Full particulars on application

THE WAUGH DRAFT GEAR
FRICTION SPRING CUSHION
200,000 lbs.—600,000 lbs. Capacity
MADE IN CANADA
Send for Catalog and Particulars
Waugh Draft Gear Co., Chicago, Ill.

STEARNES STEEL RANGE COMPANY
Our specialties are Dining, Private and Cafe Car Ranges and General Cooking Apparatus.
Fifth Ave. and Lake St., Chicago, Ill.

FOR DRAUGHTING SUPPLIES AND INSTRUMENTS
JOHN A. HART COMPANY
WINNIPEG

THE OTTAWA CAR CO.
BUILDERS OF Limited
Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.
Office and Works: Slater St., OTTAWA

Additional safety and economy in
TRACK MAINTENANCE
has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen years' service, having a record of over 50,000 miles in use—the extent of which is evidence of their excellence.
THE RAIL JOINT CO. OF CANADA
See Page 726.

MUSSENS LIMITED
Railway, Mining and Contractors' Supplies
See Advt. Page 710.

SIMPLICITY, EFFICIENCY AND CONVENIENCE OF OPERATION DISTINGUISH THE
BOOTH WATER SOFTENER
L. M. BOOTH COMPANY
Fisher Bldg. - - Chicago

TALLMAN
Brass and Metal Co.
Hamilton
Canada

BLACK LEAD CRUCIBLES
E. B. SEIDEL
PHILADELPHIA, PA.
Represented by WM. ABBOTT
334 St. James St., MONTREAL

The Dougall Varnish Co., Ltd.
Successors to McCASKILL, DOUGALL & COMPANY
Railway Varnishes, Japans and Enamels
MONTREAL.
MANUFACTURERS
Eight Medals Awarded.

WESTINGHOUSE
"AMM" Automatic Air Brakes

When buying new cars

insist upon their being equipped with Westinghouse "AMM" Automatic Brakes. A good car with an inferior brake is a poor investment. Safe, efficient operation demands a brake of absolute reliability. Such indispensable features as quick recharge, graduated release, quick service and high pressure in emergency are found only in Westinghouse "AMM" Automatic Air Brakes.

Described fully in Instruction Pamphlet T-5031

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO
439 Pender Street
VANCOUVER

For particulars address nearest office
HAMILTON
922-923 Union Bank Bldg.
WINNIPEG

232 St. James St.,
MONTREAL
158 Granville St.
HALIFAX

MODERN MACHINE SHOPS

Induction Motor

Use electric drive and get rid of the nuisance of innumerable belts and countershafts. INDUCTION MOTORS are the best type of machine for general power distribution on alternating current circuits. They start under full load, and run at approximately constant speed regardless of load and no racing can occur if the load is suddenly thrown off.

ALLIS-CHALMERS-BULLOCK, LIMITED

Works, MONTREAL

Sales Offices, - MONTREAL, TORONTO, WINNIPEG, VANCOUVER

See Purchasing Agents' Guide on page 785 :: :: :: ::

See Alphabetical Index to Advertisements on page 749

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 222.
New Series, No. 140.

TORONTO, CANADA, OCTOBER, 1909.

For Subscription Rates, See page 749.

Reduction of the Kicking Horse Pass Grade on the C.P.R.

By J. E. Schwitzer, Assistant Chief Engineer C.P.R. Western Lines.

Two great engineering triumphs have been achieved this year by the C.P.R. Co., in the reduction of the steep grade in the Rocky Mountains, and the construction of a huge viaduct on its Crow's Nest Pass branch. Both are works of considerable magnitude, and both have been successfully completed in a remarkably short time. Although only separated by less than 200 miles as the crow flies, these engineering feats are essentially different in every aspect, even in their surroundings and conditions, the one being located in mountain recesses, and the other on the broad plains of a ranching and grain-growing region.

The original C.P.R. line between Field and Hector, was constructed for about 4.1 miles with 4.5% grade, which was the heaviest grade on the main line of the railway; this, however, answered all purposes until the increasing traffic during the past few years necessitated the consideration of a grade revision at this point, more especially owing to the large amount of passenger traffic and the danger of operating this 4.5% grade, although on this gradient there were three safety-switches, one at mile 10.2, one at mile 11, and the other at mile 12.3. Before passing any of these switches going west on the down-grade, all trains had to come to a stop, when a man threw the switch for the main line, allowing trains to proceed. Under an agreement with the Government, this gradient had to be reduced.

Special surveys were made in 1902 and 1905 of alternative routes. The different propositions finally resolved themselves into the consideration of three lines, as shown on the plan, fig. 21, page 711. The line which is marked A required the abandoning of Field and moving the terminal at this point, besides being very expensive work, running into a series of slides. From the appearance of the ground, the Yoko Valley, or the north branch of the Kicking Horse River, appears to lend itself readily to a location in this direction; but on account of the exceedingly steep banks, and a large number of snow and rock slides, this line was abandoned. It therefore necessitated the consideration of the lines shown in dot and dash line and dotted line on the plan, fig. 21. The dot and dash line required running parallel to the bed of the river at several points in order to secure the gradient; this would require the railway and the river to be carried through the same cuts, and on account of the danger of ice blocking the river, besides being a very expensive project to divert the river, this line was abandoned, and the dotted line adopted as a general location. After having further surveys made, and in order to save length of tunnel, this was changed to the line shown in dot and dash; while this increased the curvature by 102 deg. and lengthened the line by 362 ft., the tunnel was shortened by 1,000 ft. and on account of the cost of the tunnel work it was decided to adopt this line. Before actually starting the work on this line, further investigations were made up the Yoko Valley, and it was decided that it was impracticable to build a line up the valley, as, for a distance of two miles or more, it would be on the face of perpendicular rock slides, ranging from 3,000 ft. to 5,000 ft., besides which there would be several snow-slides to contend with, which would endanger the operation of the line. It was decided by the management to undertake this work in 1907, the contract being let to McDonnel and Gzowski for the construction work.

P192

DUNCAN McDONALD

Manager Montreal Street Railway and President Canadian Street Railway Association.

There was no work of any particular interest outside of the ordinary grading except the tunnels. The tunnel known as no. 1 is 3,255 ft. long, on a reverse curve; tunnel no. 2, 2,921 ft. long, being partly on a 10 deg. curve radius 573.7 and partly on a tangent. Each of these curves have 300 ft. of spiral at each end. The grade is 2.2%, compensated at 0.04 per degree of curvature throughout, except in the tunnel, where 0.06 is used, and on the tangents in the tunnels an allowance of 0.02 was made for slippery rails.

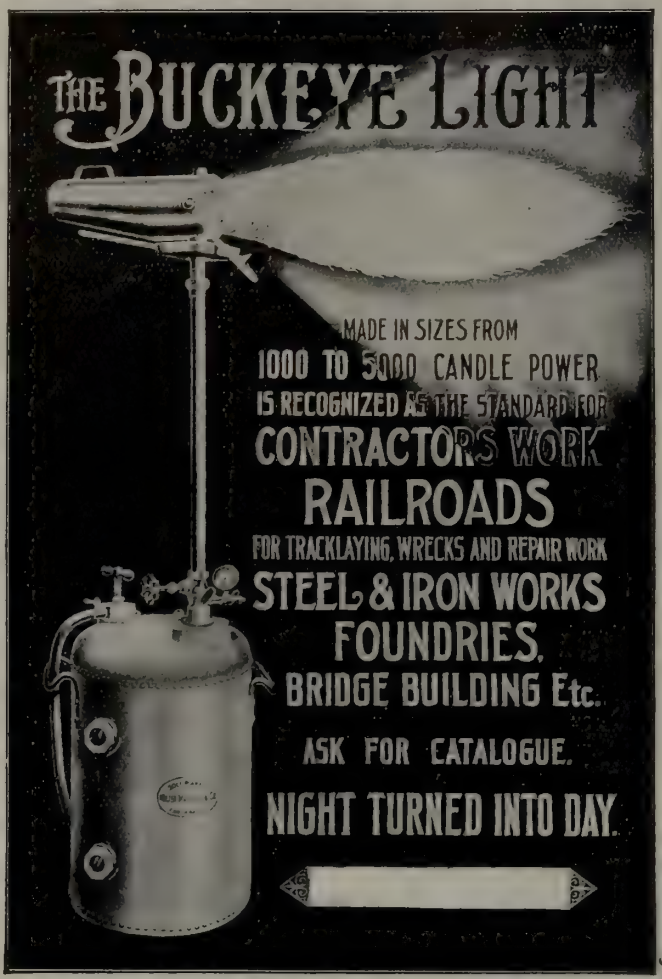
As already stated, the maximum grade on the original line was 4½% for a distance of 3.71 miles, and the balance of 0.2 mile varies from 3.5 to 4%. On the old line it required four engines to handle a train of 700 tons over this grade, while it is estimated that on the new line with two engines of the same class the company will be able to haul 982 tons. The engines used in operating over the old grade are what are known as 180% engines, having a total tractive force of 46,900 lbs., the weight on the drivers being 173,700 lbs., the total weight of the engine and tender loaded being 154 tons.

The amount saved on account of reducing this grade at the time the estimate was prepared was not in itself sufficient to warrant the expenditure; but, taking into account the question of handling passenger traffic so much more safely, as well as allowing longer trains to be operated, besides doing away with the terminal at Laggan, the terminal of the Western division being moved to Field, it was decided to go on with the work.

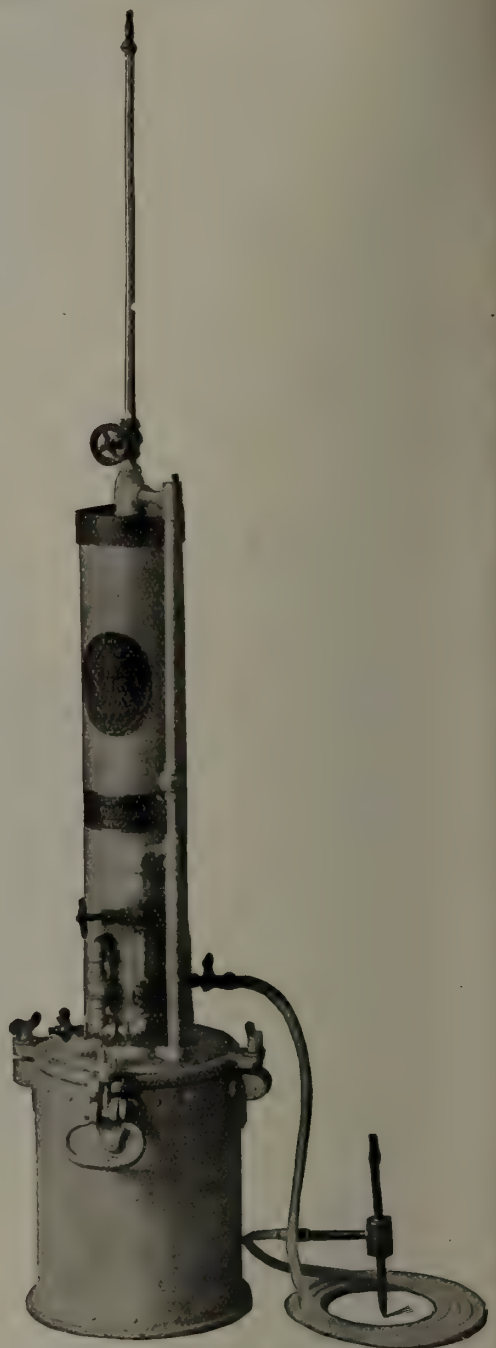
The work was started on this grade revision in September, 1907, and it was finished in August, 1909. The work on the tunnels was started from both ends, the contractor at first using an old-style Jumbo, but steam-shovels were later substituted in these tunnels, and the work progressed a little quicker. No great difficulty was experienced in the tunnel work, as it is through medium hard limestone, with a dip of about 20 deg. A large quantity of timber was required in both the large tunnels on account of striking slides in the rock, and a little trouble was experienced from water, but this was kept under

PORTABLE LIGHTS

Pay well when the days get short. Let us send you our illustrated catalogue.



BUCKEYE KEROSENE LIGHTS.
2,000 to 10,000 Candle Power. We carry in stock the popular sizes.



HOLLAND ACETYLENE LIGHTS.
For smaller work. In stock. Generate their own acetylene gas.

MUSSENS LIMITED

Head Office.
MONTREAL

Branches { ***Toronto, 73 Victoria St.***
Cobalt, Hunter Block
Winnipeg, 259-261 Stanley St.
Vancouver, 614 Hastings St., W.

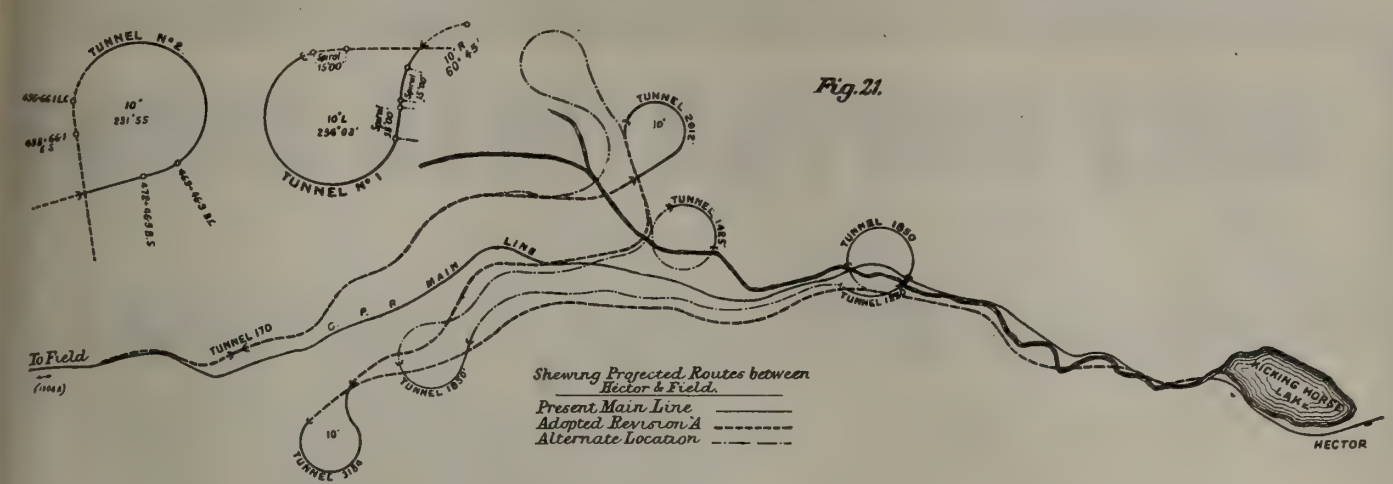


Fig. 21.

control at the upper ends with two small steam-pumps. The two headings in the tunnels met on May 22, the levels checking in tunnel 1 within two-hundredths of a foot, and tunnel 2 within one-hundredth of a foot.

The question of ventilation was investigated, but it was not considered that any would be required in either of these tunnels until the traffic increases to such a degree that it will be necessary to double track outside the present tunnels. On account of the tunnels being on a spiral, and the portals being in such close proximity to each other, there will practically be the same atmospheric conditions at the portals of each of the tunnels, and the tunnel should have a complete change of air in about 2½ minutes.

On account of the nature of the rock, which appears to slack after being exposed to the air for some little time, the greater part of the tunnels were taken out, so that they might be lined with concrete when that may be necessary. This will give a maximum grade of 2.2% through the mountains, of which there will be 12.7 miles east bound and 5.1 miles west bound.

As a comparison between other tunnels it may be stated that the present tunnels have an area of 376.9 sq. ft. of section through the longest tunnel, the actual grade being 1.6%.

Elkhorn tunnel, on Norfolk and Western Rd., is 3,000 ft. long, with an area of 235 sq. ft., and a grade of 2 and 1.4%. It was found necessary to instal a ventilating plant in this tunnel, as the train movements were about 100 per 24 hours.

Cascade tunnel, on Great Northern Ry.—Length, 13,280 ft.; grade, 1.74%. There has been no ventilating plant used at this point, and it is proposed to operate this by electricity, the installation for which was to be completed about the end of June of the present year.

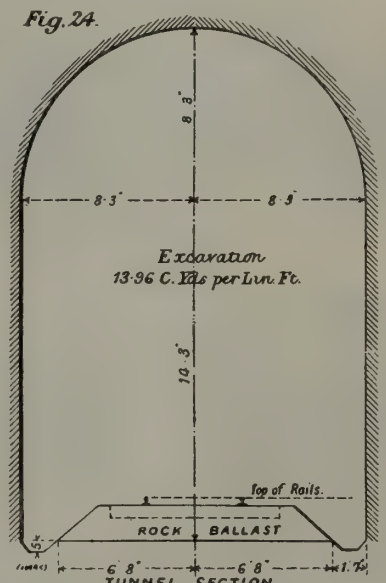
Stampede tunnel, on Northern Pacific Rd.—9,844 ft. long.; area, 333.7 sq. ft.; grade, 0.74% for 5,000 ft., then 0.2% to east portal. Completed 1888. No ventilation.

Boulder tunnel, on Montana Central Ry.—6,139 ft. long; area, 239 sq. ft.; grade, 0.6% ascending from east portal, thence 0.02% descending to west portal.

Busk tunnel, on Colorado Mildanl Ry.—9,400 ft. long; area, 275 sq. ft.; grade, 1.41%. Built 1893. No ventilation.

Hoosac tunnel, on Boston and Maine Rd.—Double track, 4.7 miles long; area, 572 sq. ft.; grade 0.5% from each end to centre, at which point there is a shaft. This was operated without mechanical ventilation till 1899, though in 1890 it was considered to have reached its limit with 65 trains a day without mechanical ventilation.

Fig. 24.



Big Bend tunnel, Chesapeake and Ohio Rd.—6,500 ft. long; area, 250 sq. ft.; grade ascending, 0.4% for 4,300 ft., thence, descending, 0.08% for balance. It was divided in three sections of about 2,000 ft. by two shafts. These were found to be insufficient for proper ventilation when traffic reached 45 trains a day.

St. Clair tunnel, Grand Trunk Ry.—Built 1901; 6,000 ft. long; grades 2%, descending, each way to centre of section of 2,030 ft., which is on 1% grade. Area, 300 sq. ft.. No ventilating plant installed till at least 1904, when train movement became so heavy that it was necessary to install electric locomotives. [These were placed in operation in 1908.—EDITOR.]

Arlberg tunnel, on Arlberg Ry.—Completed 1883; 6.4 miles long; area, 442.6 sq. ft.; double track; grade, 0.2% for 2.6 miles, ascending from east end, thence 1.5% descending to west end. Owing to increased traffic it began to give trouble in 1885, when the company began to use coke. In 1888 the traffic increased to 31 two-engine trains per 24 hours, but no abnormal effects were noticed till Sept., 1890, when some workmen were overcome by gases, but recovered on removal to air. In 1894 started to use petroleum for fuel, and in 1896 all locomotives were equipped to burn petroleum, which has been satisfactory ever since.

St. Gothard tunnel, St. Gothard Ry.—9⅓ miles long; construction completed 1882; grade practically level, being only sufficient to provide drainage. The ventilation was natural till about 1899, when Saccardo system was installed. At this time the traffic was 61 trains per day. The approaches to the St. Gothard has seven spiral tunnels of the following lengths:—5,000 ft., 3,670 ft., 3,605 ft., 5,100 ft., 5,019 ft., 4,000 ft., and 5,010 ft. with grades of 2.5%, with natural ventilation only; besides a straight tunnel of 5,150 ft.

Tangevard tunnel, on Bergen and Christiania Ry.—Length about 5 miles; no ventilation; grade, about 1.5%.

Khojak tunnel, India.—Double track, 3 miles long. Was originally divided into three sections by two shafts, but on account of these shafts it was found that there was a dead section between the two shafts. These were then closed up, and till 1900 it was not found necessary to ventilate same.

[The half-tone illustration on page 713 gives what is really a bird's eye view of the Kicking Horse Valley and the old and new C.P.R. lines. The old line is shown by the barred white line, and that which has taken its place by the single and longer line. EDITOR.]

Fig. 22.

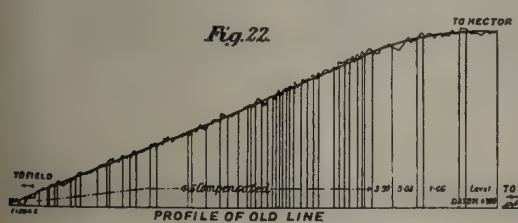
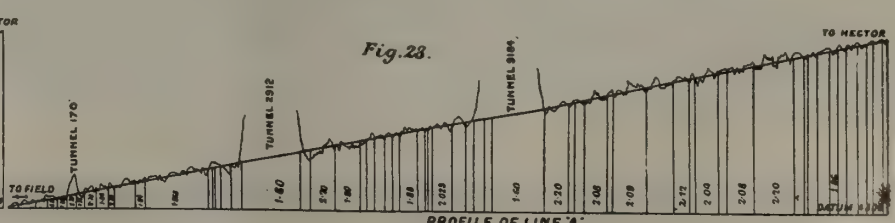


Fig. 23.



HART CONVERTIBLE CARS

are being used extensively by

Railroads and Large Contractors

The following illustrations show some of our "Hart" Cars in actual service throughout Canada.

"Hart" Cars are specially adapted for Ballast and Construction work

Built in steel or wood — 40 or 50 ton Capacity.

The Cars which are building the new Railroads of Canada.

The Cars which are maintaining the old Railroads of Canada.

THE HART-OTIS CAR CO., LIMITED

SUCCESSORS TO

DOMINION DUMP CAR CO., LIMITED

MONTREAL

October Birthdays.

Many happy returns of the day to:—

R. A. Burford, cashier C.P.R. ticket office, New York City, born at Brooklyn, N.Y., Oct. 4, 1878.

G. E. Burns, Freight Claims Agent C.P.R. Eastern Lines, Montreal, born at St. Thomas, Ont., Oct. 6, 1863.

T. C. Burgess, Commercial Agent G.T.R., Minneapolis, Minn., born at New York City, Oct. 2, 1853.

F. F. Busteed, C.E., General Superintendent Pacific Division C.P.R., Vancouver, B.C., born at Battery Point, Que., Oct. 10, 1858.

C. E. Cartwright, Division Engineer C.P.R., Vancouver, B.C., born at Toronto, Ont., Oct. 13, 1864.

G. L. Courtney, ex-General Agent C.P.R., Victoria, B.C., born at Chatham, Ont., Oct. 7, 1868.

S. E. Cruse, Agent C.P.R., Antwerp, Belgium, born at Liverpool, Eng., Oct. 10, 1864.

W. D. Cunneyworth, Freight and Passenger Agent Temiskaming and Northern Ontario Ry., born at Bronte, Ont., Oct. 22, 1865.

L. V. Druce, Commercial Agent G.T.R., Seattle, Wash., born at London, Eng., Oct. 20, 1873.

J. Earls, ex-Secretary and Treasurer Canadian Freight Association at Toronto, Ont., born in Ireland, Oct. 30, 1838.

W. P. Fitzsimmons, Commissioner of Industries G.T.R., Montreal, born at Detroit, Mich., Oct. 27, 1868.

B. W. Greer, ex-General Freight Agent C.P.R., Vancouver, B.C., born at Aldboro, Ont., Oct. 4, 1867.

A. H. Harris, Special Traffic Representative C.P.R., Montreal, Que., born in Devonshire, Eng., Oct. 15, 1855.

J. W. N. Johnstone, General Passenger Agent Reid Newfoundland Co., St. John's, Nfld., born at Campobello, N.B., Oct. 4, 1878.

W. M. Kirkpatrick, General Freight Agent Ontario Division through traffic, C.P.R., Toronto, born at Kingston, Ont., Oct. 8, 1874.

W. B. Lanigan, Assistant Freight Traffic Manager C.P.R., Winnipeg, born at Three Rivers, Que., Oct. 12, 1861.

J. W. Leonard, General Manager C.P.R. Eastern Lines, Montreal, born at Epsom, Ont., Oct., 1858.

W. T. Marlow, Import Freight Agent C.P.R., Montreal, born at Limerick, Ireland, Oct. 25, 1872.

R. Marpole, General Executive Assistant C.P.R., Vancouver, B.C., born in Montgomeryshire, Wales, Oct. 9, 1850.

F. G. Martyn, Assistant Superintendent C.P.R., London, Ont., born at Bury, Que., Oct. 7, 1848.

H. Paton, President Shedden Forwarding Co., director Bell Telephone Co., Montreal, born at Johnstone, Renfrew, Scotland, Oct. 5, 1852.

D. Pottinger, Member Government Railways Managing Board, Moncton, N.B., born at Pictou, N.S., Oct. 7, 1843.

N. L. Rand, Master Mechanic I.C.R., Moncton N.B., born at Shediac, N.B., Oct. 28, 1843.

G. B. Reeve, ex-Second Vice-President and General Manager G.T.R., La Mirada, Cal., born in Surrey, Eng., Oct. 23, 1840.

H. G. Reid, Master Mechanic C.P.R., North Bay, Ont., born at Pembroke, Ont., Oct. 27, 1863.

W. S. Rollo, joint agent G.T.R. and Central Vermont Ry., St. John's, Que., born at Dundee, Scotland, Oct. 8, 1852.

J. K. Savage, Chief Train Dispatcher C.P.R., Brandon, Man., born at Forreston, Ill., Oct. 5, 1876.

Sir Thomas G. Shaughnessy, K.C.V.O., President C.P.R., Montreal, born at Milwaukee, Wis., Oct. 6, 1853.

C. W. Spencer, ex-General Manager Mackenzie, Mann & Co.'s Railway Lines east of Port Arthur, Montreal, born at Kemptville, Ont., Oct. 31, 1857.

W. S. Taylor, ex-Treasurer C.P.R., born at Dornoch, Sutherlandshire, Scotland, Oct. 18, 1839.

E. N. Todd, Export Freight Agent C.P.R., Montreal, born at Huntington, Que., Oct. 17, 1879.

L. H. Wheaton, Engineer Maintenance of Way and Structures, Halifax and Southwestern Ry., Bridgewater, N.S., born at Sackville, N.B., Oct. 5, 1866.

G. B. Wyllie, Travelling Passenger Agent, Illinois Central Rd., Buffalo, N.Y., born at Toronto, Ont., Oct. 15, 1851.

Great Northern Ry. Lines in Canada

Vancouver, Victoria and Eastern Ry. and Navigation Co.—The route at present adopted for the continuation of this line from Penticton, B.C., towards Vancouver is known as the Coquilalla route. Chief Engineer Kennedy and a survey party are working in the vicinity of Eagle Creek, a tributary of the Tullameen River, with a view of securing a route which will save a considerable amount of heavy construction at the head of Coquilalla pass. From the head of Eagle Creek to Unknown Creek there is a long divide, which, if favorable for tunnelling, will save some mileage in addition to a lot of heavy cutting.

Oroville to Brewster, Wash.—A contract has been let for the construction of a branch line southerly from Oroville, a station on one of the sections of the line known in Canada as the Vancouver, Victoria and Eastern Ry., which crosses over into the State of Washington, to Brewster, a distance of about 70 miles. The new line will tap the semi-arid district which the government is reclaiming in the Pouge Flat country, and will also furnish transportation to a considerable fruit growing area irrigated by private corporations. It is intended ultimately to extend the line from Brewster to a junction with the G.N.R. main line at Wenatchee, Wash.

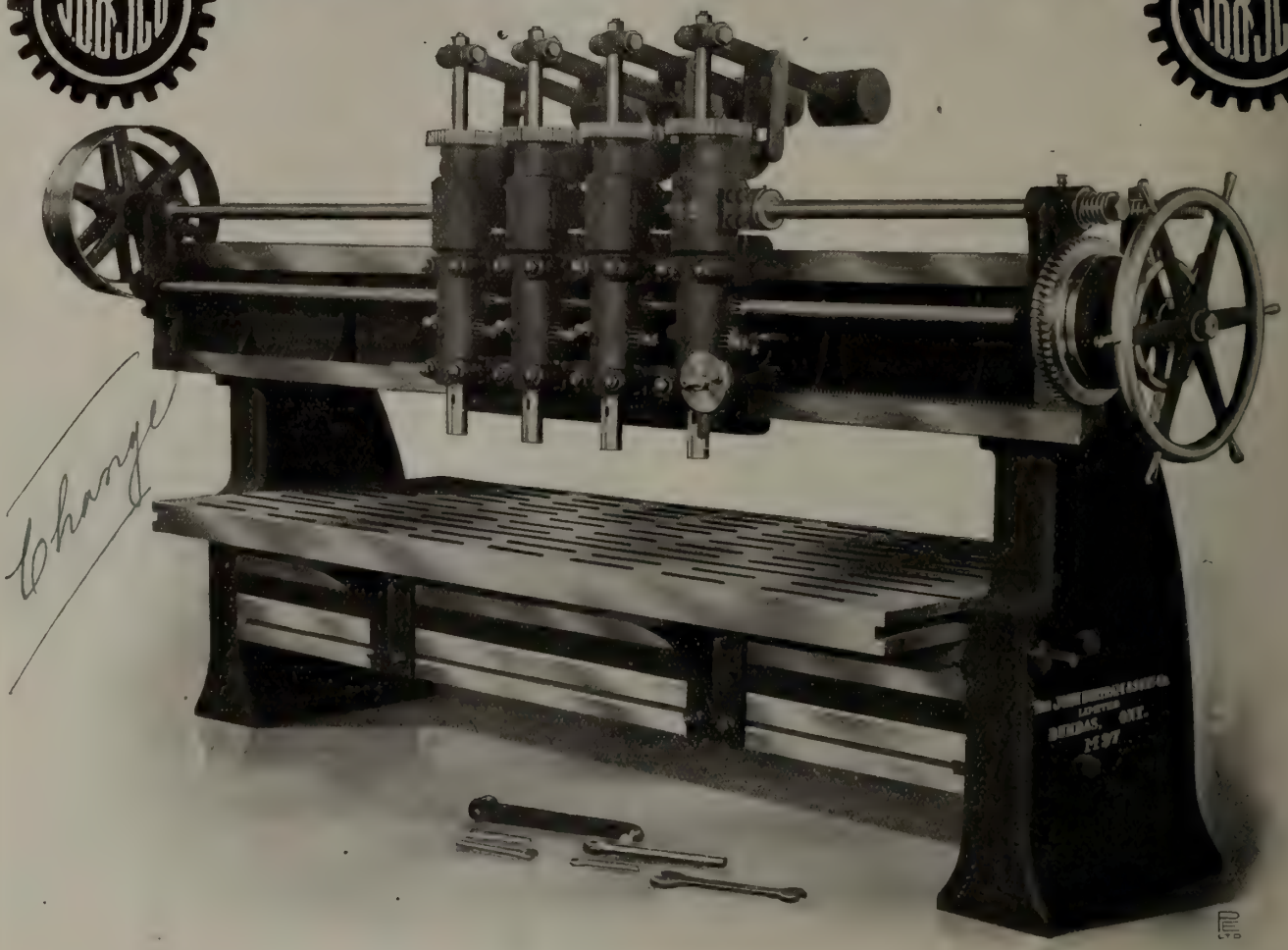
Vancouver Terminals.—The proposition submitted by the company to the Vancouver city council for the construction of terminal facilities in that city is under consideration. The draft agreement submitted states that the company will erect terminal facilities at or near the intersection of False Creek and Jackson Ave., Dunleavy Ave., Gore Ave., or Park Lane produced. The city is asked to obtain the removal of all governmental restrictions, so as to be able to convey the lands constituting the bed of False Creek. The company will purchase the uplands on the north shore of False Creek from the easterly end of block 118, d.l. 198, over to a point opposite to its terminals, the city, if necessary, to expropriate the lands for the company. The company in turn will convey to the city the present foreshore of these lands, and the city will grant to the company the bed of False Creek further out. The company proposes to fill in the part granted to it within 90 days, and to establish its terminals thereon. They are to be completed within five years, and the Northern Pacific Rd. will join with the G.N.R. in the work, using the terminals for its own purposes. If the city desires, the company will fill in the foreshore adjacent, owned by the city, the latter to provide the bulkheading. The terminals are to be designed for union terminals so that the G.N.R., the N.P.R. and the Grand Trunk Pacific Ry. can all build lines into them. (Sept., pg. 647.)

H. Elliott, President of the N.P.R., spent some time recently in Vancouver, B.C. In an interview he said his company had not yet acquired any interest in the foreshore purchase on the north side of False Creek by the Great Northern Ry., and its entrance into Vancouver would hang entirely upon the outcome of the negotiations going on between the city and the G.N.R. The N.P.R. was anxious to enter Vancouver and the full completion of this project would depend upon the reasonableness of cost with which terminal facilities could be created. For the present the N.P.R., if it went in, would run its trains over the G.N.R. line between Sumas and Vancouver, using the B.C. Government bridge over the Fraser River. Present business would not justify the construction of a separate line, and the cost of such a line could be better employed at present in the construction of terminals.

BIRD'S EYE VIEW OF THE KICKING HORSE VALLEY.

The old C.P.R. route is shown by the barred white line; the new route by the single line starting at the left hand side near the bottom of the illustration.

BERTRAM MULTIPLE DRILLS

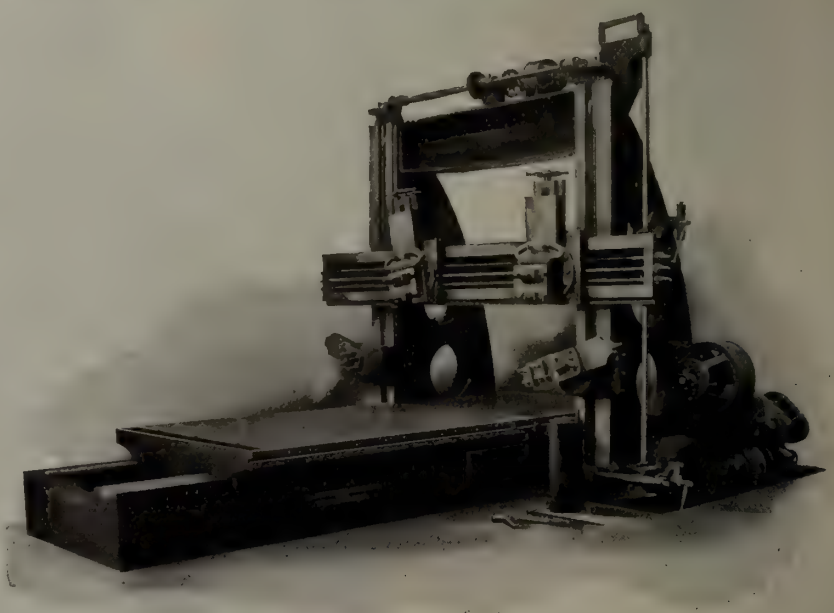


FOUR-SPINDLE MULTIPLE DRILLING MACHINE

For locomotive and other work.

This machine may be equipped with either one or two saddles.

The illustration shows the machine with four spindles, belt driven.



10 Ft. x 10 Ft. x 20 Ft. BERTRAM PLANER

With Four Cutting Heads, having quick power traverse, with direct-connected motor drive by pneumatic clutches.

THE JOHN BERTRAM & SONS CO. LIMITED - Dundas, Ontario, Canada

SALES AGENTS: THE CANADIAN FAIRBANKS COMPANY LIMITED

Offices:—Montreal, Toronto, Winnipeg, Vancouver, Calgary, St. John.

The Intercolonial Railway Shops.

The new I.C.R. shops at Moncton, N.B., having been completed, the whole force of employes have been removed there from the old shops, and the machinery from the latter has also been transferred. Our issue of Sept., 1908, contained a very full account of the new shops by C. F. Bristol, Stud. Can. Soc., C.E., which dealt in considerable detail with the layout, method of construction, etc. Now that the new shops are in operation it may be of interest to reproduce some portions of that article, particularly referring to the layout. Those who wish to have full details of the construction are referred to our Sept., 1908, issue.

The new shops are located about a mile from Moncton station, on the main line to Montreal. The site is on a plateau, about 60' above sea level, and although nearly flat, slopes gently to the southward in the direction of a small creek. As shown on the accompanying plan, two main sidings, with numerous branches and spurs, facilitate shunting and render ready access to all buildings and yards. The two passenger car shops are long and narrow, and so designed that cars may be placed transversely in each shop. These buildings are parallel

H. D. MACKENZIE,
General Foreman, Locomotive Shops, I.C.R.

to each other and at right angles to the main line, with 18 tracks in each. Cars may be readily transferred from any track in one shop to any track in the car shop. The locomotive shops comprise the machine shop and annex, boiler shop, boiler erecting shop, engine erecting shop, and smith shop, all under one roof. The four latter shops are parallel other by means of the electric transfer table between the two shops. The stores and office building, power house, producer gas house, freight car shop, planing mill, lumber shed, and dry kiln are all laid out parallel to the main line of the railway, and are all served by side tracks. The planing mill is situated convenient to the passenger car shop and freight to the main line, but at right angles to the machine shop.

A notable feature in connection with the engine erecting shop is the arrangement of the pits. The main pit runs almost the entire length of the shop, while the track is continued across the machine and passenger car shops into the paint shop, where locomotives may be painted should the erecting shop be crowded. The side pits are all laid at an oblique angle to the main pit, and this arrangement provides greater facilities for stripping and repairing engines.

The Freight Car Shop is 134' 8" by 362'. Two rows of columns divide the shop into three bays, each 44 ft. wide, and each containing two tracks through the entire length of the shop. In each end are 6 doors, 12 ft. wide by 16 ft. high. In addition to these there are several narrow gauge tracks for small trucks.

The Planing Mill is 81 ft. 10 in. by 202 ft. 8 in., and is constructed practically the same as the freight car repair shop.

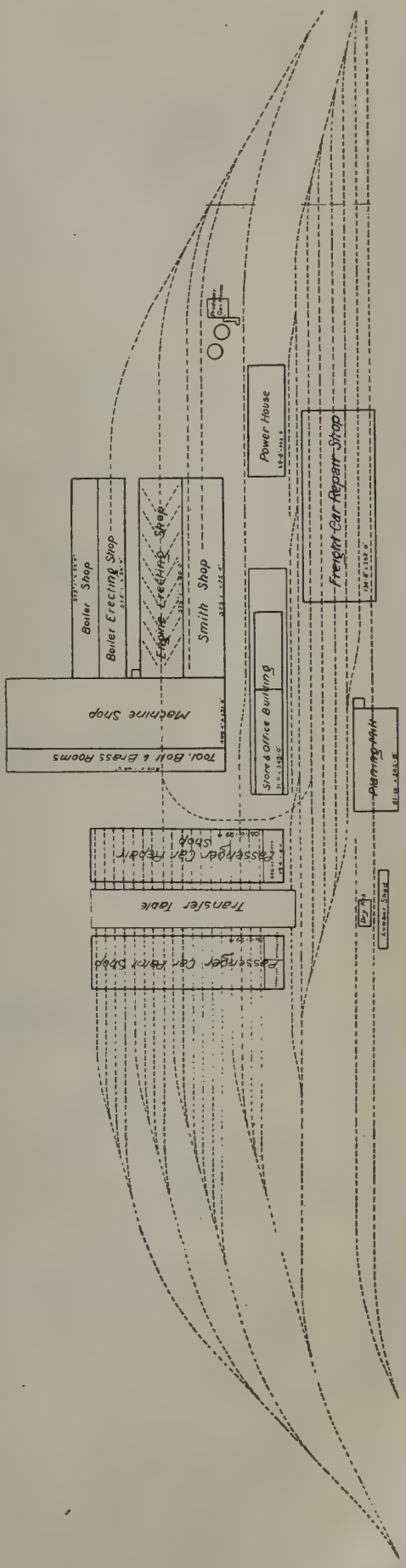
The Passenger Car and Paint Shops are each 361 ft. 8 in. by 100 ft. The cabinet shop is elevated half a story in one end of the passenger car shop, on what is termed the mezzanine floor. In the car paint shop, on a similar floor, are the upholstery and varnish rooms.

Stores and Office Building. The first floor and basement of the stores and office contains the local and general stores department, and the second story, over the western half, is devoted to the offices of the stores department, the Superintendent of Motive Power and staffs.

The Locomotive Plant includes five shops, viz.: the machine shop, 131 ft. 6 in. by 408 ft. by 36 ft. high, divided into two bays by a centre line of columns, each bay being served with an overhead electric travelling crane of ten tons capacity. This shop has an annex 44 ft. by 408 ft. The smith shop, at right angles to the machine shop, is 75 ft. x 375 ft. x 37 ft. high. Water gas is used for the different furnaces. Jib cranes are placed conveniently near the several fires and furnaces, while a track through the centre of the shop permits the handling of heavy work by means of trucks. The engine erecting shop, separated from the smith shop by a partition, is 80 ft. x 375 ft. x 50 ft. high. Two 60-ton electric travelling cranes are installed for moving and placing locomotives. Through the centre runs a surface track with a shallow concrete pit. On each side of this central track are eight side tracks with pits arranged herring-bone style. These side tracks are designed to accommodate engines requiring heavy repairs, and this form of layout provides ample space for overhauling. This leaves the central track free for light repair work, and obviates the necessity of lifting one engine over another. Between the engine erecting house and boiler shop walls is a space 25 ft. wide, which permits of additional side lights. The boiler shop is 100 ft. x 375 ft., divided into two bays by a row of columns down the centre. The bay for boiler erection is 44 ft. high, and the west end of it contains the riveting tower, 25 ft. long by 75 ft. high. A 35-ton electric travelling crane is installed in this bay, and a 30-ton crane in the riveting tower to serve the bull rivetter. The tool bay is severed by means of a 10-ton electric travelling crane, which traverses the entire length of the shop. In addition to this, jib cranes are placed convenient to the different tools.

The Power House is built on the same principle as the planing mill. The engine room and boiler room are each 69 ft. x 100 ft., and separated by a reinforced concrete wall. The boiler equipment consists of four Babcock & Wilcox water tube boilers of 250 h.p. each, arranged in two batteries, while the necessary space is reserved for a third battery. Fuel economizers, and a feed water heater and pump, are installed to take care of the feed water. An induced draft plant forms part of the equipment, also a 1,000-gallon u.w. pump. In this room, a fan, direct conected to an auxiliary engine, supplies the heat required in the freight car shop. The coal bins are arranged along the side of the building in front of the boilers.

The engine and generator equipment is as follows: two horizontal double-



Galena-Signal Oil Company

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY

Galena Railway Safety Oil

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

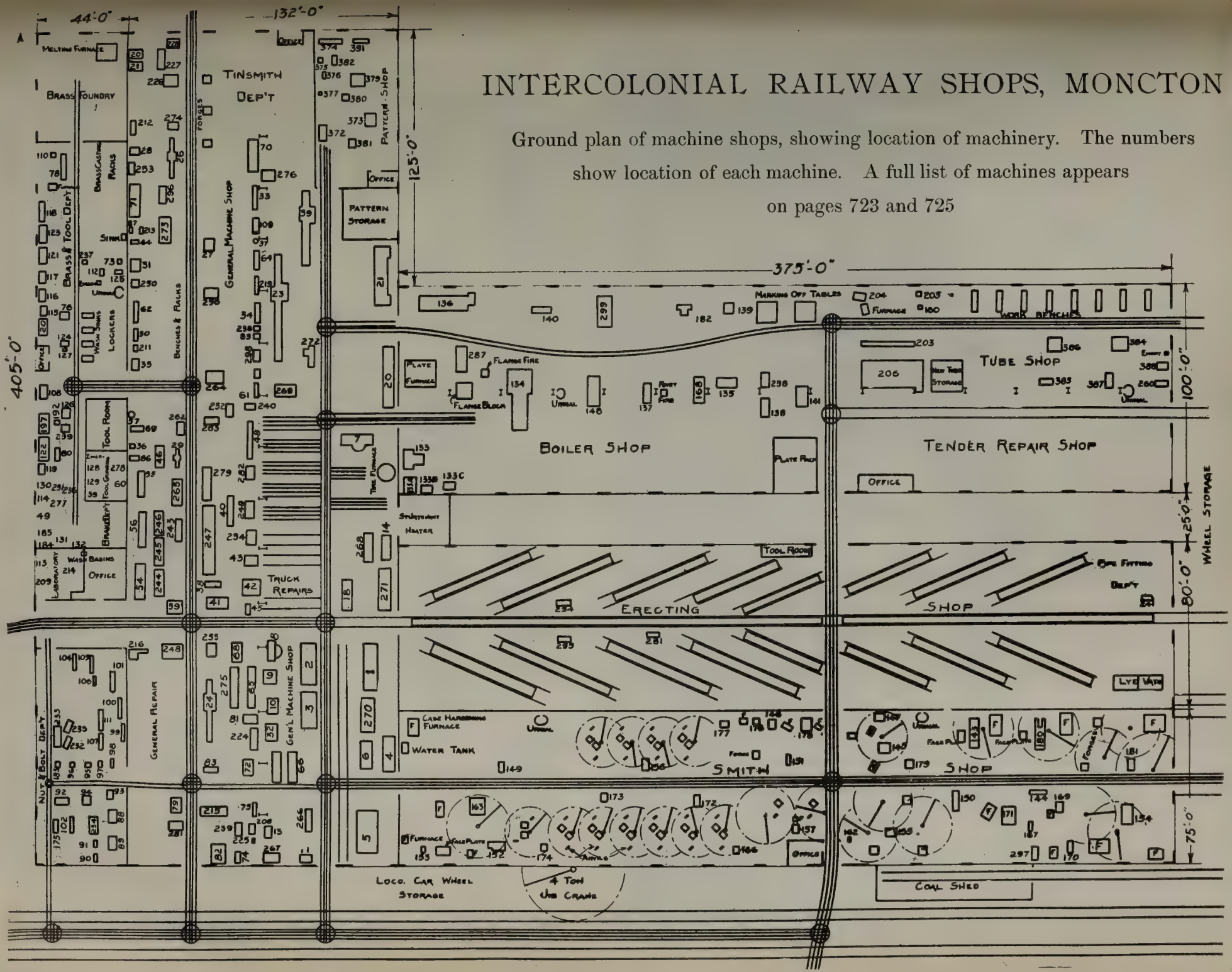
Please write to home office for further particulars.

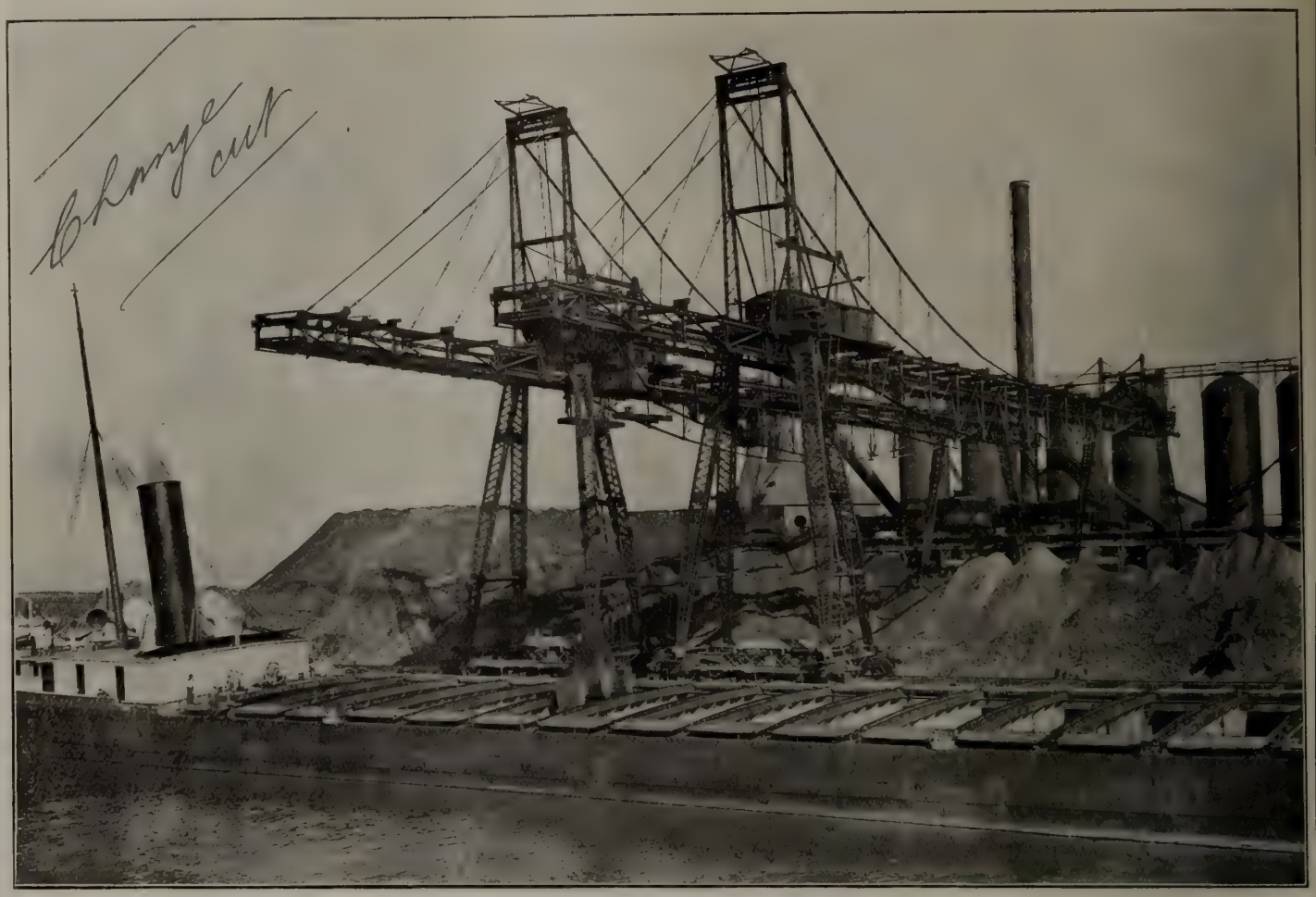
CHARLES MILLER,

PRESIDENT

INTERCOLONIAL RAILWAY SHOPS, MONCTON

Ground plan of machine shops, showing location of machinery. The numbers show location of each machine. A full list of machines appears on pages 723 and 725





FEDERAL FURNACE CO.'S TWO BRIDGE TRAMWAY.

THE BROWN HOISTING MACHINERY CO.

Engineers, designers and builders of hoisting machinery of all descriptions.

Write us stating your requirements and ask for catalogues.

Main Office and Works:

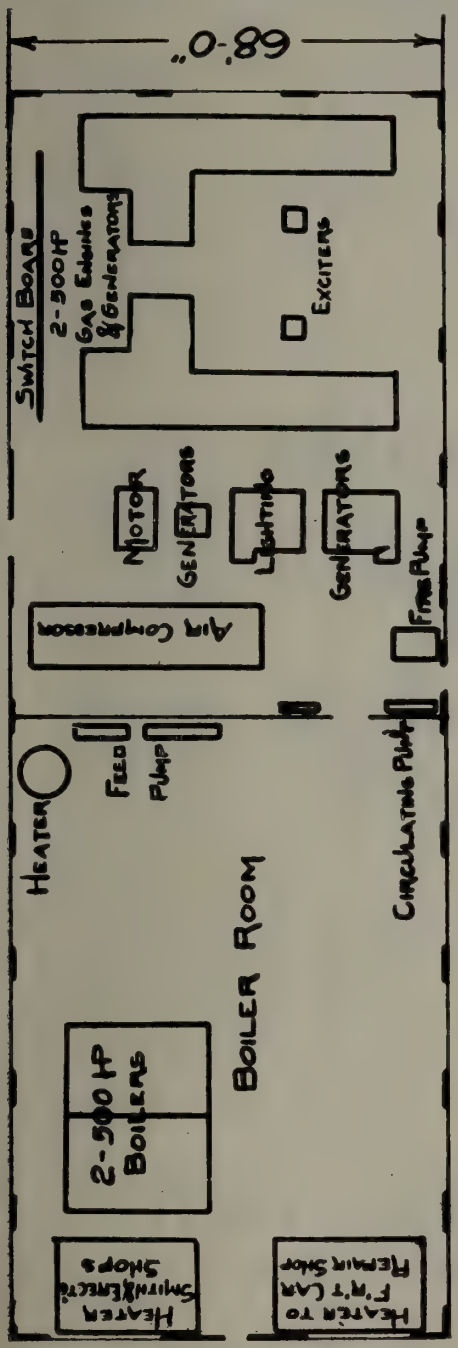
CLEVELAND, OHIO

Branch Offices:

PITTSBURG AND NEW YORK

acting gas engines, normal rating 500 b.h.p. each, adapted to drive two 300 k.w. direct-connected 60-cycle a.c. generators. These generators are three-phase, 1,500 r.p.m., and 220 volts. In addition to these machines there will be two 70 k.w.d.c. belt-driven generators of 250 volts and 875 r.p.m. The gas engines are driven by producer gas, which is to be manufactured in the producer gas house, situated near the power house. The gas for the furnaces in the smith shop will be water gas, also manufactured in the gas house. The gas generators will convert continuously about 1,000 lbs. of coal per hour, generating therefrom about 18 cu. ft. of water gas for the furnaces, and about 55 cu. ft. of producer gas for the engines.

The shops are heated by the hot blast system, using exhaust steam from the auxiliary engines and pumps, supplemented by live steam from the boilers. Fans, direct connected with engines, force the hot air through concrete conduits, furnished with risers in the walls.



GROUND PLAN OF BOILER ROOM AND POWER HOUSE.

These risers discharge close to the floor near the windows. The sewerage system is extensive, consisting of one main 2,800 ft. long, emptying into a small creek which flows to the Petitcodiac River.

On page 717 is a ground plan of the machine shop, showing the location of each machine, the numbers placed on the plan corresponding with those given in the list of machinery which follows this article. On pages 719 and 721 are ground plans showing the location of machinery in the boiler room and power house, the planing mill and the passenger car repair shop. Nearly 100 of the machines in use were supplied by the John Bertram & Sons Co., Ltd., Dundas, Ont., this being by far the largest number ordered from any one manufacturer. Allis-Chalmers-Bullock, Ltd., Montreal, supplied 157 motors for the electric drives of the lathes, planers and other machinery of which 43 are direct current, most of them being arranged for variable speed, and 114 are induction motors. The Canadian Westinghouse Co., Ltd., Hamilton, supplied 29 a.c. motors and 16 d.c. motors. Particulars of other electrical apparatus supplies are given in the list of machinery appended to this article.

Following is a complete list of the mechanical staff of the Moncton shops: Superintendent of Motive Power, G. R. Joughins; Assistant to Superintendent of Motive Power, W. U. Appleton; General Foreman Locomotive Shops, H. B. McKenzie; General Foreman Car Shops, A. B. McDonald; Foreman Locomotive Erecting Shops, J. Nugent; Foreman Boiler Shop, J. Joyce; Foreman Black-Smith Shop, A. Stockhall; Foreman Tender Shop, W. H. Chapman; Foreman Freight Car Shop, R. L. Black; Foreman Passenger Car Shop, I. A. Steeves; Foreman Painter, A. S. Coleman.

Uniform Railway Operating Rules.

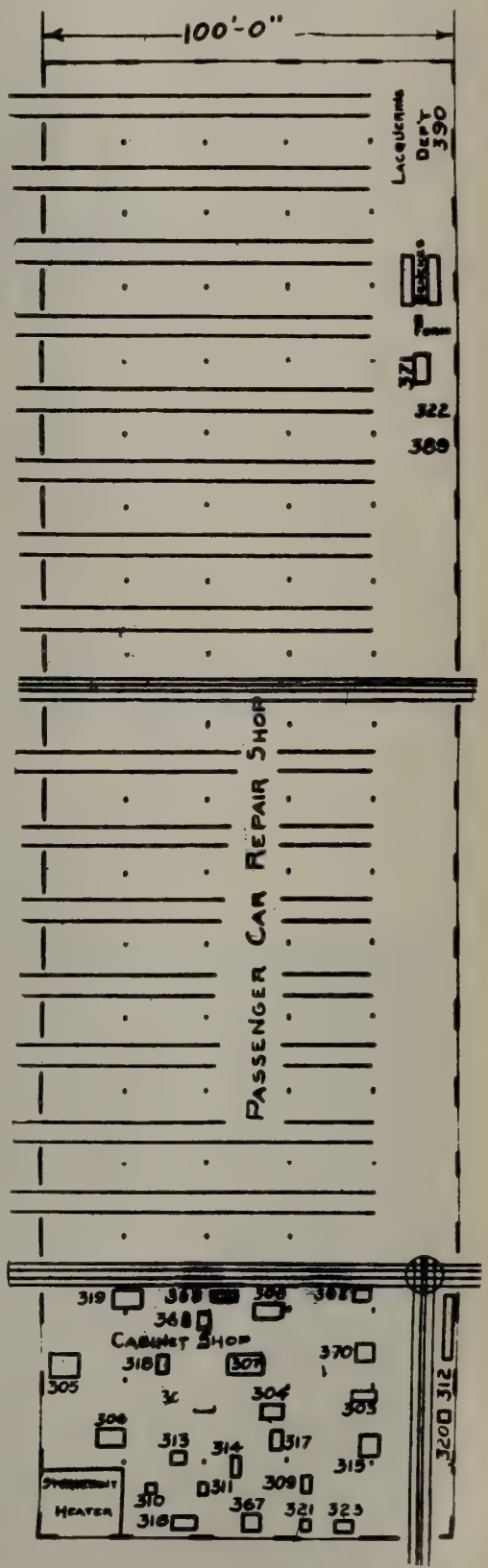
Reference was made in our last issue to the uniform code of operating rules which has been approved by the Board of Railway Commissioners for all railways under its jurisdiction. There are no changes in the basic principles of the new rules as compared with the Standard Code prepared by the American Railway Association. The new rules, however, contain some slight changes in phraseology, and also contain instructions which the leading Canadian railway managements regard as essential in the operation of trains. About the only difference between the rules now being used by the G.T.R. and the C.P.R. is in the color of signals; the G.T.R. using red for stop, green for caution, and white for proceed; the C.P.R. used red for stop, yellow for caution, and green for proceed. The balance of the rules as to movement of trains by train orders, etc., is practically the same. Under the new rules, the color of signals as now used by the C.P.R. has been adopted for all railways under the Board's jurisdiction.

G. T. R. Rates to Michigan Points.

In the case of the Saginaw, Mich., Board of Trade et al vs. the G.T.R. Co. et al, the Interstate Commerce Commission has decided as follows:—The percentage of the Chicago rates, adopted by defendants as a basis for fixing rates from Atlantic coast territory to Saginaw, Flint, and other points in the Saginaw Valley, is not found, under the circumstances of the case, to be too high, when compared with the percentages that fix the rates enjoyed by other groups in adjacent territory.

The proximity of Detroit and Toledo to the great channels of through transportation and their location on direct through routes where the density of traffic is very great and the general operating and traffic conditions are favorable, are elements that cannot be ignored by the rate maker and must necessarily tend to lower rates than can be accorded to communities that are removed from these great streams of traffic.

The general foundation upon which rests the whole structure of eastbound and westbound rates in the "percentage-basis" territory is described and discussed in the judgment.



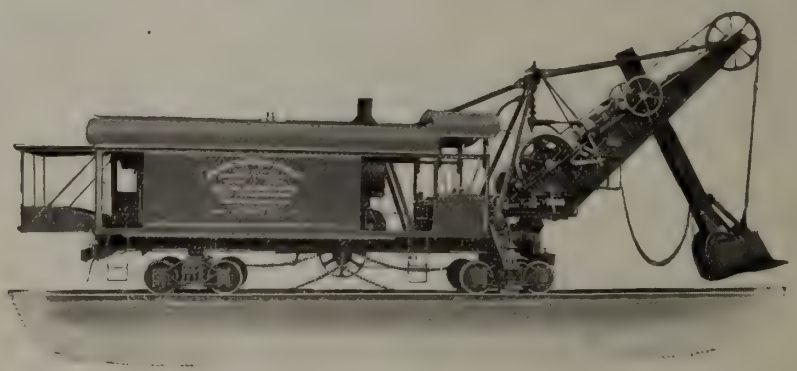
GROUND PLAN OF PASSENGER CAR REPAIR SHOP.

LOCOMOTIVES FOR ALL CLASSES OF SERVICE

Consolidation Type Freight Locomotive, Built for Eastern British Columbia Railway.

Total weight of engine in working order, 186,310 pounds. Weight on driving wheels, 166,100 pounds. Diameter of driving wheels, 51 inches. Boiler pressure, 210 pounds. Cylinders, 20 x 28 inches. Maximum tractive power, 39.200 pounds.

ATLANTIC STEAM SHOVEL



Direct wire rope hoist with but one sheave, instead of chain hoist with from five to seven sheaves, reduces delays and loss of time due to breakdowns, increases the efficiency of the engines, and reduces repair bills as well as fuel consumption.

Finished, interchangeable spare parts always on hand at works.

MONTREAL LOCOMOTIVE WORKS, LIMITED

BANK OF OTTAWA BUILDING, MONTREAL, CANADA

G.T.R. Betterments, Construction, Etc.

Victoria Jubilee Bridge.—In view of the near completion of the electric railway to St. Lambert the G.T.R. is making some changes there. A new approach is being constructed to the bridge at the Laprairie side so that farmers using the bridge may escape the danger of crossing the tracks, as they do at present; and as the electric cars are to use the lower, or St. Lambert, side of the bridge, vehicles will have to use the upper, or Laprairie side.

Preston St. Bridge, Ottawa.—The company has withdrawn its opposition to the raising and widening of the bridge over which its line crosses Preston St., Ottawa. Some months ago the city secured an order from the Board of Railway Commissioners to raise the bridge on the ground that it constituted an impediment to vehicular traffic. The engineers' estimate of the cost of the work and the necessary grade alteration was $16,000. It was subsequently found that this estimate was below the mark, and the company desired to have the question reopened. The city instructed its solicitor to oppose the application. The company has now withdrawn the application, and the work will be gone on with.

Roundhouse at Lindsay.—We are advised with respect to the reports that a new roundhouse is to be erected at Lindsay, Ont., that the management has no information to make public at present.

Midland Ry. Improvements.—The question of the erection of a new roundhouse at Lindsay is bound up with that of the improvement of the old Midland Ry. In this connection the Board of Railway Commissioners has passed orders authorising the company to construct the following branch lines: (1) From near Tiffin, through Tiny and Tay tps. to the second concession of Tay tp. (2) A branch line from Midland via Penetanguishene to a junction with the Penetang branch. (3) From near Wyeville northerly to the second concession of Tiny tp. We are advised that the management has no information to give out in connection with this matter at present. For some time past there has been a considerable amount of survey work done on various parts of the Midland Ry., and reports have been circulated in different localities as to the company's intentions. The management states in regard to all of them that nothing has been definitely decided. It would appear, therefore, that some general plan is being worked out for the betterment of the Midland Ry., and that no definite statement will be made until this has been adopted.

Toronto.—The company has abandoned its yards at Little York, east of Toronto, for terminal purposes, and concentrated all its work at the Mimico yards, west of Toronto. The Locomotive Foreman has been removed from York to Mimico; the engineers and firemen stationed at York will be moved to Belleville, and it is possible that the conductors and brakemen will be moved there also. Locomotive repair work heretofore done at York will be done at Belleville in future. W. D. Robb, Superintendent of Motive Power, was in Belleville, Sept. 3, making arrangement for the transfer. Trains running between Belleville and Hamilton will take on engines at these two points instead of Toronto as heretofore.

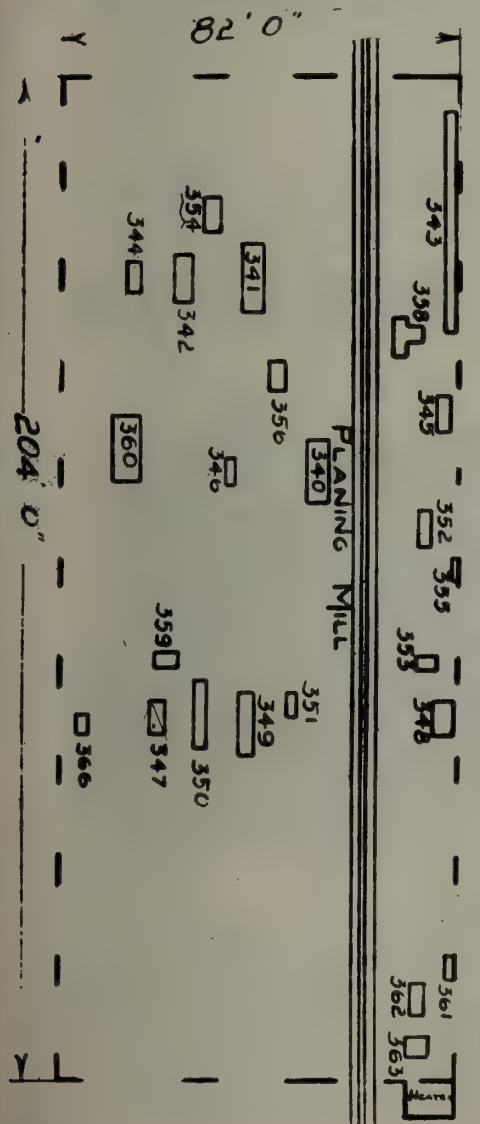
Guelph Station.—The question of the erection of a new station at Guelph has again been put off, and the whole question will be left open until the Neeve St. crossing matter is settled.

London Track Elevation.—The Mayor of London, Ont., had an interview with officials of the company at Montreal recently on the question of track elevation in London. In an interview, on his return, he said the company is still willing that the city should take the matter to the Board of Railway Commissioners, and that the company was willing to consider a bona fide offer from the city to bear a part of the cost of elevating the tracks. The company was opposed to giving consideration to any proposal for the erection of a union station. Third Vice-President Fitzhugh promised to go to the city about the end of Sept. to further discuss the matter with the council.

Windsor Water Front Property.—An offer has been made to the city of Windsor by the company to lease for park purposes the whole or any portion of the G.T.R. property on the river front from Hurley's dock to Piggott's lumber yard. The property, M. H. Cowan, the company's Assistant Solicitor, stated, was not for sale and any attempt to expropriate would be fought to the Privy Council.

Another Detroit River Tunnel.—A Detroit press dispatch says:—"That the G.T.R. will construct a four-track tunnel from the foot of Dequindre St., Detroit, beneath the Detroit River to Walkerville is now said to be practically assured." Among the statements made in support of this report is one to the effect that the company has secured an option for three years of a large area of land three miles back from the river at Walkerville, Ont., and another that nothing will be done to connect the G.T.R. tracks with the tracks of the Michigan Central Rd., which is constructing a tunnel under the river. It is also reported that the Wabash Rd. will join with the G.T.R. in the construction of the tunnel. A. B. Atwater, Assistant to the President, G.T.R., Detroit, stated that it was absurd to think that the G.T.R. would construct a tunnel. It already has one between Sarnia and Port Huron and the construction of a second one is not probable.

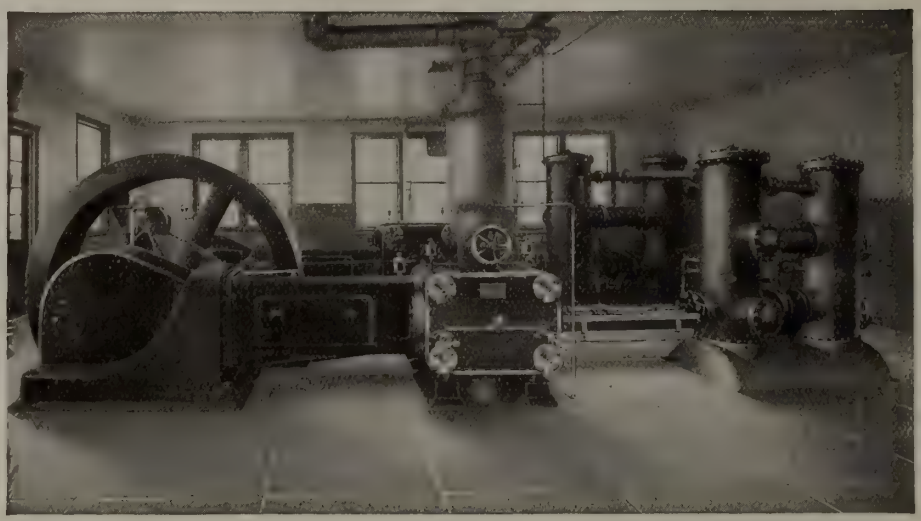
The Government Railways Managing Board is issuing a booklet enumerating the advantages offering for the establishment of industrial undertakings in the Maritime Provinces, along the route of the Intercolonial Ry.



I.C.R. SHOPS, MONCTON. GROUND PLAN OF PLANING MILL.

INTERIOR CAR REPAIR SHOP, INTERCOLONIAL RAILWAY, MONCTON.

Robb Power Plants



ENGINES

Corliss, Slide Valve
Horizontal, Vertical

BOILERS

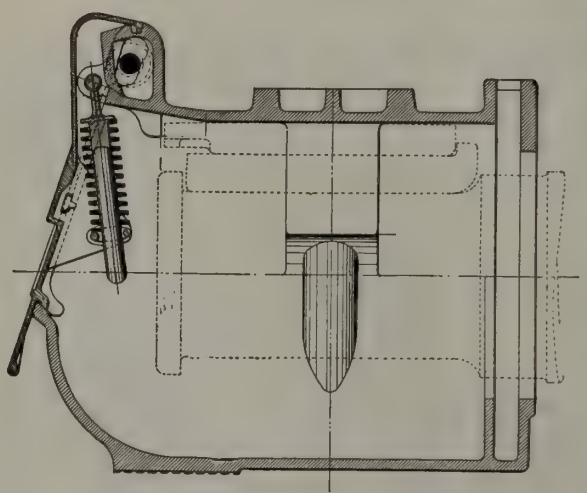
Return Tubular
Water Tube
internally Fired
Portable

ROBB ENGINEERING CO., LIMITED, AMHERST, N.S.

DISTRICT OFFICES:
709 Power Building, MONTREAL, Watson Jack, Manager.
Traders Bank Building, TORONTO, Wm. McKay, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.
Calgary Block, Calgary, J. F. Porter, Manager.

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



The Strongest, Lightest, Tightest Box Made

The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCORD Force Feed Lubricator

McCORD & COMPANY
Old Colony Building, Chicago

THE HOLDEN CO., Limited
302 St. James Street, Montreal

List of Machinery, Etc., in Moncton Shops, I.C.R.

The numbers given at the left of the first column correspond with the numbers appearing in the ground floor plans on pages 717, 719 and 721, by reference to which the exact location of each machine, etc., may be seen.

WHEEL DEPARTMENT.

No.	Name.	Motor.
1	100" Wheel lathe	1 50 h.p., 500-1000 r.p.m., D.C. 1 7½ h.p., 1200 r.p.m., A.C.
2	72" Wheel lathe	1 20 h.p., 30-1200 r.p.m., D.C.
3	Driving wheel journal lathe	Group.
271	Loco. quartering machine	2 5 h.p., 1200 r.p.m., A.C.
18	72" wheel press	1 10 h.p., 1200 r.p.m., A.C.
268	Loco. axle lathe	1 20 h.p., 850-1300 r.p.m., D.C.
7	84"Boring mill	1 20 h.p., 300-900 r.p.m., D.C. 1 3 h.p., 1200 r.p.m., A.C.
8	72" Fire mill	1 15 h.p., 400-1600 r.p.m., D.C.
9	60" Boring mill	1 10 h.p., 1200 r.p.m., A.C.
10	48" Boring mill	1 15 h.p., 400-1200 r.p.m., D.C. 1 3 h.p., 1200 r.p.m., A.C.
32	48" Boring mill	1 20 h.p., 300-900 r.p.m., D.C. 1 3 h.p., 1200 r.p.m., A.C.
267	42" Car wheel borer	1 7½ h.p., 450-900 r.p.m., D.C.
11	42" Car wheel borer	1 10 h.p., 400-800 r.p.m., D.C. 1 3 h.p., 1200 r.p.m., A.C.
13	42" Car wheel borer	Group.
5	48" Car wheel lathe	1 20 h.p., 300-1200 r.p.m., D.C.
6	42" Car wheel lathe	1 20 h.p., 300-1200 r.p.m., D.C.
270	36" Car wheel lathe	1 25 h.p., 325-975 r.p.m., D.C.
4	48" Car wheel lathe	1 7½ h.p., 1200 r.p.m., A.C.
266	48" Wheel press	1 7½ h.p., 1200 r.p.m., A.C.
66	Double car axle lathe	1 20 h.p., 850-1350 r.p.m., D.C.

CYLINDER AND FRAME DEPARTMENT.

20	Frame slotter, 3 head	1 10 h.p., 1200 r.p.m., A.C.
21	Frame drill, 3 spindle	2 5 h.p., 1200 r.p.m., A.C.
23	72"×72"×25' Planer	1 30 h.p., 900 r.p.m., A.C.
39	48"×48"×20' Planer	1 30 h.p., 900 r.p.m., A.C.
269	Double bar cylinder borer	1 10 h.p., 600-1200 r.p.m., D.C.
25	6 ft. Radial drill	Group.
272	6 ft. Radial drill	1 5 h.p., 1200 r.p.m., A.C.

ROD DEPARTMENT.

26	36"×12' Horizontal miller	1 15 h.p., 900 r.p.m., A.C.
276	No. 2 plain miller	Group.
71	24" D. h. shaper	Group.
31	12" Shaper	Group.
253	18" Traverse head shaper	1 5 h.p., 1200 r.p.m., A.C.
250	8" Traverse head shaper	Group.
62	16" Lathe	Group.
212	20" Lathe	Group.
35	12" Lathe	Group.
50	12" Lathe	Group.
296	24" Side carriage turret lathe	Group.
213	24" Drill	Group.
273	2 Spindle rod drill	2 10 h.p., 500-1500 r.p.m., D.C.
211	4" Centreing machine	Group.
274	42" Vertical miller	1 15 h.p., 600-1200 r.p.m., D.C.
44	15 ton Hydraulic press	Group.
220	Swing frame grinder	1 3 h.p., 1200 r.p.m., A.C.
221	Swing frame grinder	1 3 h.p., 1200 r.p.m., A.C.
37	Emery grinder	Group.

CROSSHEAD DEPARTMENT.

46	6 ft. Horizontal borer	1 7½ h.p., 560-1680 r.p.m., D.C.
69	15" Slotter	Group.
29	24"×24"×6' Planer	1 10 h.p., 1200 r.p.m., A.C.
263	36" Drill	1 5 h.p., 1200 r.p.m., A.C.
36	No. 2 Crosshead pin turner	Group.

PISTON DEPARTMENT.

55	36" Lathe	Group.
56	36" Lathe	Group.
279	32" Lathe	1 10 h.p., 500-1500 r.p.m. D.C.
54	30" Lathe	1 10 h.p., 400-800 r.p.m., D.C.
243	24" Lathe	1 7½ h.p., 540-1430 r.p.m., D.C.
244	24" Lathe	1 7½ h.p., 540-1430 r.p.m., D.C.
245	24" Lathe	1 7½ h.p., 540-1430 r.p.m., D.C.
246	24" Lathe	1 7½ h.p., 540-1430 r.p.m., D.C.
59	42" Boring mill	1 10 h.p., 400-1600 r.p.m., D.C.
86	Wet emery grinder	Group.
57	Emery grinder	Group.

BOX DEPARTMENT.

198	17" Lathe	Group.
199	20" Lathe	Group.
200	20" Lathe	Group.
254	24" Traverse head shaper	1 5 h.p., 1200 r.p.m., A.C.
41	30"×30"×8' Planer	1 10 h.p., 1200 r.p.m., A.C.
40	36"×36"×9' Planer	1 15 h.p., 900 r.p.m., A.C.
247	36"×36"×16' Planer	1 15 h.p., 900 r.p.m., A.C.
38	18" Slotter	1 10 h.p., 400-1600 r.p.m., D.C.
42	36" Boring mill	Group.
249	30" Boring mill	1 5 h.p., 400-1600 r.p.m., D.C.
45	30" Drill	Group.
43	60 ton Hyd. press	1 5 h.p., 1200 r.p.m., A.C.

MOTION DEPARTMENT.

109	14" Lathe	Group.
64	16" Lathe	Group.
61	18" Lathe	Group.
219	18" Lathe	Group.
34	20" Lathe	Group.
33	24" Lathe	Group.
48	64" Lathe (light)	Group.
252	18" Shaper	1 5 h.p., 1200 r.p.m., A.C.
256	24" Shaper	1 5 h.p., 1200 r.p.m., A.C.
240	8" Slotter	1 5 h.p.. 400-800 r.p.m., D.C.
264	12" Slotter	1 7½ h.p., 560-1680 r.p.m., D.C.
265	36"×36"×6' Planer	1 15 h.p., 1200 r.p.m., A.C.
85	18" Drill	Group.
238	2 Spindle sensitive drill	Group.
262	36" Drill	1 5 h.p., 1200 r.p.m., A.C.
282	No. 2 Horz. boring and drilling mach.	1 3 h.p., 1200 r.p.m., A.C.
27	30" Vertical miller	1 5 h.p., 400-1600 r.p.m., D.C.
298	Link grinder	1 7½ h.p., 1200 r.p.m., A.C.
70	No. 4 Universal grinder	Group.
87	Emery grinder	Group.
191	Power hack saw	Group.

BRASS DEPARTMENT.

108	14" Lathe	Group.
115	14" Lathe	Group.
116	14" Lathe	Group.
117	16" Lathe	Group.
118	16" Lathe	Group.
120	16" Lathe	Group.
123	24" Lathe	Group.
121	18" Brass finisher's lathe	Group.
237	2 Spindle sensitive drill	Group.
127	Sensitive drill	Group.
126	18" Drill	Group.
259	30" Drill	1 5 h.p., 1200 r.p.m., A.C.
112	No. 8 shop saw	Group.
125	Circular saw	Group.
76	No. 4 Universal miller	Group.
124	Plain miller	Group.

TOOL ROOM.

184	10" Toolmaker's lathe	Group.
185	10" Toolmaker's lathe	Group.
114	12" Toolmaker's lathe	Group.
49	14" Toolmaker's lathe	Group.
119	14" Toolmaker's lathe	Group.
197	17" Lathe	Group.
122	20" Lathe	Group.
80	3" Centreing machine	Group.
251	12" Shaper	Group.
277	No. 3a Heavy universal miller	Group.
236	2 Spindle sensitive drill	Group.
78	Double spindle car brass borer	Group.
110	Magnetic metal separator	Group.
130	Emery grinder	Group.
131	Emery grinder	Group.
132	Emery grinder	Group.
53	No. 5 drop apron tool grinder	Group.
60	No. 1 universal and tool grinder	Group.
278	No. 13 universal and tool grinder	Group.
128	No. 3 Cutter and reamer grinder	Group.
129	Twist drill grinder	Group.

BOLT AND NUT DEPARTMENT.

88	2" 6 Spindle nut tapper	Group.
89	1½" 6 Spindle nut tapper	Group.
234	1½" 6 Spindle nut tapper	Group.
90	½" 4 Spindle nut tapper	Group.
91	½" 4 Spindle nut tapper	Group.
92	2" Quadruple bolt cutter	Group.
94	2" Triple bolt cutter	Group.
93	1½" Triple stay bolt cutter	Group.
233	Lassiter 4 spindle stay bolt machine.	Group.
95	1" Triple bolt cutter	Group.
96	1" Triple bolt cutter	Group.
97	1½" Double bolt cutter	Group.
98	2" Single bolt cutter	Group.
99	3"×36" Turret machine	Group.
100	2"×24" Turret machine	Group.
101	2" Automatic turret machine	Group.
232	No. 3 Automatic screwing machine	Group.
235	No. 2 Automatic stud machine	Group.
102	2"×17" Turret machine	Group.
175	1½" Nut facer	Group.
104	2½"×48" Bolt lathe	Group.
105	2½"×48" Bolt lathe	Group.

FREIGHT CAR REPAIR SHOP, INTERCOLONIAL RAILWAY, MONCTON.

TRACK TOOLS! TRACK TOOLS!

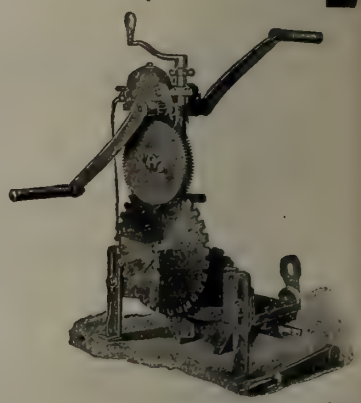
We carry a very large stock of

TRACK TOOLS

Of Every Description

Spike Mauls - Chisels - Hammers
Track Drills - Rail Saws - Forks
Gauges - Levels - Wrenches Etc.

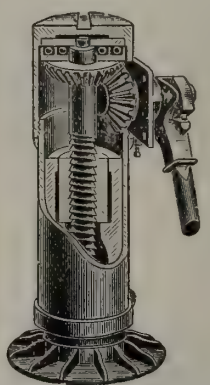
Let us quote on your requirements.



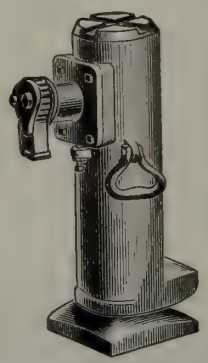
F·H·Hopkins & Co — Successors late James Cooper — Montreal

NORTON JACKS

Are Made in Canada and Save You Delay and Duty on American Made Jacks.

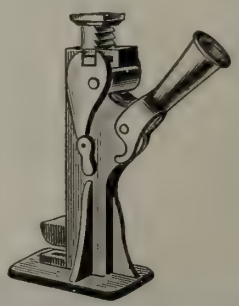


Sectional View



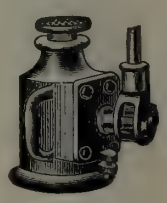
Foot Lift Jack

50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY



15 Ton Track Jack

Traversing Jack



Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

No.	Name.	Motor.
	MISCELLANEOUS.	
106	12″ Lathe	Group
107	16″ Lathe	Group.
111	20″ Lathe	Group.
183	4 Spindle test hole drill	Group.
24	60″×60″×20′ Planer	1 20 h.p., 900 r.p.m., A.C.
255	24″ Traverse head shaper	1 5 h.p., 1200 r.p.m., A.C.
257	24″ Traverse head shaper	1 5 h.p., 1200 r.p.m., A.C.
68	12″ Slotter	Group.
248	24″ Slotter	1 10 h.p., 500-1500 r.p.m., D.C.
224	20″ Lathe	Group.
65	26″ Gap lathe	Group.
275	42″ Lathe	1 10 h.p., 500-1500 r.p.m., D.C.
294	Portable bolt lathe	1 2 h.p., 1700 r.p.m., A.C.
295	Portable bolt lathe	1 2 h.p., 1700 r.p.m., A.C.
239	2 Spindle sensitive drill	Group.
208	3 Spindle sensitive drill	Group.
74	24″ Drill	Group.
75	24″ Drill	Group.
258	30″ Drill	1 5 h.p., 1200 r.p.m., A.C.
260	30″ Drill	1 5 h.p., 1200 r.p.m., A.C.
281	32″ Drill (portable)	1 5 h.p., 1200 r.p.m., A.C.
261	36″ Drill	1 5 h.p., 1200 r.p.m., A.C.
82	40″ Drill	1 3 h.p., 1200 r.p.m., A.C.
72	6 ft. Radial drill	Group.
83	3 Spindle drill	1 7½ h.p., 1200 r.p.m., A.C.
215	8 Spindle arch bar drill	1 15 h.p., 900 r.p.m., A.C.
217	4″ Centreing machine	Group.
225	Twist drill grinder	Group.
81	Wet emery grinder	Group.
79	Cold saw	1 5 h.p., 1200 r.p.m., A.C.
192	Power hack saw	Group.
	LABORATORY.	
113	10″ Lathe	Group.
209	Stay bolt vibrator	Group.
210	Spring tester	Group.
214	Tension and comp. testing machine	Group.
	TENDER SHOP.	
384	30″ Auto. cut-off saw	1 15 h.p., 900 r.p.m., A.C.
386	30″ Self-feed rip saw	1 15 h.p., 900 r.p.m., A.C.
385	16″ Buzz planer	1 7½ h.p., 1200 r.p.m., A.C.
387	Mortiser and borer	1 15 h.p., 900 r.p.m., A.C.
388	Grindstone	1 2 h.p., 1800 r.p.m., A.C.
260	30″ Drill	1 5 h.p., 1200 r.p.m., A.C.
	BOILER AND TANK SHOP.	
133	13′ Stake hyd. rivetter	
134	12′×1″ Plate rolls	1 20 h.p., 720 r.p.m., A.C. 1 7½ h.p., 720 r.p.m., A.C.
135	6′×⅜″ Plate rolls	1 7½ h.p., 1200 r.p.m., A.C.
136	20′ Plate planer	1 15 h.p., 900 r.p.m., A.C.
287	200 ton hyd. sectional flanger	
148	1⅛″ Plate splitting shear	1 15 h.p., 900 r.p.m., A.C.
141	¾″ Punch or shear, 40″ throat	1 5 h.p., 1200 r.p.m., A.C.
168	⅜″ Shear, 36″ throat	1 7½ h.p., 1200 r.p.m., A.C.
182	¾″ Rotary bevel shears	1 7½ h.p., 1200 r.p.m., A.C.
299	1⅛″ Punch, 48″ throat	1 10 h.p., 1200 r.p.m., A.C.
137	1″ Horz. flange punch	1 5 h.p., 1200 r.p.m., A.C.
138	¾″ Punch	1 5 h.p., 1200 r.p.m., A.C.
139	½″ Punch	1 3 h.p., 1200 r.p.m., A.C.
206	24′ Flue cleaner (pit type)	1 30 h.p., 720 r.p.m., A.C.
205	Double cyl. pneu. flue welder	
204	Flue welder and cutter	1 5 h.p., 1200 r.p.m., A.C.
203	Flue cutter	1 3 h.p., 1200 r.p.m., A.C.
160	Flue ferrule cutter	1 3 h.p., 1200 r.p.m., A.C.
	BLACKSMITH SHOP.	
154	4000 lb. D.F. steam hammer	
181	2000 lb. Single frame steam hammer.	
155	1800 lb. Single frame steam hammer.	
157	1200 lb. Single frame steam hammer.	
156	1000 lb. Single frame steam hammer.	
173	600 lb. Single frame steam hammer.	
172	600 lb. Single frame steam hammer.	
174	No. 11 Champion power hammer	1 10 h.p., 1200 r.p.m., A.C.
177	No. 9 Champion power hammer	1 7½ h.p., 1200 r.p.m., A.C.
166	No. 9 Champion power hammer	1 7½ h.p., 1200 r.p.m., A.C.
176	No. 7 Champion power hammer	1 5 h.p., 1200 r.p.m., A.C.
153	Small power hammer	1 3 h.p., 1200 r.p.m., A.C.
145	3″ Header	1 20 h.p., 900 r.p.m., A.C.
178	2″ Header	1 15 h.p., 900 r.p.m., A.C.
146	1½″ Header	1 10 h.p., 1200 r.p.m., A.C.
147	1″ Header	1 7½ h.p., 720 r.p.m., A.C.
180	No. 9 Bulldozer	1 30 h.p., 900 r.p.m., A.C.
143	No. 6½ Bulldozer	1 20 h.p., 900 r.p.m., A.C.
144	2 cylinder air bulldozer	
170	1½″ Hot pressed nut machine	1 15 h.p., 900 r.p.m., A.C.
297	1″ Hot pressed nut machine	1 7½ h.p., 900 r.p.m., A.C.
171	No. 3 Taper forging rolls	1 30 h.p., 900 r.p.m., A.C.
152	Spring punch, shear and roller	1 5 h.p., 1200 r.p.m., A.C.
167	Eye bender	1 3 h.p., 1200 r.p.m., A.C.
162	Draw bar rivetter	
163	60 ton spring band. and strip. press.	
169	No. 6 Guillotine bar shear	1 30 h.p., 900 r.p.m., A.C.
179	2¼″ Bar iron shear	1 10 h.p., 1200 r.p.m., A.C.
151	1¼″ Bar iron shear	1 3 h.p., 1200 r.p.m., A.C.
150	No. 6 Scrap shear	1 10 h.p., 1200 r.p.m., A.C.
149	No. 6 Scrap shear	1 5 h.p., 1200 r.p.m., A.C.
165	No. 6 Scrap shear	
289	No. 2 "Lion" file cutting machine	1 5 h.p., 1200 r.p.m., A.C.
290	Stripping and abrading machine	1 3 h.p., 1200 r.p.m., A.C.
291	Whetting machine	1 2 h.p., 1800 r.p.m., A.C.
187	No. 2 Drop apron tool grinder	1 3 h.p., 1200 r.p.m., A.C.
186	No. 2 Drop apron tool grinder	1 3 h.p., 1200 r.p.m., A.C.
164	Grindstone	1 2 h.p., 1800 r.p.m., A.C.
	TIN SHOP.	
226	72″ Squaring shears	1 3 h.p., 1200 r.p.m., A.C.
227	72″ Rolls	1 3 h.p., 1200 r.p.m., A.C.
228	72″ Folder	
229	36″ Squaring shears	1 2 h.p., 1800 r.p.m., A.C.
241	8″ Pipe machine	1 3 h.p., 1200 r.p.m., A.C.
242	6″ Pipe machine	1 1.75 h.p., 800-1600 r.p.m., D.C.
280	Circle and slitting shear	1 3 h.p., 1200 r.p.m., A.C.
	PATTERN SHOP.	
372	16″ Hand planer and jointer	1 5 h.p., 1200 r.p.m., A.C.
373	Universal saw bench	1 5 h.p., 1200 r.p.m., A.C.
374	16″ Double end patternmaker's lathe	1 3 h.p., 1200 r.p.m., A.C.
375	88″ Patternmaker's face lathe	1 7½ h.p., 1200 r.p.m., A.C.
376	20″ Double disc sander	1 5 h.p., 1200 r.p.m., A.C.
377	Emery grinder	1 3 h.p., 1200 r.p.m., A.C.
379	40″ Scroll and resaw	1 7½ h.p., 1200 r.p.m., A.C.
380	Core box machine	1 5 h.p., 1200 r.p.m., A.C.
381	26″ Single surfacer	1 15 h.p., 900 r.p.m., A.C.
382	No. 6 Column scroll saw	1 2 h.p., 1800 r.p.m., A.C.
391	12″ Motor head speed lathe	1 ½ h.p., 700-2100 r.p.m., D.C.
	CABINET SHOP.	
301	26″ Planer and smoother	1 15 h.p., 900 r.p.m., A.C.
302	24″ Planer	1 7½ h.p., 1200 r.p.m., A.C.
303	12″ Buzz planer	1 5 h.p., 1200 r.p.m., A.C.
304	No. 1 Universal wood worker	1 3 h.p., 1200 r.p.m., A.C.
305	42″ Three drum sander	1 30 h.p., 900 r.p.m., A.C.
306	Q. 1 tenoner	1 5 h.p., 1200 r.p.m., A.C.
367	V. j. hand gainer	1 7½ h.p., 1200 r.p.m., A.C.
307	8″ Four side moulder	1 7½ h.p., 1200 r.p.m., A.C.
368	S. p. panelling, edge and surf. mldr.	1 3 h.p., 1200 r.p.m., A.C.
308	Double spindle shaper	1 7½ h.p., 1200 r.p.m., A.C.
309	1½″ Hollow chisel mortiser Boring attachment	1 7½ h.p., 1200 r.p.m., A.C. 1 2 h.p., 1800 r.p.m., A.C.
310	¾″ Horz. hollow chisel mortiser	1 3 h.p., 1200 r.p.m., A.C.
311	3 Spindle borer	1 3 h.p., 1200 r.p.m., A.C.
312	24″ Lathe	1 3 h.p., 1200 r.p.m., A.C.
320	22″ Auto. cut-off saw	1 7½ h.p., 1200 r.p.m., A.C.
370	20″ Self-feed rip saw	1 10 h.p., 1200 r.p.m., A.C.
317	Universal saw bench	1 5 h.p., 1200 r.p.m., A.C.
318	Double circular sawing machine	1 5 h.p., 1200 r.p.m., A.C.
319	V. c. double cut-off saw	1 7½ h.p., 1200 r.p.m., A.C.
316	Dado and saw	1 3 h.p., 1200 r.p.m., A.C.
315	40″ Scroll and re-saw	1 7½ h.p., 1200 r.p.m., A.C.
314	36″ Band saw	1 3 h.p., 1200 r.p.m., A.C.
313	No. 2 Scroll saw	1 2 h.p., 1800 r.p.m., A.C.
369	S. r. vertical embosser	1 5 h.p., 1200 r.p.m., A.C.
321	No. 3 Emery grinder	Group.
322	No. 2 Emery grinder	1 2 h.p., 1800 r.p.m., A.C.
323	Grindstone	Group.
389	Grindstone	1 2 h.p., 1800 r.p.m., A.C.
293	Single sweeper vacuum cleaner	1 2 h.p., 1800 r.p.m., A.C.
371	4″ Pipe threader	1 2 h.p., 500-1000 r.p.m., D.C.
390	Emery buffer and polisher	1 3 h.p., 1200 r.p.m., A.C.
338	Hair picking machine	
339	Pipe bender	
337	Auto. sash and door clamp	
324	Foot mitre machine 4 No. 1 Trimmers 5 No. 3 Trimmers 3 No. 4 Trimmers	
	PLANING MILL.	
340	No. 171 Planer and matcher	1 75 h.p., 900 r.p.m., A.C.
341	Q.Y. planer and matcher	Group.
342	Q.Q. planer and matcher	Group.
343	No. 32 Dimension planer	1 15 h.p., 900 r.p.m., A.C.
344	No. 88 Single surfacer	Group.
345	16″ Variety w. worker with mortiser.	Group.
346	16″ Variety w. worker with borer	1 7½ h.p., 1200 r.p.m., A.C.
347	No. 151 Vert. auto. car sill tenoner	Group.
348	No. 4 Large car tenoner	Group.
349	No. 3 Car gainer	1 20 h.p., 900 r.p.m., A.C.
350	No. 300 Hollow chisel car mortiser	Group.
351	3 Spindle car borer	Group.
352	3 Spindle medium borer	Group.
358	No. 3 Auto. cut-off saw	1 15 h.p., 900 r.p.m., A.C.
359	No. 3½ Sill cut-off saw	1 15 h.p., 900 r.p.m., A.C.
360	No. 229 11½ ft. cont. d. cut-off saw.	1 15 h.p., 900 r.p.m., A.C.
356	No. 5 Self-feed rip saw	1 20 h.p., 900 r.p.m., A.C.
355	No. 3 Car rip saw	1 10 h.p., 1200 r.p.m., A.C.
354	R. i. self-feed rip saw	Group.
357	22″ Rip saw	Group.
353	U. o. band and re-saw	Group.
364	No. 4 Grinder	Group.
365	No. 3 Grinder	Group.
366	48″ Grindstone	Group.
361	30″ Planer knife grinder	Group.
362	Band saw setting and filing mach.	Group.
363	No. 93 Auto. circular saw sharpener.	Group.

POWER HOUSE.

2 300 k.w. generators, 3 phase, 60 cycle, 220 volt, alternating current. Direct connected to
2 500 h.p. gas engines, 150 r.p.m., using producer gas. Both generators and engines are manufactured by Westinghouse Co.
1 200 k.w. motor generator, 220 volt, direct current. Allis-Chalmers Bullock.
1 70 k.w. motor generator, 220 volt, direct current. Westinghouse Co.
2 105 k.w. generators, 3 phase, 60 cycle, 2,200 volts, alternating current. Direct connected to
2 14″×14″ single cylinder steam engines, 257 r.p.m. Robb Engineering Co.
1 2000 cu. ft. Cross compound Corliss steam. two stage air compressor. Air cylinders 16″ and 30″; steam cylinders 16″ and 27″ × 36″ stroke. Can. Rand Co.
1 1000 gallon compound duplex steam pump; steam cylinders 12″ and 18½″; water cylinders 10″ × 12″ stroke.
1 300 gallon duplex steam pump. 8″×7″×12″. For providing the circulating water for gas engines and air compressor. Canadian Fairbanks Co.
2 water tube boilers, 5346 sq. ft. heating surface, 160 lbs. pressure; with chain grates. Babcock & Wilcox. Ltd.
2 10″×6″×12″ duplex, outside packed plunger pumps for boiler feed equipped with governor in connection with feed water regulators on boilers.
1 vertical water tube feed water heater, 319 sq. ft. heating surface; capacity 21,000 lbs. water per hour. Babcock & Wilcox.

GAS PRODUCER HOUSE.

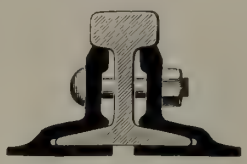
The producer gas plant has capacity of 1000 lbs. of coal per hour, or 1500 lbs. of coal for not more than three hours. The output is 55 cubic feet of producer gas, and 18 cubic feet of water gas per pound of coal. There is a holder for each kind of gas with a capacity of 10,000 cubic feet each.

ADDITIONAL SAFETY AND ECONOMY IN

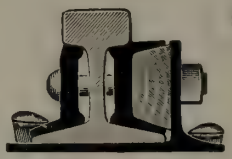
TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence.

HIGHEST AWARDS
Paris, 1900;
Buffalo, 1901; St. Louis, 1904


Continuous Joint

Over 50,000 miles in use


Weber Joint

Rolled from Best Quality Steel

Wolhaupter Joint

Catalogues at Agencies

Baltimore, Md. Boston, Mass. Chicago, Ill. Denver, Colo. Pittsburg, Pa.
San Francisco, Cal. Seattle, Wash. St. Paul, Minn. St. Louis, Mo. Troy, N.Y.
London, E. C., Eng. New York City.

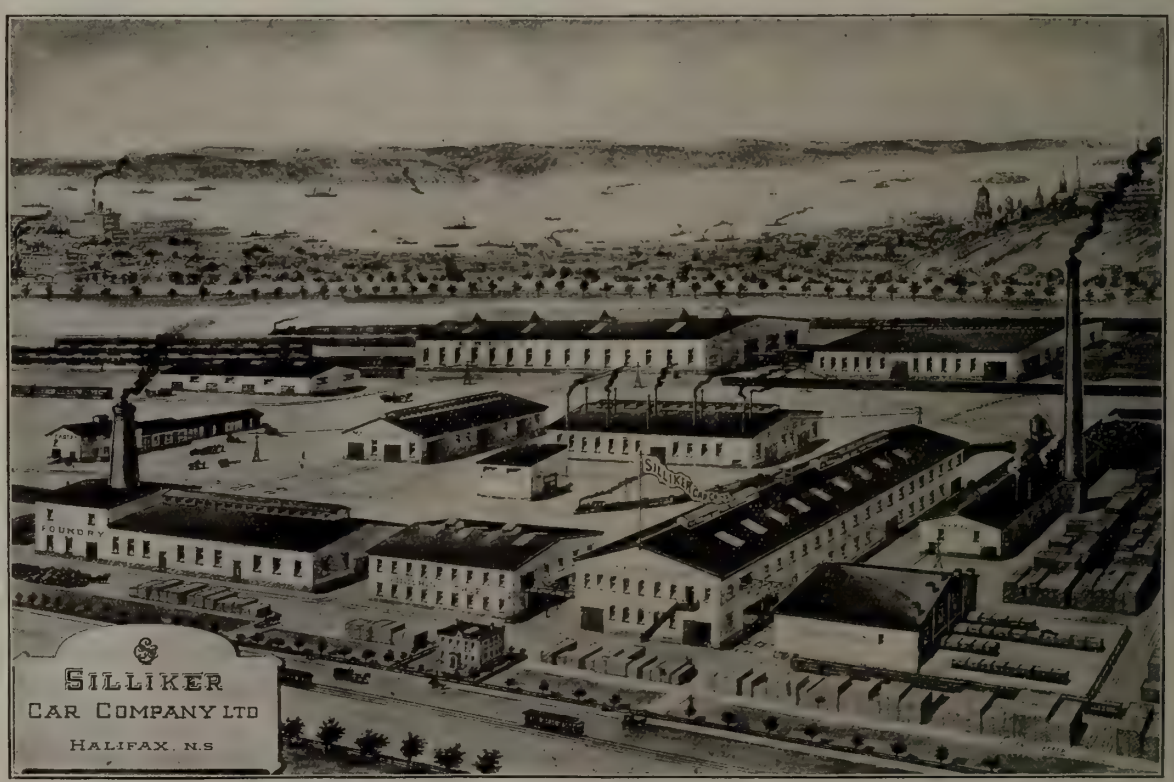
THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES: BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, Frog and Switch, and Insulating Rail Joints, protected by Patents.

SILLIKER CAR COMPANY, LIMITED, HALIFAX, N. S., CANADA

STREET RAILWAY CARS



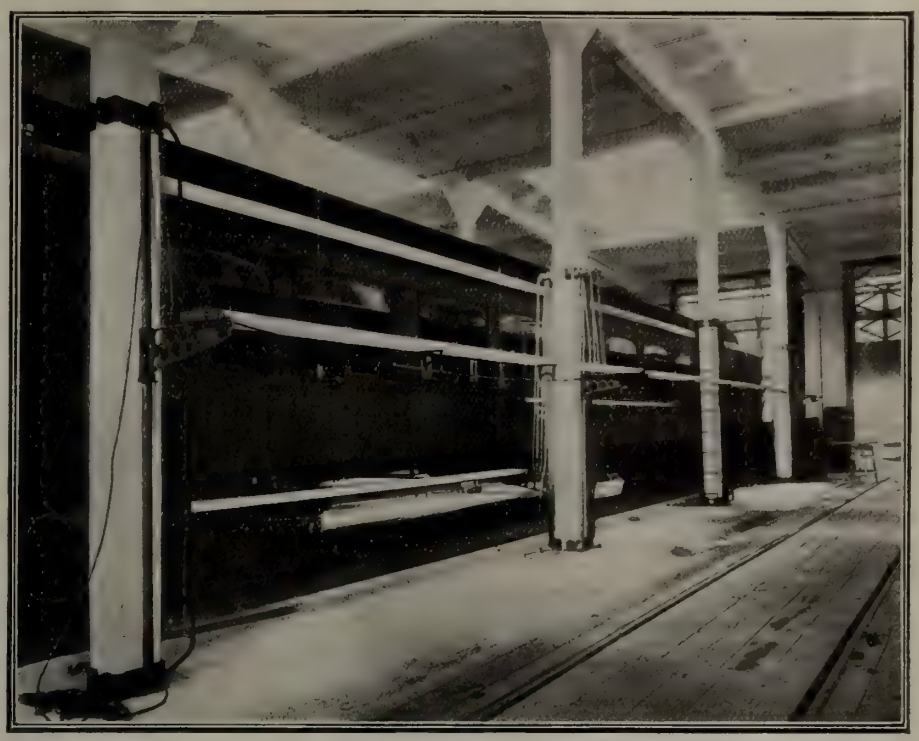
HEAVY FORGINGS AND CASTINGS

RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

Care and Washing Out of Locomotiv Boilers.

By J. V. Jackson, Boiler Inspector, G.T.R.

Upon consideration of the subject of washing out boilers, it must be admitted that it is a very important part in the successful operation of any plant depending on boilers and steam power, and should, therefore, be given every possible attention by all concerned, to see that the work is done in a proper manner, and at the correct periods of time, or mileage run. This, however, is to be decided by some persons in authority, and governed by the conditions of water in the districts through which the different locomotives work. Before proceeding with the washing out of boilers I will first consider the reasons for requiring to have boilers washed out. It is well known that all waters contain impurities of some kind, more or less. Some of these impurities will settle as soon as they enter the boilers, and will there strongly adhere to the tubes and barrel plates, in this manner causing the barrel and tubes to block up quickly, interfering with the proper circulation of water through the boiler. There are other impurities, which are held in suspension, and will float to the surface of the water, when the water is sufficiently heated, in the form of a scum. Considerable of this matter is kept continually in motion by the circulation of the water inside the boiler, and, in this manner is carried back and forth to all parts of the boiler, and the gradual accumulation of these foreign substances leads to the formation of a coating of scale on practically all parts of the tubes and plates with which the water comes in contact. A very thin scale is considered to be beneficial to a boiler, seeing that it has the effect of preventing the corrosive action of the water upon the plates, tubes, etc., but when it becomes at all thick, the heat-conducting power of the plates to the water is greatly diminished, and it is stated that 1-16 inch thickness of scale calls for an increase of from 10% to 15% in fuel, whereas heavy scale forming on plates which are in direct contact with the flames from the furnace, may become a source of danger, since the heat from the fire is not carried to the water as fast as it should be and the plate does not get the necessary protection of the water, which should absorb this heat. In this manner the plates are liable to become overheated, and to corrugate between the stay bolts, also to start a large number of stays leaking. This result requires sending the boiler to the repair shops, for sheets to be straightened, and all stays to be made tight, which is very expensive, when considered in comparison with the cost of preventing the cause, which is by proper attention to regular washing out.



INTERIOR OF PASSENGER CAR REPAIR SHOP, I.C.R., MONCTON, SHOWING ADJUSTABLE PLATFORM FOR WORK ON OUTSIDE OF CARS.

In many cases where scale is allowed to accumulate heavily against firebox sheets, the sheet will crack out away from the staybolt holes, which sign, when found in the sheets of a firebox, is looked upon as strong evidence of the presence of heavy scale in the water space at this point. This scale should be at once removed, and sheets and blots made clean. If the cracks are bad, the defective portion of plate should be cut out, and a patch put on in place. These patches are usually fastened to the firebox sheets with patch bolts, which protrude through the sheet, and into the water space, from ¼ to ½ inch. These small projections into the water space being close together, act as good collectors of sediment, and often become one solid line of scale around the inside edges of the patch, thus destroying the protection given to the edge of patch by the water, and in a large degree being the cause of patch bolts leaking at the heads, and edges of patches burning and cracking badly, thus showing the necessity of keeping firebox sheets and bolts clean at all times, using the best means possible to accomplish this work, also, as a general rule, knowing where to look for accumulations of sediment, scale, etc. In the first place, we have the crown sheet, which, being directly over the fire, and flames impinging at a direct angle against the plate causes the water to evaporate very rapidly at this point and to disintegrate itself from any suspended matter with which it may then be impregnated; this matter may be precipitated to the sheet or pass towards the front end of the boiler as scum, but in many cases it is found that the staybolts supporting the crown have become coated with this sediment, from the given line of the working level of water down to and on the crown sheet, and, seeing that the crown sheet is the most important part of every locomotive boiler, too much care cannot be taken to seeing that it and all the staybolts supporting it are kept clean from scale and sediment. We also find considerable sediment at the tubes and sides of barrel of boiler, at the point of entrance of feed water from top checks, also along the bottom and sides of barrel to throat sheet, and side water legs, to which it is carried and deposited, due to the circulation of the water, and it will be found heavy at the bottom of the barrel, also

INTERIOR OF MACHINE SHOP, INTERCOLONIAL RAILWAY, MONCTON.

MONTREAL STEEL WORKS, LIMITED

POINT ST. CHARLES, = = MONTREAL

MANUFACTURERS OF

Steel Castings
(Acid Open Hearth System)

Switches and Track Work
for Steam and Electric Roads

Springs
of all kinds

Manganese Steel Castings
for wearing Parts, insuring Great Hardness and Durability

Interlocking Plants

Trucks for Electric Cars

Agents for Canada for

THOS. FIRTH & SONS, LIMITED, Sheffield, England
"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc. A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO., Barrow-in-Furness, England
Quotations for Tee Rails, Fish Plates, etc., promptly furnished. Catalogues sent on application.

Pintsch Light Steam Heat

Most brilliant illumination made possible by the Pintsch System using perfected Mantle Lamps and Safety Axle Driven Dynamo Electric System a product of sixteen years experience and now operating successfully on leading roads

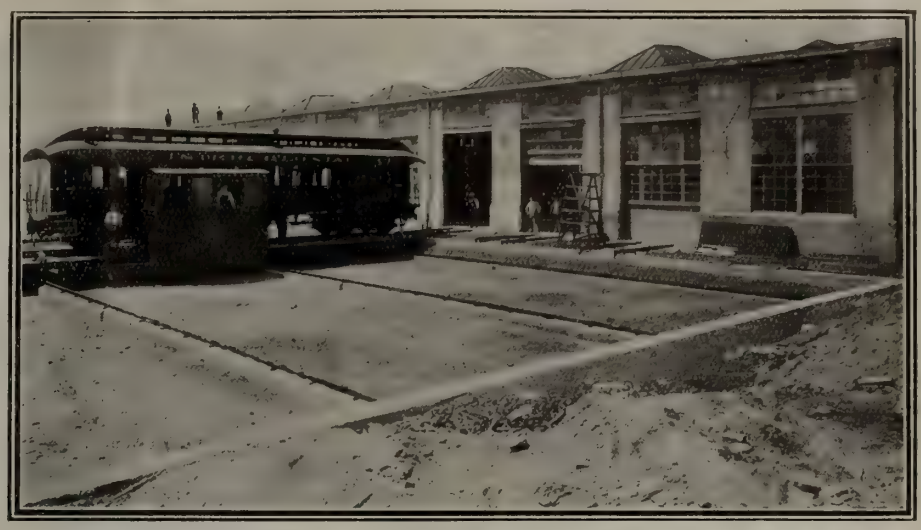
The Safety Car Heating and Lighting Co
2 RECTOR ST., NEW YORK.

Car Heating Systems guaranteed to meet all conditons of service. Controllable Direct Steam, Hot Water or Thermo Jet System where pressure not desired. Steam tight couplers, traps, trainpipe valves and other appliances.

CHICAGO. BOSTON. ST. LOUIS. ATLANTA. PHILADELPHIA. MONTREAL. BERKELEY, CAL.

at lowest points in waterlegs, and near blow-off cock. In locomotives which are fitted with arch tubes, it will, in many cases, be found that the circulation, through these tubes, which is from throat sheet water leg to a high point of the door sheet, will carry and deposit scale and sediment on to the top of the fire-hole sleeve, there to be held by the stay-bolts, and to accumulate until the fire-hole seam becomes overheated at the top, and sprung, due to what is rightly termed mud burn. This seam then leaks badly, and is often chipped and caulked by boilermakers, without having the cause of same removed, therefore great care should be taken by those in charge of washing out, to see that no sediment is allowed to remain on top of the fire-hole sleeve to cause trouble. A large amount of scale and sediment is also usually found at the bottom of door sheet water legs and at back ends of side water legs, where the water is more liable to be quiet, and favorable to the settlement of scale. We also find the tubes become heavily coated with scale close to the firebox tube sheet. This is undoubtedly due to the rapid evaporation of the water at this point, and the close formation of the nest of tubes being very favorable to receive the impurities deposited from the water. This adheres strongly to the tubes, generally, as hard scale. We must also watch carefully along the side water spaces at the upper portion of the ogee, at this point the staybolts are irregular, and the water space becomes decidedly narrower, and any large pieces of scale thrown over from the crown or broken off the high part of sides, may become lodged on these bolts and collect sediment quickly, until there is a solid blockage between the sheets which will cause serious trouble.

In mentioning these several points to be carefully watched in locomotive boilers, I do not mean that other parts of the boiler do not become subject to the formation of scale and sediment, but wish to show that all available parts of a locomotive boiler should be thoroughly searched with a suitable light after having been washed out, to ascertain that the work has been properly done, and no scale or sediment is left in the boiler which can be removed. Taking into consideration the disposition of washout holes and means of access to the interior of the boiler for the purpose of washing out, we find it advisable to have several holes on each side of saddle sheet, to wash down the sediment from off the crown sheet, also to turn the water down on to the high part of side water legs, and to break up and remove any scale which may have become lodged amongst the bolts at these high parts; several holes are also required in back head to enable streams of water, and use of cleansing rods in various directions along crown sheet, also to wash down the back water space. Also several washout holes are required in side water legs, and at bottom of each corner. With simple engines there are holes wanted in bottom of front end tube sheet, to enable bottom of barrel being cleaned out, whereas, with the crossover or two cylinder compound locomotives, we find that washout holes in bottom of front end tube sheet cannot well be used to advantage, therefore it is necessary to have washout holes in the bottom of the barrel, there being usually two on each side of the boiler at points where they can be used to the best advantage, and do the best service. These holes are also finding favor, and are being put into boilers of simple locomotives.



TRANSFER TABLE BETWEEN PASSENGER CAR AND PAINT SHOPS, I.C.R., MONCTON.

In washing a locomotive boiler it is advisable to first allow the steam pressure to blow off by blow-off lines from the locomotive, through car-heating steam hose to overhead pipes, which pipes are run from each pit in the locomotive house, to hot water well, where it acts as a heater to the water in the well at that time. This process is to be followed until the pressure in the boiler is reduced to about 10 lbs. gauge pressure, when hose connections from the blow-off cock of boiler to the blow-off pipes in pit can be made, and the hot water allowed to run from the boiler, and into the hot well or settling basin, until the boiler is quite empty, at which time all plugs may be removed from washout holes, and boiler be allowed to cool until a person can barely hold his hand upon the plates of same, or to about 160 degrees, at which time the boiler will be in a condition to be washed out with the water taken from the hot well for washout purposes, which well is kept at a lower temperature than the feed water well; but if this water is too hot for handling by men washing out the boilers, it may be tempered with cold water, by opening the cold water valve to pump, and combining the cold and hot water as required, directly before entering the pump, or the cold water may be turned on directly into the hot water well, until brought to the temperature required, about 130 degrees, for washout purposes, and be pumped from there direct to those washing out the boilers.

In this matter of cooling and washing there is little possibility of the so-called baking process, of turning settling sediment from the water into scale on sheets, when blowing off the water and preparing for washing out; also by washing out with hot water, the plates of the boiler are kept heated, and are thereby in a good condition to receive the hot feed water. This feed water is clean water which has overflowed from the washout hot well, which is, in turn, water that has passed through the settling basin, and over into the hot well for washout purposes, thus ensuring clean water for refilling boilers. But when washing the boilers it is necessary to start at the wash out holes on either side of the saddle sheet, and to clean everything possible in the form of scale and sediment from the crown sheet of firebox, by cleaning rods, and water from washout hose and nozzles, through these

INTERIOR OF FREIGHT CAR REPAIR SHOP, INTERCOLONIAL RAILWAY, MONCTON.

CANADA CAR COMPANY

MONTREAL, QUE. **LIMITED**

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS CASTINGS FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS:
BOX 2286, MONTREAL **Works: TURCOT**

Inside Pump Type

Quick Action Hydraulic Jacks

Joyce-Cridland Hydraulic Jacks have a speeding device whereby they can be run quickly up to load, where the speeding device automatically cuts out, leaving only the power pump in action This device adds no extra pump or complicated parts to the jack. These jacks are so built that they may be used in any position and the filling liquid will not escape. The outside pump type has a short barrel, adapting it for use in cramped quarters.

Full description and explanation of the working parts of the Joyce-Cridland Hydraulic Jacks are given in Bulletin 33.

Outside Pump Type

A. R. Williams Machinery Co., Limited

Toronto, Winnipeg and Vancouver. WILLIAMS & WILSON, Montreal

side holes, thereby throwing the loose sediment down into the water legs, from whence it can be easily removed, and from these holes the crooked nozzle should be turned down on to the bolts at top of side water spaces, to be sure of this being well cleaned of any loose sediment. The water can also be thrown over on to the tubes to wash the same, from the front holes in saddle sheet. Next get into the cab, to wash and clean crown sheet from the holes in back head sheet, and to turn the water from the crooked nozzle down into the back water-leg to clean the bolts and sheets of any loose sediment. Next go to the front end of barrel, and to barrel holes under the barrel ,and by the proper use of long barrel cleaning rods, and short and long and crooked nozzles, with a continued good pressure of same, say 100 to 150 lbs. to properly clean the barrel of all mud and scale, sending same down into the water legs of boiler. Here at the water leg holes, the sediment should be broken up and cleaned out from the boiler as much as possible with long, short, and bent cleaning rods furnished for this purpose, and then the water should be turned on from the highest holes in water legs first, and bolts, etc., washed in all directions, and from these high holes to gradually work downward at each hole until the lowest point of the boiler has been washed clean, being sure to keep the low holes clear at all times when washing out, to allow the soft mud and sediment to freely escape with the water. At this point it is necessary that the leading boilermaker should examine the inside of the boiler, wherever accessible, with a long search-light to see that no sediment or scale is allowed to remain lodged inside, and to ensure the boiler being properly cleaned before refilling, because any neglect on the part of the washer-out is likely to cause more work for the boilermaker and more expense for the company, therefore the boilermaker should see that the boilers are kept clean. After placing all plugs in washout holes in a proper manner, we will go back to the feed water hot well, and find the water, which is kept from 170 to 200 degrees in the well, is fed by gravity to a feed pump, and from there is forced through a superheater (which is heated by exhaust steam from stationary engines, air compressors and pumps which in turn exhaust into the hot well) and through refilling lines to the boiler, thereby enabling steam to be got up from same in a very short notice, and the boiler is not allowed to get cold. The process of washing out locomotive boilers as stated in this article will take about 90 minutes to blow off and take out plugs, and about four hours on an average from engine arriving on washout pit, to be washed out, refilled, and made ready to be fired up for service.

The foregoing paper was read before the Central Railway and Engineering Club recently.

Ontario Railway & Municipal Board.—The fire at the Parliament Buildings, Toronto, Sept. 1, destroyed a portion of the west wing, in which the Board's offices were located. The offices were not burned, but with their contents were much damaged by water and smoke, and as a considerable portion of the wing will have to be rebuilt, the Board has rented offices in the Manning Block, Queen St. West, and has removed there.

The Mount Royal Construction, Ltd., has been incorporated under the Dominion Companies' Act, with a capital of $20,000 and offices at Montreal, for the purpose of transacting a general contracting business and in connection therewith to carry on a number of allied businesses. The provisional directors are: A. Laurier, L. T. A. Trudeau, Z. Filion, J. P. Laurier, Montreal; L. J. Trudeau, St. Remi, Que.

Railway Rolling Stock Notes.

The Temiskaming and Northern Ontario Ry., between Aug. 12 and Sept. 17, added two switching locomotives to its rolling stock.

The C.P.R., between Aug. 14 and Sept. 10, ordered the following rolling stock: 250 box cars of 30 tons capacity, eight sleeping cars, three flangers and three steel snow plows from its Angus shops, Montreal, and 10 vans from its Farnham shops, Que.

The C.P.R., between Aug. 14 and Sept. 10, received the following additions to rolling stock: 84 box cars, six observation cars, two dining cars, three combination first class and smoking cars, and five D10 locomotives from its Angus shops, Montreal.

The C.N.R., between Aug. 15 and Sept. 15, received the following additions to rolling stock:—101 box cars, 5 first class coaches, 2 baggage cars and 4 cabooses from Rhodes, Curry Co., Amherst N.S.; 300 box cars from the Canada Car Co., Montreal; 40 box cars from Crossen Car Manufacturing Co., Cobourg, Ont.; 2 baggage and mail cars and four combined second class and baggage coaches from Silliker Car Co., Halifax, N.S., and 2 baggage and mail cars.

The Silliker Car Co., Halifax, is building a combination passenger and sleeping coach and 10 flat cars, for the Anglo-Newfoundland Development Co.; and 2 motor cars for the Halifax Electric Tramway Co. Between June 15 and Sept. 18, it delivered 27 box cars, 18 flat cars and one combination passenger and sleeping coach to the Anglo-Newfoundland Development Co., and 2 60 ft. baggage and mail cars, and 4 70 ft. combination second class and baggage cars to the C.N.R.

The G.T.R. has ordered 15 consolidation locomotives from the Montreal Locomotive Works. Following are chief particulars:—

Weight on drivers	184,000 lbs.
Total weight	211,200 lbs.
Cylinders	22½ × 35" and 32"
Drivers, diam.	63"
Boiler type	extended wagon top.
Boiler pressure	210 lbs.
Heating surface, total	2,925.3 sq. ft.
Tubes, no. and diam.	353, 2"
Tubes, length	15 ft.
Firebox	96⅞" × 75¼"
Grate area	50.62 sq. ft.
Capacity, water	7,000 U.S. galls.
Capacity, coal	10 tons.

The G.T.R. has ordered 25 mogul locomotives from the Canadian Locomotive Co., Kingston, Ont., of which the following are general particulars:

Wheel base of engine, rigid	14' 0"
Wheel base of engine, total	22' 7"
Wheel base of engine and tender	50' 3"
Height of engine	14' 8"
Heating surface, firebox	160.2 sq. ft.
Heating surface, tubes	1,551.5 sq. ft.
Driving wheels, diam.	63"
Driving wheel centres	Cast steel
Driving journals	9" by 10"
Cylinders	19" by 26"
Boiler, type—Extended wagon top, radial stayed.	
Boiler, pressure	180 lbs.
Tubes, No. and diam.	266, 2"
Tubes, length	10' 10"
Air brakes	Westinghouse ET.
Weight of tender loaded	130,800 lbs.

In reference to the C.P.R. observation cars, particulars of which appeared in our July, Aug. and Sept. issues, our attention has been called to a feature in which they are said to eclipse all other observation cars on American lines, viz., the extreme height of the observation windows, which gives 34 ins. of clear window between the bottom of the window shade, when raised as far as possible, and the bottom portion of the window. Our correspondent says this is 10 ins. more clear space than he has seen on any other cars in America. He adds: "I have tested the observation room under every condition of light and it is practically perfect as a means of viewing scenery from a train."

National Transcontinental Railway.

The estimates for work done on the N.T.R. in New Brunswick during August amounted to $515,768. The Commissioners have asked for tenders for the supply and erection of steel bridges for the line in New Brunswick as follows: over Cains River, to be completed by Dec. 1; over the South West Miramichi River, to be completed by Mar. 15, 1910; two over the Juniper brook, to be completed by April, 1910; over the Odell Brook, to be completed by April, 1910.

As a result of a meeting on Sept. 7 between the Minister of Railways, the three engineers appointed to design the new Quebec bridge, and the three other engineers appointed lately to consult with them, it was announced that practically all the vital points as to the style of structure, etc., had been decided on, and that the preparation of plans would be gone on with at once. Plans for both cantilever and suspension type of bridge will be prepared simultaneously, and tenders called for both. The general principles already decided upon will make the bridge a much more substantial structure than the fallen one. It will be 150 ft. above high tide, and if the cantilever type is chosen will be of the straight type, without the arch effect of the old structure. It will be 85 ft. wide from centre to centre of trusses, or 24 ft. wider than the old bridge. The increased width will give ample room to accommodate the steam and electric railway tracks, roadway, footpaths, etc. The centre span will be reduced from 1,800 ft. to 1,717 ft. This will be accomplished by the erection of another pier on the Quebec side, 100 ft. from the existing deep water pier. In addition to this, the pier on the south side will be enlarged to allow for the greater width and bearing power required. It has also been decided to use a considerable amount of nickel steel in the construction of the new bridge. The Minister of Railways said he was hopeful of an early start being made with constructon, but he could not say when tenders would be asked.

J. T. Davis, of the contracting firm of M. P. and J. T. Davis, stated Sept. 1 that he had been instructed by the Government engineers to go ahead with the work of construction of the terminal lines at the Sillery end of the Quebec bridge at once. There had been some changes made from the plans as arranged by the old bridge company. There would not be much work done this year, as the rock cutting was very heavy.

J. G. Scott, ex-General Manager of the Quebec and Lake St. John Ry., has recently completed a trip over the lines under construction in the St. Maurice River valley. He says the railway from Hervey Jct., the point of junction with the Canadian Northern Ry., to La Tuque is completed, with the exception of a steel viaduct not far from the latter point. This bridge which is being constructed by the Dominion Bridge Co., will be 3,000 ft. long and 180 ft. high. Approaching La Tuque, some very heavy work, including some tunnels, had to be done in order to retain the limit of 0.4% which the specifications exact as the heaviest gradient allowed against eastbound traffic. The roundhouse, yards and divisional workshops are located about a mile west of the town on account of the gradient. Leaving La Tuque, the line crosses the Bostonnais and Croche Rivers in the next five miles, and then crosses to the west bank of the St. Maurice River. The bridge across the St. Maurice consists of six spans of steel on concrete piers and abutments. The piers are protected by wooden piers a few hundred feet higher up the river so as to break up any ice flowing in the spring. From La Tuque to Vermillion, over 30 miles, the line runs along the west bank of the St. Maurice

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.
MONADNOCK, CHICAGO

The Hamilton Steel & Iron Co.

HAMILTON, CANADA LIMITED

PIG IRON

RR. AXLES **ANGLE BARS**
TRACK SPIKES **TIE PLATES**

Marine and Railroad
FORGINGS
In Rough, Rough Turned or Smooth Finished

BAR IRON **BAR STEEL**
Plain, Cold Twisted or Deformed

STEEL BARS
For
CONCRETE REINFORCEMENT

River at a considerable elevation. The track at present terminates at Vermillion. Beyond this point to Weymontachene, 54 miles, the line is nearly ready for the steel. Leaving the St. Maurice at this point the line strikes westward towards Lake Abitibi, and grading operations are being actively pushed on the first 25 miles. Beyond this point the work being done is confined to engineering and clearing the right of way.

West of Lake Abitibi, it has been announced that the Ontario Government has decided to retain the town sites along the railway, and to dispose of the lands for the benefit of the Provincial Treasury.

The Commissioners have asked for tenders for the supply and erection of the following steel bridges on District D, which extends from Lake Abitibi to beyond the crossing of the Mattagama River: Over Circle River, to be completed by July, 1910; over Low Bush River, to be completed by June, 1910; over Brule Creek, to be completed by April, 1910; over Frederic House River, to be completed by April, 1910; over Buskego River, to be completed by April, 1910; over Driftwood River, to be completed by May, 1910; over Mattagama River, to be completed by June, 1910.

Work on the 75 mile section north of Lake Nipigon is reported to be nearly completed. The contract is mostly muskeg fills, and it is expected that track will be laid by the end of the year. The Nipigon Construction Co. has the contract.

GRAND TRUNK PACIFIC RAILWAY.

On Sept. 7 a regular train service was put on as far as Wainwright, 110 miles west of Scotts, where the service had previously ended. The service through to Edmonton was put on Sept. 15.

The bridge illustrated on this page spans the North Saskatchewan River valley at Clover Bar crossing, on the G.T.P.R. main line, 786.5 miles west of Winnipeg and about 8 miles east of Edmonton. The foundations were made in the usual way by means of open coffer dams and concrete forms, and the noses of the river piers were provided with steel protectors. Five hundred and twelve piles were used only in the foundations of pedestals nos. 2, 3, 4, 5, 18, 19 and 20. The substructure of plain concrete comprises two wing abutments, 14 pairs of pedestals and 4 river piers, and the total amount of concrete used was 22,000 cu. yds. The area at the base of each of the 4 river piers at foundation level is 3,772 sq. ft.; average height 120 ft., each containing about 4,160 cu. yds. of concrete. The superstructure is composed of two 50 ft. end spans, eight 50 ft. and four 40 ft. intermediate spans, resting on 7 steel towers; three 225 ft. deck truss spans resting on piers and two 150 ft. deck truss spans resting on pier and tower. The amount of steel in the superstructure is about 2,100 tons. The total length of bridge between parapets is 1,655.5 ft., and the distance from base of rail to low water is about 136.5 ft. The average height between base of rail and ground line is 87 ft. Work on the substructure was begun Dec., 1906, and the entire structure was completed Jan., 1909.

GRAND TRUNK PACIFIC RAILWAY BRIDGE OVER NORTH SASKATCHEWAN RIVER AT CLOVER BAR, ALTA.

On Sept. 1 it was reported that there were about 40 miles of track to be laid on the line east of Winnipeg to connect up with the Grand Trunk Pacific Ry. Lake Superior branch, and thus give a through connection from beyond Edmonton, Alta., to Fort William, Ont. It is expected that this will not be laid until the beginning of Oct. on account of the scarcity of labor. Tracklaying has been delayed on account of the non-completion of the bridge over the Wabigoon River, north of Dryden. In consequence of this delay in the completion of this section of the line it is reported that the G.T.P.R. has made an arrangement with the Canadian Northern Ry. to carry the grain brought into Winnipeg from the West to Fort William.

The first divisional point on the line east of Winnipeg has been named Redditt. It is situated in Ontario, about 12 miles east of the Winnipeg River, and 122 miles from Winnipeg. A roundhouse and other terminal buildings will be constructed; the work is to be started at an early date. The second divisional point will be at Rowell, directly north of Dryden. The most important of the town sites on this section of the line will be at Superior Jct.

The Commissioners are considering tenders for the excavation and back filling of a pipe line from the Red River to the locomotive shops, etc., east of St. Boniface, Man., the work to be completed by Dec. 31.

We are advised that a contract has been awarded to the J. D. McArthur Co., Winnipeg, for the construction this year of a branch line towards Calgary, starting from Tofield, Alta. The length of line to be constructed under the contract is 50 miles. We are further advised that there is no foundation for the report, referred to in our last issue, that it was intended to start work this year on the construction of a branch from Justice to Brandon, Man. (Sept., pg. 653.)

At the Prince Rupert end of the line a cargo of steel rails arrived Sept. 3 from Sydney, N.S., and another is en route. There is reported to be a serious lack of labor in Northern British Columbia, and the contractors and the company are considering the advisability of asking the Dominion Government to permit the importation of Chinese and Japanese labor to enable them to complete the line in time. An Ottawa press despatch, Sept. 15, says it is not likely that anything will be done in regard to this matter until there can be a full meeting of the Cabinet, and further that it is not likely that the Government will grant the request. It is expected to get the first section of the line easterly from Prince Rupert completed this year. Already the contractors who have completed their work have been moving on to the second section, extending from the Copper River to Aldermere, in the Bulkley valley, 135 miles, for which a contract has been let to Foley, Welch & Stewart. E. J. Chamberlin, General Manager, stated Sept. 1 that he expected that a start had then been made on the heaviest work on the whole contract, three tunnels near Kitsalas Canyon. They will be 400, 800 and 1,400 ft. long respectively. Work will be commenced at once on the 2,500 ft. tunnel 19 miles beyond Hazelton. An aerial tramway is being installed at Kitsalas Canyon to handle supplies and material around a dangerous section of the river.

Speaking at Vancouver, at the end of Aug., C. M. Hays, President G.T.P.R., said the G.T.P. would undoubtedly be in Vancouver. There must be railway connection between Vancouver and the north. The people will not be satisfied with a line only to Prince Rupert, but will desire it pushed further on. The G.T.P.R. charter provided that at the proper time it was to be extended to the Yukon.

E. J. Chamberlin, General Manager, who was with the President and the English directors, said that the survey work from Kamloops to Vancouver would be rushed; the work north of Kamloops on the proposed line was nearing completion. It was proposed to reach tidewater through the Fraser River Canyon. In regard to terminals, the President desired to have joint terminals and from that rose his willingness to join forces with the Great Northern Ry.

The Board of Railway Commissioners passed order 7881, Aug. 27, making regulations for the carriage of explosives by railways. The regulations are the same as those promulgated by the Interstate Commerce Commission, which, in the main, adopted the code prepared by the American Railway Association.

The C.P.R. grade reduction work between Hector and Field, B.C., having been completed, trains have been running over the new line since Aug. 25 and are governed by special rules regarding the electric staff system. The former special rules governing the movement of trains between Hector and Field have been cancelled and the company's standard and air brake rules now apply between those points.

Cameron-Chappelle, Ltd., has been incorporated under the Dominion Companies Act with a capital of $80,000 and offices at Ottawa, Ont., for the purpose of carrying on throughout Canada and elsewhere the business of contractors. The company is authorized to enter into contracts or agreements for the construction of lines of railway, telegraphs, canals, bridges, etc. The provisional directors are: C. S. Cameron, J. W. Chappelle, Port Arthur, Ont.; W. A. Cameron, A. L. McDougall, J. A. Cameron, Ottawa, Ont.

"AMERICAN"
Locomotive Cranes

With or without Magnet for Storekeeper's yard.

Built for discriminating buyers.

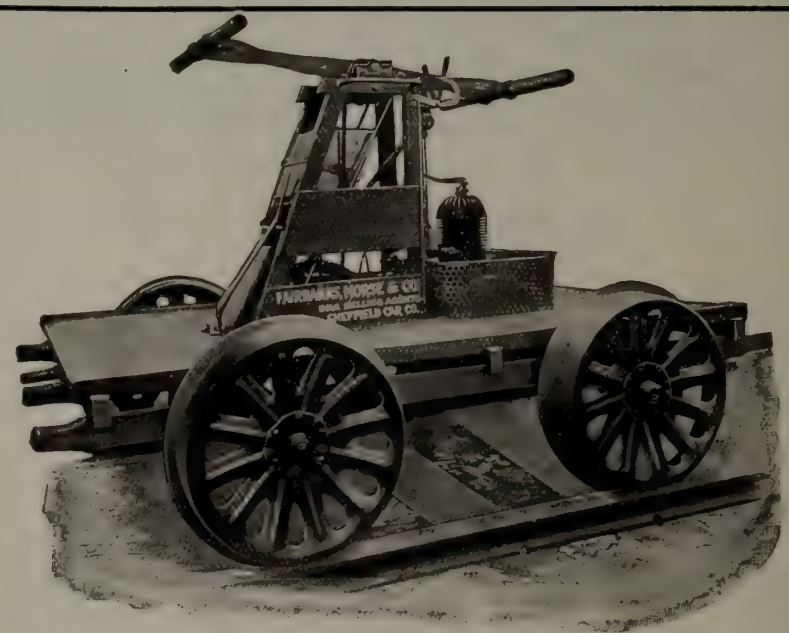
Photographs of machines in operation furnished on application.

We also manufacure the "AMERICAN" Railroad Ditcher.

AMERICAN HOIST & DERRICK CO.

ST. PAUL, U.S.A.

CHICAGO NEW YORK PITTSBURG NEW ORLEANS



No. 13 Fairbanks-Morse Gasoline Hand Car

COMBINATION HAND POWER AND GASOLINE POWER SECTION CAR.

A FAIRBANKS MORSE SECTION CAR will prove itself the best investment on the road. The men start to work strong and fresh and will do a better day's work when they know they can rest on the way back. Sections can be lengthened. Speed 15—18 miles an hour. 5 h. p. air cooled gasoline engine.

THE CANADIAN FAIRBANKS CO., LTD.

MONTREAL ST. JOHN, N.B. TORONTO WINNIPEG CALGARY VANCOUVER

C.P.R. Annual Report.

Following is the 28th annual report addressed to the shareholders over the signature of the President, Sir Thos. G. Shaughnesssy:

The accounts for the year ended June 30, 1909, show the following results:

Gross earnings		$76,313,320 96
Working expenses		53,357,748 06
Net earnings		$22,955,572 90
Net earnings of steamships in excess of amount included in monthly reports		399,909 50
Interest on deposits and loans	$545,098 76	
Interest due from Duluth, South Shore and Atlantic Ry. on consolidated bonds held by the Co.	$604,280 00	
Less advanced by company	464,280 00	
	140,090 00	
Interest from Minneapolis, St. Paul & Sault Ste. Marie Ry. on bonds held by company	159,720 00	
Interest from Mineral Range Rd. on bonds held by company	50,160 00	
Interest from Montreal & Atlantic Ry., and on other bonds held by company	58,484 70	
Dividend on St. John Bridge & Ry. Extension Co. stock held by company	50,000 00	
Dividend on Canada North-West Land Co. stock, held by company	28,125 00	
Dividend on Alberta Ry. & Irrigation Co. stock, held by company	69,376 94	
Dividends on Minneapolis, St. Paul & Sault Ste. Marie Ry. preferred and ordinary stocks held by company	805,613 00	
		1,906,578 40
		$25,262,060 80
Deduct fixed charges		9,427,032 74
Surplus		$15,835,028 06
Deduct amount transferred to steamship replacement ac't	$800,000 00	
Contribution to pension fund	80,000 00	
		880,000 00
		$14,955,028 06
From this there has been charged a ½-yearly dividend on preference stock of 2%, paid April 1, 1909	$1,053,933 32	
And a ½-yearly dividend on ordinary stock of 3%, paid April 1, 1909	4,500,000 00	
		5,553,933 32
		$9,401,094 74
From this there has been declared a second ½-yearly dividend on preference stock of 2%, payable Oct. 1, 1909	$1,053,933 32	
And a second ½-yearly dividend on ordinary stock of 3%, payable Oct. 1, 1909	4,500,000 00	
		5,553,933 32
Leaving net surplus for year		$ 3,847,161 42

In addition to the above dividends on ordinary stock, 1% was declared from interest on land funds.

The working expenses for the year were 69.92% of the gross earnings, and the net earnings 30.08% as compared with 69.47 and 30.53% respectively in 1908.

Four per cent. consolidated debenture stock to the amount of £2,727,340 was created and sold, and, of the proceeds, £129,848 was used to increase the fleet of steamships on the Pacific coast; £1,861,835 was applied to the construction of branch lines, and the balance, £735,-657, was devoted to the acquisition of the bonds of other railway companies whose lines constitute a portion of the system, the interest on which had been guaranteed by the Company.

Four per cent. preference stock to the amount of £800,000 was created and sold, one-half of the proceeds being used for the purchase of a controlling interest in the shares of the Alberta Ry. and Irrigation Co., and the balance to meet capital expenditures that had previously been sanctioned.

A guarantee of interest was endorsed on 4% consolidated mortgage bonds of the Minneapolis, St. Paul & Sault Ste. Marie Ry. Co. to the amount of $1,600,-000, issued and sold to meet the cost of constructing 80 miles of railway added to that company's system.

The total area of agricultural lands sold during the year was 376,046 acres, at an average price of $13.52 per acre, but this included 69,963 acres of irrigated land that brought an average of $24.71 per acre. If this area be deducted from the total sales, the average price realized from the balance of the lands was $10.96 per acre. The irrigation canals and ditches in what is known as the Western Block, containing approximately 995,000 acres, of which 353,000 acres are irrigable, are now practically finished, and, while the cost of the work was in excess of the original estimate, the Directors are very much gratified by the result. It is now apparent that within the next few months all the lands in this block will have been sold at satisfactory prices, and another season most of the block will be occupied by settlers. Thus you will receive a large volume of traffic from an area on the main line east of Calgary, containing 1500 square miles, that was previously considered unfit for agricultural purposes. The Directors are now considering the desirability of extending the irrigation system to the Central Block of about one million acres.

The Minneapolis, St. Paul & Sault Ste. Marie Ry. Co., having acquired a majority of the outstanding shares of the common stock of the Wisconsin Central Ry. Co., made an agreement for a lease of that company's railway for 99 years, undertaking to pay by way of rental 4% per annum on the preference stock, amounting to $12,500,000, of which $1,232,895 is in the company's treasury. It is evident that this transaction will materially benefit the M.,S.P. & S.S.M. Ry. Co., in which the C.P.R. has such a substantial interest.

In January last the Directors sold in the market the small residue of the last issue of common stock, amounting to $3,984,000. The sale yielded a premium of $2,394,779, which will be used for additions and improvements to the company's property.

The Directors desire approval of the investment of $5,172,900 of the surplus earnings in 34,486 shares of the common stock and 17,243 shares of preferred stock of the Minneapolis, St. Paul & Sault Ste. Marie Ry. Co., subscribed for at par when that company increased its capital stock, this being the C.P.R. pro rata proportion of the issue.

The Company has acquired all the capital stock of the Orford Mountain Ry. Co., whose railway connects with its system at Eastman, Que. The Orford Mountain Ry. Co. owns 58½ miles of railway, against which there are outstanding bonds at the rate of $12,000 a mile, or $702,000 in all. The consideration for the transfer of the stock and a lease of the railway for 999 years is the guarantee by the C.P.R. of the payment of the interest on these bonds at the rate of 4% per annum. The lease will be submitted for approval.

In the last three years the C.P.R. system in Canada has been extended 1,101 miles, viz.: from 8,777 to 9,878 miles, and work is progressing on 403 additional miles, most of which will be completed this autumn. A considerable portion of this mileage was constructed through new and sparsely settled districts where railway communication was required to encourage settlement, and, while satisfactory progress is being made, a little time must necessarily elapse before the territory served by the lines will be so developed as to yield the average amount of traffic, but meantime, of course, the additional mileage has increased the fixed charges and operating expenses.

The year was a particularly trying one to those engaged in the steamship trade, and there was a shrinkage in the company's net revenue from that source of over $700,000. Nevertheless the directors decided to appropriate to the steamship replacement fund the same amount as in 1908, namely, $800,000.

The undermentioned directors will retire from office at the approaching annual meeting. They are eligible for re-election: D. McNicoll, C. R. Hosmer, Hon. R. Mackay, J. Dunsmuir.

CONDENSED BALANCE SHEET.

Railway and exquipment		$302,196,637 71
Ocean, lake and river steamships		18,085,886 38
Acquired securities (cost)		63,153,544 46
Payments on subscriptions to Minneapolis, St. Paul & S. S. Marie Ry. stock		1,221,139 20
Properties held in trust for company		5,566,632 72
Deferred payments on land and town site sales		16,353,673 94
Advances to lines under construction		3,964,846 69
Advances and investments		6,474,828 60
Material and supplies on hand		10,669,440 33
Current assets:		
Agents' and conductors' balances	$1,612,507 58	
Net traffic balances	124,975 63	
Miscellaneous accounts receivable	3,953,596 70	
		5,691,079 91
Temporarily invested in Dominion Govt. securities		4,861,901 53
Cash in hand		21,078,812 94
		$459,318,424 41

Note.—In addition to above assets, the company owns 8,437,594 acres of land in Manitoba, Saskatchewan and Alberta (average sales past year $13.52 per acre) and 4,503,505 acres in British Columbia.

Capital stock		$150,000,000 00
4% preference stock		52,696,665 71
4% consolidated debenture stock		128,930,132 52
Mortgage bonds:		
First mortgage, 5%	$34,998,633 33	
Canada Central Ry., 6%	973,333 33	
Algoma branch, 1st mortgage	3,650,000 00	
		39,621,966 66
Current liabilities:		
Audited vouchers	$6,061,791 08	
Pay rolls	3,544,886 05	
Miscellaneous accounts payable	4,056,900 50	
		13,663,577 63
Interest on funded debt and rental of leased lines:		
Coupons due July 1, 1909, and including coupons overdue not presented	$1,204,840 69	
Accrued fixed charges	198,723 79	
		1,403,564 48
Equipment obligations		1,630,000 00
Equipment replacement fund		974,014 70
Steamship replacement fund		3,140,666 67
Appropriation for additions and improvements		3,530,499 78
Reserve fund for contingencies		995,238 73
Land grant:		
Sales of land and town sites		27,567,267 44
Surplus		35,164,830 09
		$459,318,424 41

FIXED CHARGES FOR YEAR ENDED JUNE 30.

1st mortgage bonds 5%	$1,749,931 66
Canada Central Ry. 2nd mortgage 6% bonds	53,400 00
St. Lawrence & Ottawa Ry. 4% 1st mortgage bonds	38,933 34
Man. So. West Col. Ry., 1st mortgage 5% bonds	127,200 00
Toronto, Grey & Bruce Ry. rental	140,000 00
Ontario & Quebec Ry. debenture stock 5%	975,129 56
Ontario & Quebec Rv. ordinary stock 6%	120,000 00
Atl. & Nor. West. Ry. 1st mortgage bonds (less Government propn.)	229,983 34
Algoma Branch 5% 1st mortgage bonds	182,500 00
Rental, Calgary & Edmonton Ry.	138,357 60
" Farnham to Brigham Jct.	1,400 00
" Mattawamkeag to Vanceboro	23,800 00
" New Brunswick Ry. System	372,829 74
" Terminals at Toronto	27,932 39
" Terminals at Hamilton	33,812 80
" Hamilton Jct. to Toronto	42,062 34
" St. Stephen & Milltown Ry.	2,050 00
" Lindsay, Bobcaygeon & Pontypool Ry.	2,145 52
" St. Marys & Western Ontario Ry.	4,610 41
" Joliette & Brandon Ry.	5,000 00
" Lachine Canal branch	854 16
Interest on Montreal & Western Ry. purchase	17,217 09
Interest on equipment obligations	98,251 48
4% CONSOLIDATED DEBENTURE STOCK.	
Interest from July 1, 1908	$4,928,057 32
Interest from Jan. 1, 1909	114,573 99

NOVA SCOTIA STEEL AND COAL CO.

LIMITED

MANUFACTURERS OF

Railway and Electric Car Axles, Angle Bars and Tie Plates, Railway Spikes

Tee Rails 12, 18, and 28 lb. per yard

ALL SIZES BAR STEEL FOR CAR-BUILDERS' USE. Spring, Machinery, Tire, Angles, and Merchant Bar Steel. Heavy Forgings of all Descriptions.

SCOTIA PIG IRON Also Miners and Shippers of the Famous Old Mines "SYDNEY" **COAL**

High in Carbon—Low in Ash. The best Steam Coal for Locomotive, Steamship, and Stationary Boilers.

Works at
NEW GLASGOW AND SYDNEY MINES, NOVA SCOTIA.

Collieries at
SYDNEY MINES

FOR PRICES AND OTHER PARTICULARS APPLY TO

Head Office: NEW GLASGOW, N. S.

POLSON IRON WORKS

LIMITED

TORONTO, CANADA

Steel Shipbuilders, Engineers and Boilermakers

Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers. . . . .

OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO

	$5,042,631 31	
Less received from subsid'y Northern Colonization Ry.	8,000 00	
		5,034,631 31
		$9,427,032 74

RECEIPTS AND EXPENDITURES.

Cash in hand, June 30, 1908		$18,821,630 21
RECEIPTS.		
Surplus revenue as per statement		14,955,028 06
Land department—		
Lands and townsites:		
Net proceeds of sales	$6,524,137 77	
Less amounts remaining in deferred payments	5,811,743 71	
	712,394 06	
Collection of deferred payments of previous years' sales	3,480,735 56	
		4,193,129 62
Capital stock:		
Subscription to $24,336,000.00 additional ordinary stock. Remaining instalments and premium on unsubscribed stock sold	$4,601,338 88	
Sale of $3,984,000 ordinary stock	6,378,779 08	
		10,980,117 96
4% preference stock—		
Amount realized from issue £800,000		3,806,128 93
Consolidated debenture stock—		
Amount realized from issue £2,727,340		13,343,870 31
		$66,099,905 09
Deduct—		
Advances to lines under construction	$3,964,846 69	
Advances and investments	6,474,828 60	
Current assets	5,691,079 91	
	$16,130,755 20	
Less amount at June 30, 1908	15,123,961 29	
		1,006,793 91
		$65,093,111 18

EXPENDITURES.

Dividends on preference stock—		
2% paid Oct. 1, 1908	$ 976,066 65	
2% paid April 1, 1909	1,053,933 32	
		$2,029,999 97
Dividends on ordinary stock—		
3½% paid Oct. 1, 1908	4,258,800 00	
3½% paid April 1, 1909	5,250,000 00	
		9,508,800 00
Properties held in trust for company		910,552 76
Construction of acquired and branch lines		4,370,405 33
Additions and improvements, main line and branches		9,178,764 32
Additions and improvements, leased and acquired lines		2,219,103 90
Rolling stock, shops and machinery		6,347,826 69
Ocean, lake and river steamships—		
Fitting Atlantic steamships for passenger service, and providing facilities at Liverpool and Montreal	$ 55,251 53	
Additional steamships and appurtenances for Pacific coast service	579,482 57	
Additional river steamers and barges	112,223 57	
Completing equipment of two new steamers	22,083 48	
	$769,041 15	
Less sale of steamships R. P. Rithet and Transfer, and balance account sale of s.s. Athenian	22137 93	
		746,903 22
SECURITIES ACQUIRED:		
Berlin, Waterloo, Wellesley and Lake Huron Ry., 1st mortgage bonds	$ 426,000 00	
Calgary and Edmonton Ry., 1st mortgage bonds	1,000,000 00	
Manitoba and North Western Ry., 1st mortgage bonds	1,454,200 00	
Northern Colonization Ry., 1st mortgage bonds	700,000 00	
Alberta Ry. and Irrigation Co., ordinary stock	2,135,361 22	
Kingston and Pembroke Ry., ordinary stock	3,748 10	
Minneapolis, St. Paul and Sault Ste. Marie Ry., ordinary stock	125 00	
	5,719,434 32	
Less received from Canada North West Land Co. on 5,625 shares ordinary stock	22,500 00	
		5,696,934 32
Subscription to Minneapolis, St. Paul and Sault Ste. Marie Ry., ordinary stock		1,221,139 20
Payments of equipment obligations		282,987 26
		42,513,417 47
DEDUCT:		
Decrease in material and supplies on hand	441,402 25	
Increase in current liabilities	2,919,618 51	
		3,361,020 76
		39,152,396 71
Temporarily invested in Dominion Government securities		4,861,901 53
Cash in hand		21,078,812 94
		$65,093,111 18

EXPENDITURES ON ADDITIONS AND IMPROVEMENTS FROM JULY 1, 1908, TO JUNE 30, 1909.

MAIN LINE.

QUEBEC TO BONFIELD:			
Additional sidings, buildings, stations and yards	$ 106,371 44		
Permanent bridges and improvements of line	214,599 40		
		$320,970 84	
MONTREAL TERMINALS		838,962 61	
BONFIELD TO PORT ARTHUR:			
Additional sidings, buildings, stations and yards	259,582 55		
Permanent bridges and improvements of line	331,888 45		
Wharves, docks and warehouses	3,070 54		
Telephone dispatching equipment	7,884 37		
		602,425 91	
PORT ARTHUR TO LAGGAN:			
Additional sidings, buildings, stations and yards	654,111 19		
Permanent bridges and improvements of line	587,414 07		
Winnipeg station and hotel	9,888 28		
Winnipeg shops	52,404 19		
Winnipeg terminals	45,508 13		
Wharves, docks and warehouses	273,451 93		
Double tracking	1,835,885 93		
Telephone dispatching equipment	64,697 80		
Right of way	9,102 66		
		3,532,464 18	
LAGGAN TO VANCOUVER:			
Additional sidings, buildings, stations and yards	347,800 46		
Permanent bridges and improvements of line	267,556 81		
Field Hill revision of line	696,873,88		
Wharves, docks and warehouses	217,948 53		
Right of way	237 80		
	1,530,417 48		
Less sale of property at Vancouver	369,893 75		
		1,160,523 73	
VICTORIA HOTEL		38,134 24	
LAKE LOUISE HOTEL		16,682 91	
Total main line			$6,510,164 42

BRANCH LINES.

South Western branch	$ 3,962 78	
Stonewall branch	Cr. 220 59	
Selkirk branch	36,632 95	
Emerson branch	7,121 93	
Nakusp and Slocan branch, Cr.	133 01	
Revelstoke and Arrow Lake branch	18,823 37	
Snowflake branch	3,269 40	
Waskada branch	2,794 65	
Buckingham branch	17 06	
St. Lin branch	25 10	
St. Eustache branch	266 71	
Lake Temiskaming branch	455 43	
McGregor branch	978 83	
Mission branch	131,083 08	
Arcola—Regina branch	1,262 12	
Pheasant Hills branch	827 66	
North Star branch	1,326 25	
Darlingford branch	340 92	
St. Marys and Western Ontario Ry.	66 42	
SOURIS BRANCH:		
Additional sidings, buildings, stations and yards	$ 72,456 32	
Permanent bridges and improvements of line	203,592 23	
Right of way	605 02	
ALGOMA BRANCH:		
Additional sidings, buildings, stations and yards	39,656 86	
Permanent bridges and improvements of line	47,221 91	
CROWS NEST PASS BRANCH:		
Additional sidings, buildings, stations and yards	98,892 66	
Permanent bridges and improvements of line	45,465 09	
Right of way	529 57	
	144,887 32	
CROWS NEST PASS BRANCH: McLeod—Lethbridge deviation	1,438,729 24	
BRITISH COLUMBIA SOUTHERN RY.:		
Additional sidings, buildings, stations and yards	55,171 46	
Permanent bridges and improvements of line	245,773 13	
Wharves, docks, and warehouses	1,333 21	
Right of way	439 85	
Balfour extension	79 46	
Yahk branch	10,566 09	313,363 20
		$2,469,413 16

Telegraph extensions and additions	42,330 40	
Office building, London, Eng.	3,520 51	
Rented and temporary sidings	153,335 83	
Total main line and branches		$9,178,764 32

EARNINGS FOR YEAR ENDED JUNE 30, 1909.

Passengers	$20,153,000 83
Freight	48,182 520 11
Mails	778,822 35
Sleeping cars, express, elevators, telegraph and miscellaneous	7,198,977 67
Total	$76,313,320 96

WORKING EXPENSES FOR YEAR ENDED JUNE 30, 1909.

Tranportation expenses	$25,568,989 65
Maintenance of way and structures	10,074,049 04
Maintenance of equipment	11,080,886 50
Traffic expenses	2,123,860 02
Parlor and sleeping car expenses	461,433 37
Expenses of lake and river steamers	753,988 88
General expenses	2,356,402 99
Commercial telegraph	933,137 61
Total	$53,357,748 06

EQUIPMENT AT JUNE 30, 1909.

Locomotives	1,478
First and second class passenger cars, baggage cars and colonist sleeping cars	1,461
First class sleeping, dining and cafe cars	275
Parlor cars, official and paymasters' cars	60
Freight and cattle cars (all kinds)	47,748
Conductors' vans	797
Boarding, tool and auxiliary cars and steam shovels	3,013

OCEAN, LAKE AND RIVER STEAMERS.

Atlantic Service—Empress of Britain, Empress of Ireland, Lake Manitoba, Lake Champlain, Lake Michigan, Mount Temple, Montcalm, Montfort, Lake Erie, Montrose, Montreal, Milwaukee, Mount Royal, Montezuma, Monmouth, Cruizer.

Pacific Service—Empress of India, Empress of Japan, Empress of China, Monteagle.

Pacific Coast Service—Amur, Beaver, Charmer, City of Nanaimo, Czar, Joan, Nanooose, Otter, Princess Beatrice, Princess Charlotte, Princess Ena, Princess May, Princess Royal, Princess Victoria, Tees, Transfer No. 1, Transfer No. 2, Queen City.

Upper Lake Service—Manitoba, Athabasca, Alberta, Keewatin, Assinboia.

British Columbia Lake and River Service—Aberdeen, Hosmer, Kokanee, Minto, Moyie, Nelson, Rossland, Kuskanook, Columbia, Okanagan, Proctor, Sandon, Slocan, York, Kootenay, Valhalla, Ymir, Whatshan.

Ferry Service—Michigan, Ontario.

DESCRIPTION OF FREIGHT FORWARDED.

	1907-08.	1908-09.
Flour, barrels	5,843,988	6,683,354
Grain, bushels	88,345,234	97,236,150
Live stock, head	1,349,771	1,371,873
Lumber, feet	1,764,445,495	1,726,944,584
Firewood, cords	249,605	249,628
Manufactured articles, tons	3,981,888	4,425,241
All other articles, tons	5,102,116	5,916,248

FREIGHT TRAFFIC.

	1907-08.	1908-09.
Number of tons carried	15,040,325	16,549,616
Number of tons carried one mile	5,865,089,008	6,372,269,174
Earnings per ton per mile	0.75 cents.	0.76 cents.

PASSENGER TRAFFIC.

	1907-08.	1908-09.
No. of passengers carried	9,463,179	9,784,450
No. of passengers carried one mile	1,052,010,356	1,071,149,528
Earnings per passenger per mile	1.89 cents.	1.88 cents.

TRAIN TRAFFIC STATISTICS.

TRAIN MILEAGE.

	1908-09.	1907-08.
Passenger trains	14,170,522	13,196,093
Freight trains	18,816,900	17,788,649
Mixed trains	1,932,776	1,798,673
Total trains	34,920,198	32,783,415

CAR MILEAGE.

PASSENGER—	1908-09.	1907-08.
Coaches and P. D. and S. cars	67,763,387	63,744,049
Combination cars	2,763,961	2,375,441
Baggage, mail and express cars	30,545,494	26,689,471
Total passenger cars	101,070,842	93,308,961
FREIGHT—		
Loaded	363,036,580	327,388,310
Empty	108,873,650	94,125,570
Caboose	20,048,637	18,735,988
Total freight cars	491,958,867	440,249,868
Passenger cars per traffic train mile	6.23	6.22
Freight cars per traffic train mile	23.71	22.48

N. CURRY, President
N. A. RHODES, Vice-President

CAPITAL $1,000,000

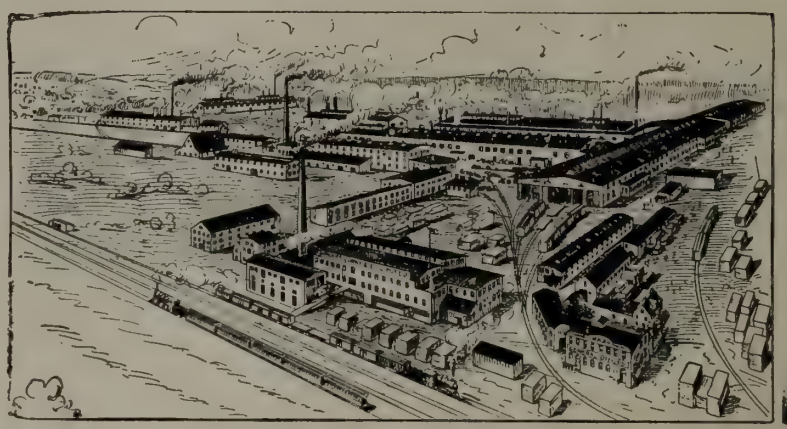
J. M. CURRY, Sec.-Treas

RHODES, CURRY COMPANY, LIMITED

AMHERST, NOVA SCOTIA

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES



Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels

Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

MAKERS OF
BOLTS OF ALL KINDS

NUTS

RIVETS

TORONTO BOLT AND FORGING CO. LIMITED
TORONTO, CANADA.

PASSENGER TRAFFIC.

	1908-09.	1907-08.
Passengers carried (earning revenue)	9,675,075	9,334,811
Passengers carried (earning revenue) one mile	1,058,912,909	1,038,393,535
Passengers carried (earning revenue) one mile per mile of road	108,750	112,716
Average journey per passenger miles	109.45	111.24
Average amount received per passenger $	2.04	2.08
Average amount received per passenger mile cts.	1.86	1.87
Average number of passengers per train mile	65.76	69.25
Average number of passengers per car mile	15.01	15.58
Revenue from passengers per passenger car mile cts.	27.96	29.15
Total passenger train earnings per train mile $	1.49	1.56
Total passenger train earnings per mile of road $	2,456.20	2,537.42

FREIGHT TRAFFIC.

	1908-09.	1907-08.
Tons of revenue freight carried one mile	6,210,086,958	5,699,092,014
Tons of non-revenue freight carried one mile	995,000,557	984,489,076
Total tons (all classes) freight carried one mile	7,205,087,515	6,683,581,090
Tons of revenue freight carried one mile per mile of road	637,775	618,626
Tons of non-revenue freight carried one mile per mile of road	102,187	106,864
Total tons (all classes) freight carried one mile per mile of road	739,962	725,490
Average amount received per ton per mile of revenue freight cts.	0.760	0.755
Average no. of tons of revenue freight per train mile	299.29	290.96
Average no. of tons of non-revenue freight per train mile	47.95	50.26
Average no. of tons (all classes) freight per train mile	347.24	341.22
Average no. of tons of revenue freight per loaded car mile	17.11	17.41
Average no. of tons of non-rev. freight per loaded car mile	2.74	3.01
Average no. of tons of (all classes) freight per loaded car mile	19.85	20.42
Freight train earnings per loaded car mile cts.	13.00	13.14
Freight train earnings per train mile $	2.27	2.20
Freight train earnings per mile of road $	4,845.52	4,671.13

STATEMENT, PENSION DEPARTMENT, TO JUNE 30, 1909.

Balance at June 30, 1908	$657,345 60
Amount contributed by company for year	80,000 00
Amount received as interest	36,421 62
	$773,767 22
Payment of pension allowances for year	93,449 36
Balance in cash and investments	$680,317 86

NUMBER ON PENSION ROLL AT JUNE 30, 1909.

Under 60 years of age	38
Between 60 and 70 years of age	200
Over 70 years of age	123
Total	361

The Daldry Engineering and Construction Co., Ltd., has been incorporated under the Manitoba Companies' Act with a capital of $20,000 and offices in Winnipeg, for the purpose of carrying on the business of contractors of all kinds of work and construction. The provisional directors are: C. G. Stewart, F. A. Tallman, J. E. Robertson, A. H. S. Murray and H. M. Kennedy, Winnipeg.

A party of editors of U.S. agricultural papers, which recently toured the Canadian Northwest, at the invitation of the Canadian Northern Ry., in expressing their appreciation for the courtesies extended to them, state:—"Not only have we viewed a long succession of rich farming districts, with bumper crops of wheat, oats and barley, but also the evidences of one of the most remarkable instances of railway building in history. No such instance of rapid and substantial railway development and opening of vast tracts of agricultural land to the people is on record, even in this day of quick and gigantic accomplishment."

C. P. R. Betterments, Construction, Etc.

Tobique and Campbellton Ry.—At the last session of the New Brunswick Legislature an Act was passed repealing sections 5 and 8 of the act of incorporation, and substituting others therefor. The new section 5 fixes the capital stock at $89,000 and the new section 8 authorizes the company to issue bonds or debentures to the extent of $15,000 a mile of railway to be constructed.

Aroostook Jct., Me.—We are advised that the company has so strengthened its bridges and track north of Woodstock, N.B., that this fall it will be able to run its heavy locomotives to Aroostook Jct., so that instead of running north and south from Woodstock, as at present, they will run through from McAdam to Aroostook Jct. This will cut Woodstock out as a divisional point, simply leaving it a turn-around-point for trains to and from Fredericton over the Gibson branch. At present the company is erecting a 6-stall standard no. 3 locomotive house, putting in a 70 ft. turntable, erecting a bunk house for engineers, a large boarding house for the employes and two double cottages for the accommodation of employes who are to be removed there on the completion of the work. The company is also increasing the yard accommodation at Aroostook Jct. by extending three through sidings, building two new through sidings and two running tracks, and is erecting a standard no. 2 freight shed.

Presque Isle, Me.—A contract has been let to A. E. Hamilton for the erection of a new freight shed, 120 by 30 ft., at Presque Isle, Me.

Sherbrooke, Que.—Work for the new buildings which the company has undertaken to erect at Sherbrooke, Que., is going on rapidly. The first structure to be erected is the coal chute. It is 28 by 31 ft., is 60 ft. high, and stands between the two tracks so that the engines can be loaded on either side at the same time. The rise from the tracks for the cars is 6 ft., and the coal being dumped out will be carried upwards by means of elevator buckets. The foundation will be of reinforced concrete and the superstructure of iron and spruce. The locomotive house will be of concrete reinforced, and will have accommodation for six locomotives. At the rear of the locomotive shed will be a machine shop and offices for the locomotive foreman, etc. A store and oil house will be erected in close proximity to these buildings. The present coal chutes will be removed and the site used as part of the site for the new passenger station, which will be 110 by 35 ft. The foundation will be of concrete, with brick walls and slate roofing. There will be four entrances to the building, which will be laid out very much in the style of the present union station. A platform, very much longer than the present one, will be erected.

Northern Colonization Ry.—A no. 4 standard passenger station at Val Barrette, on the extension of this line from Nomining, Que., has been completed.

The Chief Engineer of the Board of Railway Commissioners recently made an inspection of the completed portion of the extension of this line from Nomining towards Maniwaki, the present terminus of the Ottawa and North Western Ry. up the Gatineau Valley. The line has been constructed as far as Duhamel, about 25 miles northwest of Nomining. It is expected that the extension to Maniwaki will be completed next summer.

Windsor St. Station, Montreal.—A contract has been let to C. E. Deakin for the construction of the pier foundations for the enlargements planned at this station. Work was started Sept. 13. The foundations will consist of concrete pillars sunk down to the solid rock, which is at a depth varying from 15 to 40 ft. It is desired to have the piers completed so that the actual work of erecting the building may be started at the earliest possible moment in the spring.

Ottawa Northern and Western Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of the authorized extension of this line from the present northwesterly terminus at Waltham, Que., crossing the Ottawa River at Allumette Island, to Pembroke, thence northwesterly passing south of Lake Nipissing to Sault Ste. Marie; also for the construction of a branch from Waltham northwesterly through the province of Quebec to Pontiac county; also for the construction of a line from Shawville, Que., westerly across the Ottawa River, through the county of Renfrew to Pembroke, Ont.

Wharf at Brockville, Ont.—The company, as lessees of the Brockville and Ottawa Ry., has deposited with the Department of Public Works at Ottawa plan and description of the site of an alteration in a wharf extending westerly from the east limit of Ferry St., Brockville, for which the approval of the Government is asked.

Kingston and Pembroke Ry.—We are advised that beyond ballasting and generally putting the line in better condition, the company has not any extensions in contemplation, nor are any improvements in progress.

Campbellford, Lake Ontario and Western Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of a line from the C.P.R. between Blairton and Ivanhoe stations, Ont., southwesterly through Peterborough, Hastings and Northumberland counties to Cobourg, thence westerly and northwesterly through Northumberland, Durham, Ontario and York counties to the C.P.R. between Locust Hill and Leaside Jct. stations, passing through Campellford, Warkworth, Cobourg, Port Hope, Newcastle, Bowmanville, Oshawa and Whitby.

Georgian Bay and Seaboard Ry.—Plans have been filed at the registry office at Lindsay, Ont., for a section of this proposed railway from Georgian Bay to a junction with the main line in the vicinity of Peterboro, Ont. The line has been constructed from Victoria Harbour to Coldwater, where it joins the C.P.R. Toronto-Sudbury line, and the plans now deposited are for the portion of the line in Victoria county.

West Toronto Improvements.—We are advised that the following buildings are under construction or will be erected this year at West Toronto: Extension to erecting and machine shops, 128 ft. by 139 ft. 5 in.; of concrete, brick and steel construction. Office building for car checkers, etc., 30 by 50 ft., one story brick building. Enlargement of 8-stall locomotive house, by the addition of an additional three stalls, each 80 ft. long, concrete and steel construction. Locomotive foreman's office, 24 by 24 ft., one story wooden building.

West Ontario Pacific Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of a line from London, Ont., northerly through Middlesex, or Oxford, Perth, Huron and Bruce counties to Lake Huron, in Bruce county.

Walkerton and Lucknow Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of the authorized extension of this line from Lucknow to Wingham, Ont., and of a branch from Teeswater northwesterly to Kincardine, Ont.

South Ontario Pacific Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of lines from Woodstock, Ont., through Brantford, thence through Hamilton to the Niagara River, where connections may be made by ferry or

MOOSE OPEN SEASON

QUEBEC, - - September 1st to December 31st
NEW BRUNSWICK, - " 15th to November 30th
NOVA SCOTIA, - - " 16th to November 16th

WRITE FOR FREE PAMPHLET, DESCRIBING TERRITORY, GAME LAWS, &C., TO

General Passenger Department
INTERCOLONIAL RAILWAY
MONCTON, N. B.

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING, 232 ST. JAMES STREET, MONTREAL

DOMINION IRON & STEEL CO. LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1909. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICES AND WORKS: SYDNEY, CAPE BRETON, CANADA

bridge with railways in the U.S. from Hamilton to near Cooksville or Toronto, with extensions from some point of the authorized line by way of Embro and St. Marys to Lake Huron between Bayfield and Kincardine.

White Water, Man.—Tenders are under consideration for about 13,000 cubic yards of grading for a reservoir near White Water, Man.

Saskatoon to Wetaskiwin.—Tracklaying was started at the Hardisty end of the Wetaskiwin branch Aug. 27, the gang working easterly to meet the one working westerly from Sedgewick. The track is being laid with 85-lb steel, and it is expected that the work will be completed by the end of Sept., and that ballasting and other work will have been so far completed by Nov. 1 that a regular train service will be put on.

Lethbridge-MacLeod Cut-off.—Ballasting was started on this cut-off Sept. 1 and, as from 120 to 150 cars of ballast a day was being laid, the work was to be completed by the end of the month. In connection with the cut-off a new material yard will be put in seven miles west of Lethbridge which will handle all materials for the new line at present under construction northerly as far as Carmangay.

Strathcona-Edmonton Bridge. — The proposed bridge over the Saskatchewan River to carry the projected line to connect the C.P.R. line, now terminating at Strathcona, with Edmonton, Alta., will have a length, exclusive of approaches, of 2,684 ft., a width of 25 ft., and the floor of the bridge will be 295 ft. above high water mark. These dimensions are as the bridge is designed for a railway bridge exclusively, and the cost of the same is estimated at $842,727. The desirability of constructing the bridge so as to acommodate general traffic has been under consideration by the company and the city council of Edmonton for some time. The estimated cost of the bridge designed to accommodate both railway and general traffic is $1,428,793.

Fernie Yards.—The company is making extensive changes in the yards at Fernie, B.C. Several new sidings are being laid on the ground formerly used as a baseball and recreation park.

British Columbia Southern Ry.—The Board of Railway Commissioners has passed an order approving of the location of this railway from Michel to Kananaskis branch, mileage 30 to mileage 37.84. We are advised that no work has yet been done on this branch.

Esquimalt and Nanaimo Ry.—Tenders are under consideration for the grading and bridging on the Alberni branch from mileage 108 to Alberni, 27.5 miles. This section extends from the Little Qualicum River to Alberni. Some of the track has already been laid on the first section of the extension, at the Wellington end. Grading has been completed from Wellington to Nanoose, 12 miles, and from near Nanoose to French Creek, 13 miles. Between these two points there is some rock cutting that is not completed. On the old portion of the line between Victoria and Nanaimo the fencing and other work at Victoria West has been completed and the bridge has been once more thrown open for pedestrian traffic.

Puget Sound.—With reference to press reports that the company was about to construct a line to Puget Sound, D. McNicoll, Vice President, stated at Seattle, Aug. 30, that the C.P.R. had no intention of constructing such a line as long as the present tariff agreement with the Northern Pacific Rd. proved profitable.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—It has been announced that the Wisconsin Central Rd. shops at Fond du Lac, Wis., are to be enlarged and modernised. The work will include the construction of a new foundry and require considerable new machinery equipment. (Sept., pg. 639.)

Railway Commissioners' Traffic Orders.

Summaries of other traffic orders are given on another page under "Orders by Railway Commissioners":—

M.C.R. SWITCHING CHARGES AT ST. THOMAS.

7767. Aug. 7.—Re application of Canada Iron Corporation, Ltd., for order directing the Michigan Central Rd. Co. to refund $348, being amount of overcharge for tolls charged for switching cars to and from the applicant's works in St. Thomas, Ont., together with interest at 5% per annum on the excessive payments from the date of each payment down to the date the refund is made. Upon reading the application, the answer of the M.C.R. Co. and the report of the Chief Traffic Officer of the Board, it is ordered that the legal switching rate chargeable upon cars switched by the M.C.R. for applicant from the G.T.R. tracks to the applicant's works between July 19, 1907, and June 4, 1908, inclusive, was $3 a car; and it is further ordered that the M.C.R. Co. be authorized to refund to the applicant, upon the aforesaid cars switched for it by the railroad company in the period July 19, 1907, to June 4, 1908, the difference between the legal rate of $3 a car and the rate of $6 a car as charged.

RATES ON CORN AND CORNMEAL.

7768. Aug. 7.—Re complaint of C. W. Stewart, of St. John, N.B., that he is unable to market cornmeal in consequence of an alleged discrimination in favour of his competitors and to his disadvantage, upon hearing the complaint at St. John, N.B., on Jan. 19, 1909, in the presence of complainant and counsel for the C.P.R. Co., and what was alleged, and upon the report of the Chief Traffic Officer of the Board, it is ordered that the complaint be dismissed.

BINDER TWINE RATES FROM WELLAND.

7897. Aug. 10.—Re complaint of the Plymouth Cordage Co., of North Plymouth, Mass., and Welland, Ont., alleging that rates charged by the G.T.R., the M.C.R. and the Wabash Rd. on binder twine, in carload, from Welland to Canadian points west of Welland were unjustly discriminatory with respect to rates charged on the same article from Buffalo and Auburn, N.Y.; North Plymouth, Mass.; Detroit, Mich., and Chicago, Ill., and applying for an order directing a refund in connection with certain alleged overcharges; upon hearing the complaint in the presence of counsel for complainant, the Canadian Freight Association, the C.P.R. and the G.T.R. Cos., and what was alleged by counsel, it is ordered that the complaint be dismissed; and it is further ordered that the M.C.R. be authorized to refund to the applicant 2 c. per 100 lbs. in respect of four carloads of binder twine shipped by the applicant to Wallaceburg. Dresden and Wheatley, Ont., being the difference between the legal rate of 18c. per 100 lbs. and the rate of 20c. per 100 lbs. collected by the railway company on said shipments.

The Central Canada Railway and Engineering Club held its opening meeting for the season in Toronto, Sept. 21, when 26 new members were admitted. J. V. Jackson, Boiler Inspector G.T.R., Montreal, read a paper on the care and washing out of locomotive boilers, which is given in full on another page of this issue. The paper was fully discussed by A. M. Wickens, J. Duguid and others.

The Railway Agents' Association of the New England States, on their annual holiday outing, extending from Sept. 11 to Sept. 15, visited Montreal, Ottawa, Huntsville and Toronto, travelling by the G.T.R. and Richelieu and Ontario Navigation Co.'s routes.

C. P. R. Control of Orford Mountain Ry.

By reference to the C.P.R. annual report on another page it will be seen that the C.P.R. Co. has acquired all the O.M.R. Co.'s capital stock and also a lease of the line for 999 years. The O.M.R. Co. was incorporated by the Quebec Legislature in 1888. In 1901 the Dominion Parliament confirmed the provincial incorporation, and authorized the company to amalgamate with some other companies. In 1902 an act was passed granting an extension of time for the construction of the various lines authorised. The Dominion Parliament in 1890, 1899 and 1903 voted subsidies in aid of these lines. The company has constructed a line from Windsor Mills to Mansonville, Que., 55.10 miles, crossing the C.P.R. at Eastman Jct. It has also 2.30 miles of yard track and sidings. Its rolling stock on June 30, 1908, consisted of 3 locomotives, 4 passenger cars, 11 flat cars and 1 caboose. At the same date its outstanding capital stock was $50,000, and it had issued bonds for $702,000. It had received $192,942.50 in subsidies from the Dominion Government and $138,884.92 from the Quebec Government. The statistics showing the operations of the line for the year ended June 30, 1908, were published in our issues of April, pg. 241; May, pg. 323; and July, pg. 471.

The present officials of the O.M.R. are:—President, S. W. Foster, Knowlton, Que.; Sec. Treas., G. O. Stevens, Waterloo, Que.; Superintendent, Freight and Passenger Agent, A. C. Lytle, Eastman, Que.; Chief Engineer, R. K. Harris, Kingsbury, Que.

Canadian Northern Ry. Coal Interests.

Two companies have been incorporated under the Dominion Companies Act with offices at Toronto and the following provisonal directors: G. G. Ruel, A. J. Reid, A. J. Mitchell, F. C. Annesley, and F. J. Buller, all associated with the Toronto offices of Mackenzie, Mann and Co., Limited. The titles of the two companies are Brazeau Collieries, Ltd., and Rocky Mountain Collieries, Ltd. Each is registered with a capital of $1,000,000, and is authorized to acquire coal fields, mineral lands, timber rights, etc.; to carry on the business of mining for coal and other minerals, and to conduct a number of other businesses in connection therewith. These include the operation of tramways, steamships, the construction of wharves, docks, elevators, etc. The Brazeau Collieries will operate, it is said, an area of about 4,000 acres of coal bearing land situated on the Brazeau and McLeod rivers, about 175 miles west of Edmonton, Alta. The Rocky Mountain Collieries will operate on the Kananaskis River, south of the C.P.R. transcontinental line, and west of Calgary.

The Michigan Central Rd. has ordered 100 tons of steel sheet piling for coffer dam work in Canada.

The freight committee of the Regina, Sask., Board of Trade had a conference with various railway freight officials, Sept. 7, when a proposition was submitted for the consideration of the companies concerned, which it was considered would be acceptable to the shipper, providing for a reduction in freight charges, until such time as the Board of Railway Commissioners is able to dispose of the question of a standardized schedule of freight charges, or otherwise. W. B. Lanigan, Assistant Freight Traffic Manager C.P.R. Western Lines; R. E. Larmour, General Freight Agent C.P.R. Central Division, and G. H. Shaw, Traffic Manager C.N.R., dealt with the matter on behalf of the companies.

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for Sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

Canadian Gold Car Heating & Lighting Co. Ltd.

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

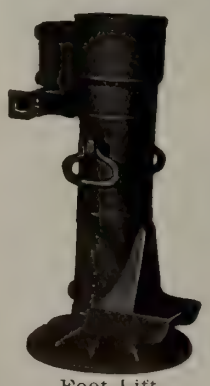
Catalogues and Circulars Cheerfully Furnished. **Improved System of Acetylene Car Lighting.**

Send for Circular of our New Combination Pressure and Vapor Car Heating System

Largest Manufacturers in the World of Car Heating Apparatus

H & E Patent Ball-Bearing Lifting Jacks

For Railway and Bridge Work, Contractors' and Builders' Use

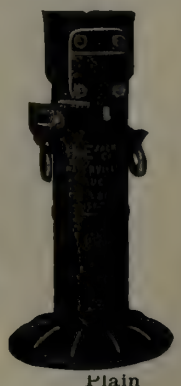


Foot-Lift

For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed. Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

Square Base

Journal Jack



Plain

MANUFACTURED BY

H & E LIFTING JACK COMPANY = = WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction Betterments.

Alberta and Great Waterways Ry.—We are advised that the only officers at present appointed are: President, W. R. Clarke, New York; Chief Engineer, J. A. L. Waddell, Kansas City, Mo.; General Manager, E. A. James, Winnipeg. The President recently returned from Europe, and we are advised that he was expected to visit Edmonto shortly thereafter to discuss the plans for construction with the other officers. The preliminary surveys for the line were made about two years ago, but no construction has been done. Labor is scarce all over the Western country at present, and it is not expected that very much, if any, construction will be done this year. (Aug., pg. 573.)

Alberta Central Ry.—An unconfirmed press report states that J. Grant Macgregor, formerly of Goderich, Ont., has been appointed Chief Engineer of this projected line, with office at Red Deer, Alta. (May, pg. 355.)

Alberta Ry. and Irrigation Co.—We are advised that steel is being laid on the first eight miles of the Raley branch, running south from Raley Jct. to Woolford, Alta. It is expected that this mileage will be opened in time for the movement of this season's wheat crop. Surveys were made for the construction of a branch southerly from near Spring Coulee in the winter of 1903-04, and during 1904 grading was completed for about seven miles. This work was done by the old St. Mary's River Ry., and, in 1905, when it was amalgamated with the Alberta Ry. and Irrigation Co., among the lines which the new company had power to construct was an extension of 16 miles from Raley Jct. to Kimball, and an extension thence to the International boundary, seven miles. (July, pg. 473.)

British Columbia Ry. & Development Co.—A company has been incorporated under Delaware state laws with the above title and offices at Wilmington, Del. The capital is named at $12,000,000, and the provisional directors are: D. V. Wolkenstein, H. G. Willard, J. W. Howie, New York; S. T. Townsend, Wilmington. No information of the objects is given and nothing is said of the special field in which the company proposes to work.

We are advised that this company has been incorporated for the purpose of opening up and developing the great natural resources of British Columbia by means of steam railways. To this end the charter granted by the British Columbia Legislature in 1906 to the British Columbia and Northern Alaska Ry. has been acquired. This company is authorized to construct a line of railway from Vancouver, or a point on Burrard Inlet, to the northern boundary of the province by way of Lillooet, the Fraser Valley, Tacla Lake, Stikene River and Teslin Lake, or in the alternative by the most feasible route through the Chilcoten Valley and via the Stikene River. Preliminary reconnaissances have partly been made and a survey party is to start soon to finish the survey to a point about 450 or 500 miles north of Vancouver. The company expects to be able to commence construction on or before March 1, 1910.

The officers of the company are: President, H. G. Villard; Vice President, W. G. Conklin; Treasurer, J. W. Howie; Secretary, W. C. Pratt; and the offices are at 34 Pine St., New York. (Aug., 1906, pg. 449.)

Canada and Gulf Terminal Ry.—The annual meeting of shareholders was held at Ste. Flavie, Que., Sept. 15, when all the arrangements in connection with the transfer of the Matane and Gaspe Ry. Co.'s property, franchises, etc., as made by the directors, were confirmed and ratified. The general offices of the company, which will be situated in Montreal, will, it is said, be opened shortly. Following are the officers and directors for the current year:—President, M. J. O'Brien; Vice President, H. J. Lyons; other directors, J. A. O'Brien, Rev. A. A. Soucy, C. A. Gauvreau, M.P.; J. A. Ross, M.P.; D. Caron, M.L.A.; Secretary Treasurer, Rene Dupont.

The construction of lines between Ste. Flavie and Matane, Que., which are being built under the charter granted to the Matane and Gaspe Ry. Co., which has been acquired by this company, are officially stated to be proceeding rapidly, but no details are given. The first line to Litttle Metis will, it is said, be completed and opened for traffic for the summer of 1910, and the first section of the line from Ste. Flavie to Matane will, it is said, be opened for traffic in Dec., 1910. The contract, which was let by the original company to the H. J. Beemer Co., of Ottawa and New York, is now in the hands of H. Doheny, Montreal. (Sept., pg. 663.)

Canada Western Ry.—It was reported at Pincher Creek, Alta., Sept. 1, that a contract for the construction of the first 50 miles of this line is to be let this fall, and that work is to be started as early as possible in the spring. This 50 miles will consist of that part of the line from North Fork Pass to Pincher Creek. The survey party is at present located southeast of Pincher Creek, and is working towards the International boundary. F. B. Lynch, St. Paul, Minn., who is interested in this proposed line advised us, Sept. 17, that the promoters were not ready to give any information as to their plans, further than that no construction will be done this year. (Sept., pg. 649.)

Canadian Terminal Ry.—The New Brunswick Legislature at its last session amended the act incorporating this company by striking out the name of H. F. White as one of the provisional directors, and substituting the names of W. A. Mitchell and G. J. Clarke. The company was also authorized to construct the following additional lines: from L'Etang harbor to the St. John River, with a branch to connect such line with St. Stephen, and "such other branches as the company may deem proper." The act of incorporation, passed in 1907, authorized the construction of a railway from L'Etang harbor to the St. Croix River, and some unnamed branches, together with docks, wharves, etc. The act passed last session granted an extension of time for the construction of these lines. (June, pg. 413, and May, 1907, pg. 323.)

Chibougamau District, Que.—Speaking at St. Johns, Que., Sept. 6, the Provincial Premier stated that his Government would construct a railway to the Chibougamau district if the report of the mining authorities, who will be sent there to study the district, is that it is worth the heavy expense which would be involved. The Chibougamau district lies just over the height of land at the back of the Lake St. John district, and Chibougamau Lake is the southerly stretch of waters of which the Mistassini Lakes are the most important. J. G. Scott and others who were associated with him in the Quebec and Lake St. John Ry. obtained a charter from the Quebec Legislature for the construction of a railway from near Roberval into this new mining district, but no construction has been done. Another company was incorporated by the Quebec Legislature in 1907, to construct a line to the same district from Lake Temiskaming.

The Premier of Quebec announced Sept. 14 that at the next session of the Legislature he would submit a resolution authorizing the sending of an engineering party to the Chibougamau region to study its natural resources and the possibility of constructing a railway into it from Roberval.
(See Temiscamingue, Chibougamau and James Bay Ry., Aug., 1907, pg. 563.)

Delaware and Hudson Co.—Surveys are being made at Montreal with a view to the fixing of a site for the construction of another bridge over the St. Lawrence River. The probable location will be from the old wharf on the St. Lambert side to the guard pier on the Montreal side. It is reported that the surveys are being made in the interests of the Delaware and Hudson Co., which owns the Quebec, Montreal and Southern Ry. Another report states that the New York Central and Hudson River Rd. and the Rutland Rd. are to be associated with the D. and H. Co. in the construction of the bridge. (See Montreal Bridge and Terminal Co., July, pg. 479.)

Detroit River Tunnel.—The final section of the tunnel under the Detroit River being constructed by the Michigan Central Rd. was lowered into place Sept. 14. This section connects the tubes in the river bed with the shore on the Canadian side. The contractors state that the tunnel will be ready by Oct. 1 for a preliminary trip through it. (July, pg. 475.)

Fraser River Bridge.—The British Columbia Government has authorized the expenditure of a considerable sum upon improvements at the bridge over the Fraser River at New Westminster. The traffic floor will be replanked for the first time since the bridge was constructed in 1903-04. Tenders for this part of the work were received by the Department of Public Works, Sept. 11. The repainting of the bridge is proceeding, but it is not expected to be completed until early in 1910. The bridge is owned by the Provincial Government, and the train service over it is operated by the Great Northern Ry.

Halifax and South Western Ry.—We are advised that the contract for the construction of the branch from the main line to the Canada Iron Corporation's mines at Torbrook, N.S., has been let to the Nova Scotia Construction Co. The contract for the ore handling plant at Port Wade, described on page 632 of our Sept. issue, has been let in two sections; for the ore dock to Reid and Archibald, Halifax, and for the manufacture and erection of the handling plant to I. Matheson & Co., New Glasgow, N.S. (May, pg. 355.)

Hudson Bay and Pacific Ry.—The route map of this projected railway has been approved by the Department of Railways, so far as it covers the route between Prince Albert and Pas Mission, Sask. (July, pg. 477.)

Indian River Ry.—We are advised that through its lease of the Rumford Falls Rd., made a couple of years ago, the Maine Central Rd. has acquired the right to construct the Indian River Ry from Oquossoc, Me., to Megantic, Que. Examinations of the route are in progress, but the report of the engineers has not been made. The matter of the route will probably be considered at the next meeting of the Maine Central Rd. directors, which will be held within the next month or two. (Sept., pg. 649.)

Intercolonial Ry.—The Canada Iron Corporation is about to construct a large ore dock near Newcastle, N.B., and in order to reach this from the railway it will be necessary to build a siding about a mile long. We are advised that the whole of the expense in connection with this siding is to be borne by the Canada Iron Corporation. (See New Brunswick Docks and Terminals in this issue, and Northern New Brunswick and Seaboard Ry., Sept., pg. 651.)

Contract for the erection of a passenger station at Little Metis, Que., has been let

CANADIAN LOCOMOTIVE CO., LTD.,

KINGSTON, ONT.

Builders of Simple and Compound **LOCOMOTIVES** Adapted to every variety of service

THE CANADA IRON CORPORATION

Successors to: LIMITED

CANADIAN IRON & FOUNDRY CO., LIMITED
CANADA IRON FURNACE CO., LIMITED
ANNAPOLIS IRON CO., LIMITED
JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE — MONTREAL, P.Q.

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and Gas Pipe, Specials, Valves, Hydrants, Etc. Castings of All Kinds

W. T. RODDEN, Managing Director J. F. JOHNSON, Secretary-Treasurer
T. L. GALLAGHER, Sales Manager

Standard Explosives Limited

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL

Works: L'ISLE PERROT, NEAR VAUDREUIL, P. Q.

to G. St. Pierre and Co., Fraserville, Que. Tenders were received to Sept. 23 for the erection of an addition of six stalls to the engine house at Riviere du Loup, Que.

The Maritime Coal Ry. and Power Co. has completed the installation of an endless haulage system at its mines in Cumberland county, N.S. It has also placed orders for additions to its power plant at Chignecto, N.S. The Robb Engineering Co., Amherst, N.S., will supply the engine. The new plant will add 750 h.p. to the power which the company can deliver or utilize at its mines or railway.

Michigan Central Rd.—At a meeting of the Detroit, Mich., city council, Sept. 14, an ordinance was passed embodying an agreement between the city and the M.C.R. in regard to the erection by the latter of a new station and terminals at a cost of $2,000,000. The company is given 60 days to accept. As the company's officials have already approved most of the agreement, it is expected that work will soon be started.

New Brunswick Coal and Ry. Co.—By an act of the New Brunswick Legislature, the Government has been authorized to make a loan, not exceeding $30,000, to pay the deficiency in operating the line during 1908, and for completing the ballasting of, and to provide fencing and an increased water supply for, the line. The railway is being operated by a commission appointed by the Provincial Government. (June, pg. 415.)

New Brunswick Docks and Terminals.—By an act passed last session of the New Brunswick Legislature, a company was incorporated with this title to construct railway terminals and docks, etc., at or near Newcastle, and at such other points on Baie de Chaleur or the Miramichi River as the company may select. The provisional directors are: G. E. Drummond, T. J. Drummond, J. Drummond, E. McDougall, W. M. MacLeod, R. W. Cooper, and W. F. C. Parsons, who are all connected with the Canada Iron Corporation. (April, pg. 249. See also Northern N.B. and Seaboard Ry., Sept., pg. 651, and further on in this issue.)

Northern New Brunswick and Seaboard Ry.—An act passed at the last session of the New Brunswick Legislature entitled "an act in aid of the development of the Gloucester county iron deposits," authorized the Government to guarantee the principal and interest of the bonds of the N.N.B. and S. Ry. or such other company as may be incorporated to construct a railway from the iron mines near the Grand Falls of the Nipisiguit River, in Gloucester county, to the Intercolonial Ry. and thence to Alston Point on the north side, or to Carron Point on the south side of the entrance to Bathurst harbor, such guarantee not to exceed $15,000 a mile, nor for more than 26 miles. The rate of interest of the bonds is not to exceed 4%, and the bonds shall be payable in not more than 30 years from the date of issue. It is provided that the provincial guarantee shall be endorsed on the bonds after the Canada Iron Corporation's guarantee. The security to be taken by the government in return for its guarantee of the bonds consists of a first mortgage of the lines to be constructed, with the franchises, right of way, rolling stock, etc. (Sept., pg. 651.)

Portland Canal Ry.—Application will be made to the Dominion Parliament to incorporate a company with this title to construct a railway from the head of Portland Canal, B.C., along Bear River, 30 miles; also up American Creek; and with power to construct branch lines not exceeding in any one case 10 miles. The company also desires power to construct telegraph and telephone lines, to carry on a general navigation business, to construct wharves, docks, elevators, etc. It is also asked that the works to be constructed be declared to be for the general advantage of Canada. Pringle and Guthrie, Ottawa, are solicitors for applicants. (June, 1907, pg. 409.)

Quebec Eastern Ry.—The surveys being made up to the present have been entirely of an exploratory character and nothing definite has been decided as to route or construction. The line is projected from Sherbrooke to Levis, Que., and will include the Lotbiniere & Megantic Ry., which runs from Lyster to Thetford Mines and Black Lake. The main line will probably pass through Stoke South Ham, Wolferton, Halifax, Inverness, Lysander Falls and Ste. Agathe. There will be some fairly heavy rock cutting but the construction will be mostly light, with a few small bridges. (Sept., pg. 651.)

St. John Valley Ry.—An act was passed last session of the New Brunswick Legislature incorporating a company with this title to construct a railway from St. John, near Westfield, thence following St. John River Valley to Fredericton, thence to Woodstock, and via the villages of Lakeville and Centreville, to near Andover, and to Grand Falls, St. Leonards, or some other point on the National Transcontinental Ry. The line is to follow as nearly as practicable the valley of the St. John River and on the opposite side of the river to that now traversed by the C.P.R. The company is given all the usual powers, its capital is fixed at $2,000,000, and its offices are to be at Fredericton. The incorporators are: C. F. Chestnut, J. J. F. Winslow, J. T. A. Dibblee, B. E. L. Smith, C. M. Sherwood, E. A. Savage, J. Palmer, G. W. Hodge, F. B. Edgecombe, J. S. Neill, J. J. Weddall, H. Wilmot, A. R. Slipp, R. B. Emmerson, J. F. Tweeddale, W. H. Thorne, G. B. Jones, W. E. Foster, T. H. Bullock. (June, pg. 416.)

St. Maurice Valley Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of a railway from Three Rivers, Que., northwesterly on the west side of the St. Maurice River to Pointe Chevalier, thence following the St. Maurice River to the mouth of the Shawinigan River and crossing the river to Shawinigan Falls; also a line crossing to the east side of the St. Maurice River at Pointe Chevalier and running northerly to where it will cross the Shawinigan River to Shawinigan Falls and following the St. Maurice River to Grand Mere and thence to St. Jean des Piles, and following the general direction of the Matawin River to a junction with the National Transcontinental Ry. in Maskinonge county.

Superior and Western Ry.—The Dominion Parliament last session passed an Act incorporating a company with this title for the purpose of constructing a railway from Velora, on the Grand Trunk Pacific Ry. Lake Superior branch, 151.72 miles from Fort William, to the National Transcontinental Ry. north of Sturgeon Lake. The Ontario Legislature last session voted a subsidy of 1,000 acres a mile for seven miles from Waco station, mileage 160 from Fort William. On May 25 the Board of Railway Commissioners passed an order authorizing the S. and W. Ry. to join the G.T.P.R. tracks at Velora Jct., Ont. Alex. McDougall, Fort William, Ont., is president of the company. (May, pg. 359.)

An order has been passed by the Board of Railway Commissioners authorizing the company to open for traffic the portion of its line from the junction with the G.T. Pacific Ry. Lake Superior branch, near mileage 154, to the head of Sturgeon Lake, seven miles.

Temiskaming and Northern Ontario Ry.—A deputation from Elk Lake district waited on the Commissioners and the members of the Ontario Legislature, who have just completed a trip of inspection over the line, at Cobalt, Sept. 9, to urge the construction of a branch line from Cobalt through the Elk Lake district. It was stated that there was a town of 5,000 population at Elk Lake, which for two months in the year were practically isolated. The deputation said the municipality would provide the right of way without cost to the Government.

Thessalon and Northern Ry.—By an act passed last session of the Dominion Parliament, the line of railway which this company was authorized to construct by its act of incorporation, passed in 1907, by the Ontario Legislature, was declared to be a work for the general advantage of Canada. The company was also authorized to enter into agreements with the C.P.R., the G.T.R., or the C.N.R. The company has constructed a line from the north side of Lorne St., Thessalon, to the Algoma branch of the C.P.R., 1.93 miles. A spur line 2,154 ft. long to the Algoma Customs Smelting and Refining Co.'s ore trestle, and the grading for a coal siding or spur, 1,536 ft. long to the coal dock on Georgian Bay have been completed.

The railway, which the company was authorized to construct, will extend from the C.P.R. Algoma branch, two miles northeast of Thessalon southeasterly into the town, thence northwesterly to the C.P.R. Thessalon station, and from either of the two points on the C.P.R. northerly to the Mississauga River, in Gould tsp. The provisional directors are: A. A. Burke, T. Buchanan, D. J. Sandie, R. Pinder, and W. H. Taylor, all of Thessalon, Ont. At the same session of the Legislature a cash subsidy of $5,000 was voted in aid of the construction of that portion of the line from Thessalon to the C.P.R., to be constructed within two years. (Feb., pg. 105.)

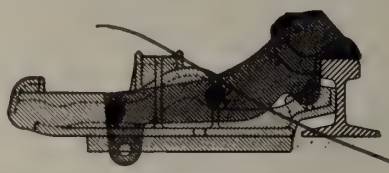
The Newfoundland Legislature at its last session voted $42,000 for railways.

The Lyall Co. has been incorporated under the Dominion Companies' Act, with a capital stock of $500,000 and offices in Montreal, for the purpose of transacting a general contracting business, and in connection therewith to carry on a number of other allied businesses. The provisional directors are: R. Taschereau, R. Genest, J. Marier, J. E. Billette and T. G. Charleboise, Montreal.

M. Frewen, a director of the G.T. Pacific Ry. Co., acting for a number of British capitalists, has entered a suit against the G.T. Pacific Development Co., alleging failure on the part of defendant company to deliver to him 1,000 lots, situated in the Prince Rupert townsite, for which it is alleged he contracted several weeks before the Vancouver sale. It is stated that about $1,500,000 is involved.

Owing to numerous complaints received respecting annoyance caused passengers on Canadian railways by U.S. immigration officers, the Board of Railway Commissioners propose to pass an order directing railway companies to instruct conductors to prevent any undue interference by such officers. A draft order has been prepared and submitted to the companies so they may offer suggestions in regard to it.

The International Association of Railway Financial Officers, which held its third annual meeting at Bluff Point, N.Y., Sept. 7 and 8, has a membership of 106, consisting of the financial vice presidents and treasurers of the leading railway systems on this continent, and has for its object the standardization of the forms of railway auditing, etc., as well as the presentation and discussion of the many financial problems relating to the conduct of railways. F. Scott, Treasurer G.T.R., Montreal, was elected President for the current year, and S. L. Shannon, Comptroller and Treasurer Intercolonial Ry., Moncton, N.B., was appointed a member of the executive committee.



The plan of having a single size applicable to a wide range of rail weights and heights is a valuable feature of Hayes Derails. It vastly simplifies ordering and stock keeping. For instance, size 5 of any model may be used on any ordinary rail from 4 to 6 inches high, which limits include most of the rails in common use.

The sliding type may be operated by any mechanism which is used to throw a switch; it works in with existing conditions in any track without special attachments.

28,000 Hayes Derails are now in use on over 300 roads. They are made in Canada at Hamilton, Ontario.

Address: Hayes Track Appliance Co., Geneva, N.Y.

CROSSEN CAR MFG. COMPANY

OF COBOURG, LIMITED

MODERN HIGH-CLASS

ROLLING STOCK

Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows

CAR CASTINGS, FORGINGS AND REPAIR PARTS

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON (via Boston & Maine R.R. and Cent. Vermont Ry.) MONTREAL, TORONTO and CHICAGO.

THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.

Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, Gen. Passenger and Ticket Agent, MONTREAL, QUE.

Railway Finance, Meetings, Etc.

Alaska Central Ry.—An order has been made for the sale of this partially constructed railway, at Valdez, Alaska, Oct. 9. The bonds are largely held in Canada, the Sovereign Bank being the largest holder. About 50 miles of the line, northerly from Seward, were put in operation in 1907, and there were about 60 miles additional under construction, and a further 185 miles were under contract. The company defaulted on its interest and a receiver was put in possession in May, 1908.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales for July, $30,003 against $26,721 for July, 1908. Railway traffic receipts for Aug., $27,581 against $24,645 for Aug., 1908. Aggregate traffic receipts for two months ended Aug. 31, $54,622.

Atlantic and Lake Superior Ry.—A general meeting of holders of certificates of participation in the A. and L. S. R. Trust Fund was held in London, Eng., Sept. 14 for the purpose of approving an agreement for the sale of the railway belonging to the trust fund.

Burks Falls and French River Ry.—The annual meeting was held at Burks Falls, Ont., Sept. 1. Following are the officers and directors for the current year:—President, R. J. Watson, Burks Falls, Ont.; Vice President, V. Ratz, Park Hill, Ont.; Solicitor, D. R. McLean, Burks Falls, Ont.; Secretary-Treasurer, H. W. Cooper, G.T.R., Montreal; other directors, A. A. Agar, Burks Falls, Ont.; W. J. Ard, South River, Ont.

Canada Atlantic Ry.—A discharge of a mortgage for $14,000,000 dated Oct. 31, 1903, by the company to J. C. and W. Greene, Ottawa, as trustees for bondholders and a reconveyance of the property to the company have been deposited with the Secretary of State at Ottawa.

Canadian Northern Ontario Ry.—There has been deposited with the Secretary of State at Ottawa a trust deed made between the company and the British Empire Trust Co. and the National Trust Co., dated June 28, securing its 4% perpetual consolidated stock and bonds upon the whole of its undertaking, property, and assets present and future, subject to certain exceptions, charges and provisions set out in the trust deed.

Canadian Northern Ry.—There has been deposited with the Secretary of State at Ottawa a trust mortgage deed, dated July 26, securing its 4% Winnipeg Terminals gold bonds upon certain terminal lands and buildings in Winnipeg, also upon all the company's rights and interests in an agreement made with the Grand Trunk Pacific Ry. and the National Transcontinental Ry. Commissioners. The agreement is made with the Province of Manitoba, which guaranteed the bonds.

Cumberland Coal and Ry. Co.—Press reports state that the C.P.R. has had agents making an inspection of the C. C. & R. Co.'s railway and coal mines in the vicinity of Springhill, N.S. Owing to difficulties with the men the mines have been closed down, and, as practically the whole of the traffic of the railway depends on the coal mined, it is expected that the railway will cease operating also. The C.P.R. was a large customer of the company for coal for the operation of its eastern lines.

Dominion Atlantic Ry.—Gross earnings for July, $142,700, against $144,954 for July, 1908. Aggregate gross earnings for 7 months ended July 31, $628,850, against $615,552 for same period 1908.

Grand Trunk Pacific Branch Lines.—There has been deposited with the Secretary of State at Ottawa a mortgage, or deed of trust, dated July 28, made by the G.T.P.B. Lines Co. to the National Trust Co. and the Province of Alberta, securing an issue of 4% first mortgage bonds due 1939, issued and to be issued under the provincial statutes of 1909, chap. 15. This act authorized the construction of certain railways in the province to aid in the construction of which the Government was directed to guarantee the bonds of the company.

A mortgage deed similar to the above, dated June 24, has also been deposited with the Secretary of State, to which the Government of Saskatchewan is a party, in respect of lines to be constructed in that province under chap. 4 of the Saskatchewan statutes, 1908-9.
the Boston & Maine Rd.

Klondike Mines Ry.—The annual meeting was held at Ottawa, Sept. 6. Following are the officers and directors for the current year:—President, J. A. Seybold; Vice President, W. C. Greig; Secretary, A. Haydon; other directors, C. G. Kekewich, J. Latta. The company does not publish an annual report.

London and Port Stanley Ry.—An informal conference has been held by the directors of this railway, which is practically owned by the city of London, Ont., and the representatives of the Pere Marquette Rd., which is operating it under lease, with respect to the terms for a renewal of the lease. The present lease has some years to run, but as a number of betterments are required to bring the line into a condition to handle all the traffic offering, the company is asking for an extension of the lease for 20 years.

Massawippi Valley Ry.—The annual meeting was held at Rock Island, Que., Sept. 1. Following are the officers and directors for the current year: President, J. G. Foster, Derby Line, Vt.; Vice President, C. W. Cate, Sherbrooke, Que.; Treasurer, J. H. Williams, Bellows Falls, Vt.; other directors, J. W. Dunklee, Boston, Mass.; C. H. Kathan, Rock Island, Que.; H. N. Turner, St. Johnsbury, Vt.; C. D. White, F. Grundy and F. N. McCrea, Sherbrooke, Que. This line is leased to

New Brunswick Coal and Ry. Co.—Press reports state that the C.P.R. has had an inspection made of this company's property with a view of an arrangement being made for its extension and operation. The railway part of the company's undertaking is at present being operated by a Commission appointed by the New Brunswick Government. The question which the C.P.R. officials is investigating is said to be as to the quality of the coal to be obtained from the mines. It is stated that if this prove to be satisfactory an arrangement will be made with the provincial authorities to construct an extension of 20 miles to Fredericton and to lease the whole line to the company.

Port Hood-Richmond Ry.—A. E. Dyment, Toronto, has been elected a director to succeed F. Outram, Port Hope, Ont., who has resigned.

Quebec and Lake St. John Ry.—Gross earnings for Aug., $55,420.84, against $68,860.76 for Aug., 1908. Aggregate gross earnings for eight months ended Aug. 31, $387,830.72, against $397,857.54 for same period 1908. Mileage operated, 285, against 240 during the same period 1908.

Quebec Central Ry.—The directors have declared the full dividend on the 7% income bonds for the year, thus bringing up the period during which they have had their maximum return to three and a half years.

Quebec Central Ry.—Gross earnings for July, $107,743.11; expenses, $67,300.37; net earnings, $40,442.74, against $129,501.35 gross earnings, $78,878.98 expenses, $50,622.37 net earnings for July, 1908.

Salisbury and Albert Ry.—Following are the directors for the current year: J. D. Newton, President; D. Bergen, New York; J. D. Hazen, D. K. Hazen, E. P. Raymon.

Spokane International Ry.—An issue of $4,200,000 first mortgage 5% bonds repayable in 1955 has been listed on the New York Stock Exchange. The bonds were issued to pay for terminal and station property and for construction and equipment. The C.P.R. advanced one-eighth of the construction cost and has an option on 52% of the stock. The C.P.R. has a traffic agreement with the company.

Temiskaming and Northern Ontario Ry.—Gross earnings for June, $131,850.04; expenses, $73,647.78; net earnings, $58,202.26; ore royalties, $19,273.16. Net result of operation for six months ended June 30, $377,529.65. Gross earnings for July, $146,111.00; expenses, $75,119.75; net earnings, $70,991.25. Approximate gross earnings for Aug., $155,000; expenses, $75,000; net earnings, $80,000.

White Pass and Yukon Ry.—Gross earnings for July, $223,657.

Inspection of G. T. R. and G. T. P. R.

Sir C. Rivers Wilson, President G.T.R., and the party of directors and officers of the G.T.R. and the G.T. Pacific Ry., who have been on a trip of inspection over the two lines, arrived in Montreal Sept. 15 on their return journey. After remaining in Montreal for a day, the President and his personal party went to New York, whence they sailed for England, Sept. 18.

The party started out from Montreal on their trip early in August, travelling in a special train, visiting Belleville, Toronto, and other important points on the G.T.R. in Western Ontario. Crossing into the United States they journeyed over the G.T. Western Ry. to Chicago. From this point they proceeded west over U. S. lines to Seattle, Wash., where they had some negotiations with reference to joint terminals in that city with the Great Northern Ry. From Seattle, they travelled to Vancouver, where they were entertained at a dinner given by the Board of Trade, Aug. 27. A trip was then made by steamboat to Prince Rupert, where the G.T.P.R. coast terminals were inspected. Coming east the party reached Edmonton over the C.P.R., and travelled thence to Winnipeg over the G.T. Pacific Ry., reaching that place Sept. 5. Fort William was reached Sept. 8, and the party left on the Northern Navigation Co.'s steamship Hamonic the same evening for Sarnia. The special train was resumed at Sarnia, and on the return journey to Montreal, London, Hamilton, and other points were visited. On Sept. 14, the party was in Ottawa, and had an interview with the Premier and members of the Cabinet.

In an interview at Montreal, Sir C. Rivers Wilson said he was very much pleased with the progress made on the line, the only regret he had was as to the condition of the section of the line which the Dominion Government was constructing between Winnipeg and Superior Jct. The failure of the Government to complete the construction of this section was a great disappointment to him, as it was no doubt to the government. Although the company's section of the line would be completed before the government section, it would be behind the date anticipated, Sept., 1911, but he hoped trains would be running from the head of the lakes to Prince Rupert by the latter end of 1912 or the spring of 1913.

The Dominion Labor Department received a report Sept. 9, to the effect that all matters in dispute between the Canadian Northern Ry., and its subsidiary companies and its locomotive engineers, had been satisfactorily adjusted.

FARNLEY STAYBOLT IRON

HIGHEST GRADE OF IRON FOR STAY-BOLTS, RIVETS AND MINING PURPOSES

All sizes carried in stock in Montreal and Winnipeg

Write us for prices, samples and tests.

TAYLOR & ARNOLD

c/o W. E. SKINNER, LIMITED
SOMERSET BLOCK WINNIPEG, MAN. 180 St. James St., MONTREAL

MORISON Suspension Furnaces

The Universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine Boilers

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

Manufactured by

THE CONTINENTAL IRON WORKS, WEST AND CALYER STS. BOROUGH OF BROOKLYN. Near 10th and 23rd St. Ferries. NEW YORK

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes

**Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.**

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

ACTON BURROWS LIMITED, - Proprietors
157 Bay Street, Toronto, Canada.

Local and Long Distance Telpehone, Main 3201.

ACTON BURROWS, - Managing Director and Editor-in-Chief.

AUBREY ACTON BURROWS, - Secretary and Business Manager.

A. FENTON WALKER, - U. S Representative, 143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.

SUBSCRIPTION PRICES, INCLUDING POSTAGE:

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, OCTOBER, 1909.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, M. MAGIFF, St. Albans, Vt.; MANAGER, J. E. DUVAL, 401 St. Nicholas Bldg., Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. J. Mossman, Buffalo, N.Y.; SEC.-TREAS., T. Marshall, Toronto.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, H. H. Vaughan, Montreal; SECRETARY, J. Powell, St. Lambert, Que. MEETINGS 1st Tuesday each month 8 p.m., except June, July and August.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal. MEETINGS at Montreal, alternate Thursdays, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, R. J. Craig, Cobourg, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto. MEETINGS at Toronto, 3rd Tuesday each month, except June, July and August.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto.
SECRETARY, R. B. Wolsey, C.E., Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Quebec Transportation Club.

PRESIDENT, F. S. Stocking.
SEC.-TREAS., A. H. Davis, Box 350, Quebec.

Western Canada Railway Club.

PRESIDENT, G. Hall, Winnipeg; SECRETARY, W. H. Rosevear, Winnipeg. MEETINGS at Winnipeg, 2nd Monday each month, except June, July and August.

Alphabetical List of Advertisers

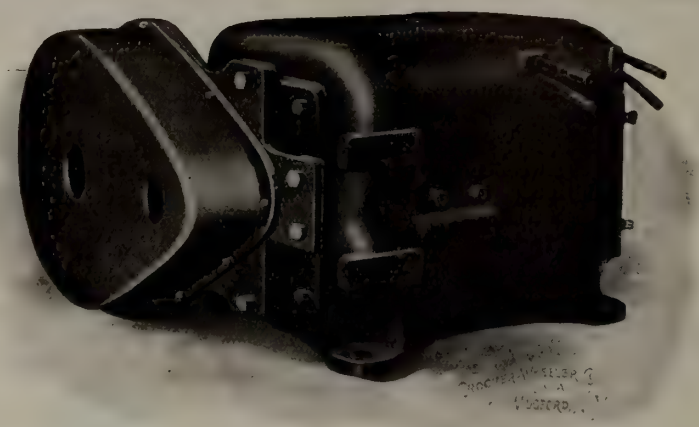
	PAGE
Abbott, W.	Cover 1
Alexander Car Replacer Mfg. Co.	768
American Brake Shoe & Foundry Co.	752
American Hoist & Derrick Co.	734
Babcock & Wilcox, Ltd.	788
Baldwin Locomotive Works	764
Banwell Hoxie Wire Fence Co., Limited	758
Beatty, M., & Sons, Ltd.	778
Bertram, John, & Sons Co., Ltd.	714
Boker, Hermann & Co.	778
Booth, L. M. Co.	Cover 1
Bowser, S. F. & Co., Limited	754
Bradstreet Company	772
Brevoort Hotel, Chicago	754
Brown Hoisting Machinery Co.	718
Burns, R. M. & Co.	782
Burrows.—Acton Burrows, Limited	Cover 1
Butterfield & Co.	780
Canada Car Co., Ltd.	730
Canada Iron Corporation, Ltd.	744
Canadian Bridge Co., Ltd.	774
Canadian Bronze Co., Ltd.	784
Canadian Crocker-Wheeler Co.	750
Canadian Fairbanks Co., Ltd.	734
Canadian Gold Car Heat'g & Light'g Co., Ltd.	742
Canadian Locomotive Co., Ltd.	744
Canadian Northern Railway	758
Canadian Office & School Furniture Co., Ltd.	784
Canadian Pacific Railway Land Department.	770
Canadian Railway Accident Insurance Co.	780
Canadian Ramapo Iron Works, Ltd.	760
Canadian Rand Co., Ltd.	766
Canadian Westinghouse Co., Ltd.	Cover 2
Chicago Ry. Equipment Co.	772
Cleveland City Forge & Iron Co.	778
Clifton Hotel, Niagara Falls, Ont.	770
Coghlin, B. J., & Co.	780
Continental Iron Works	748
Crossen Car Mfg. Co., of Cobourg, Ltd.	746
Date, John	778
Delaware & Hudson Co.	784
Dominion Bridge Co., Ltd.	774
Dominion Car & Foundry Co., Ltd.	Cover 4
Dominion Iron & Steel Co., Ltd.	740
Dominion Wire Rope Co., Ltd.	—
Dougal Varnish Co., Ltd.	Cover 1
Drewry, E. L.	782
Drummond, McCall & Co.	752
Duner Co.	784
Engineering News Book Dept.	768
Falls Hollow Staybolt Co.	768
Farlow Draft Gear Co.	756
Flannery Bolt Co.	750
Fuce, Edw. O.	749
Galena Signal Oil	716
Galt Malleable Iron Co.	784
Gardner, J. T.	782
Gartshore, J. J.	772
Gartshore Thomson Pipe & Foundry Co., Ltd.	772
General Railway Signal Co.	764
Goldschmidt Thermit Co.	764
Grand Trunk Railway	746
Greening, The B. Wire Co., Ltd.	782
H. & E. Lifting Jack Co.	742
Hamilton Pattern Works	780
Hamilton Steel and Iron Co., Ltd.	732
Harrison, John & Sons Co., Ltd.	754
Hart, John A. & Co.	Cover 1
Hart-Otis Car Co., Ltd.	712
Hayes Track Appliance Co.	746
Hicks Locomotive and Car Works	776
Holden Co., Ltd., The	750
Hopkins, F. H. & Co.	724
Hotel Cadillac, Detroit, Mich.	Cover 1
Hudson's Bay Company	742
Hunt, Robert W., & Co.	782
Hutton, James & Co.	784
Illinois Central Railroad	784
Imperial Bank of Canada	780
Imperial Guarantee & Accident Insurance Co.	784
Intercolonial Railway	740
International Marine Signal Co.	776
International Mercantile Marine Co.	764
Jardine, A. B., & Co.	748
Jessop, Wm. & Sons, Ltd.	774
Kerr Engine Co., Ltd.	772
Kingsmill, Saunders, Torrance & Kingsmill	749
Legg Bros.	—
Lehigh Valley Rd.	780
Lewis, Rice, & Sons, Ltd.	752
Lufkin Rule Co.	Cover 1
Marsh Co.	778
McConway & Torley Co.	768
McCord & Co.	722
Meaford Wheelbarrow Co.	762
Metcalf, John S., Co.	766
Midland Towing & Wrecking Co., Ltd.	780
Montreal Locomotive Works	720
Montreal Rolling Mills Co.	760
Montreal Steel Works, Ltd.	728
Mussens Limited	Cover 1 and 710
National Malleable Castings Co.	Cover 1
Northern Electric and Mfg. Co., Ltd.	766
Norton, A. O.	724
Nova Scotia Steel & Coal Co., Ltd.	736
Ontario Wind Engine and Pump Co.	774
Orford Copper Co.	784
Ottawa Car Co., Ltd.	Cover 1
Otto Bros.	782
Owen Sound Wire Fence Co., Ltd.	770
Parry Sound Lumber Co., Ltd.	784
Phillips, Eugene F., Electrical Works, Ltd.	782
Piper, The Hiram L. Co., Ltd.	784
Piper, N. L., Railway Supply Co., Ltd.	762
Polson Iron Works, Ltd.	736
Positive Lock Washer Co.	780
Provincial Steel Co., Ltd.	776
Pyke, J. W., & Co.	740
Pyle National Electric Headlight Co.	732
Rail Joint Co. of Canada, Ltd.	Cover 1 and 726
Renouf Publishing Co.	770
Rhodes, Curry Co., Ltd.	738
Robb Engineering Co., Ltd.	722
Robertson Machinery Co.	784
Safety Car Heating & Lighting Co.	728
Saxby & Farmer, Ltd.	Cover 1
Sheriffs Mfg. Co.	782
Silliker Car Co., Ltd.	726
Smart, James Mfg. Co., Ltd.	—
Southam Press	784
Standard Coupler Co.	780
Standard Explosives, Limited	744
Standard Paint & Varnish Co., Ltd.	772
Standard Steel Works Co.	764
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold	748
Toronto Bolt & Forging Co., Ltd.	738
Toronto Pressed Steel Co., Ltd.	756
Union Draft Gear Co.	778
United Typewriter Co.	774
Vulcan Iron Works	776
Warren, Wm.	776
Waugh Draft Gear Co.	Cover 1
Williams, A. R., Machinery Co.	730
Williams Mfg. Co., Ltd.	780
Wire & Cable Co.	Cover 1

EDW. O. FUCE
Hon. Grad., Univ. Tor. (S.P.S.)
A. M. CAN. SOC. C. E.
ONT. LAND SURVEYOR,
Consulting Civil Engineer
GALT, ONT.
Railway Location & Construction.
Reinforced Concrete Structures.

Kingsmill, Saunders, Torrance & Kingsmill,
Union Bank Chambers, 19 Wellington St. West, Toronto
Nicol Kingsmill, K.C., Dyce W. Saunders, K.C., W. P. Torrance, Walter B. Kingsmill.

It is said that 50% or over of the entire passenger movement from the middle and western states to Seattle during the time the special exhibition rates were in force, from the end of May to the end of Sept., went by the C.P.R. route in at least one direction.

The number of persons over 70 years of age on the C.P.R. pension roll at Jan. 1, 1909, was 105; between 60 and 70 years of age, 148; under 60 years of age, 23—total, 276 persons. The amount paid out for the year was $50,694.79, and the balance to the credit of the fund was $657,345.60.



ENCLOSED TYPE MOTORS

FOR

Cranes, Industrial Railways, Hoists, Etc.

WRITE FOR PARTICULARS

CANADIAN CROCKER-WHEELER CO., Limited

Manufacturers and Electrical Engineers - 41 Street Railway Chambers, Montreal

The "Ajax" Diaphragm

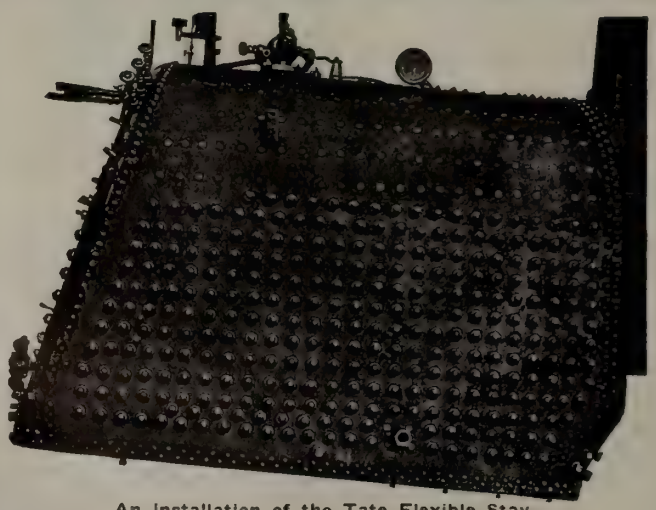
is the standard Diaphragm on practically all of the leading roads in Canada and the United States. It is reinforced by a GALVANIZED STEEL ROD which runs entirely around the Diaphragm inside the inner folds, which supports and effectually prevents the Diaphragm from sagging at the corners or top, buckling or getting out of shape. Made to suit all the standard types of vestibules. Write us for catalogue 117 and price.

Watch for illustrations of our other well-known specialties.

THE HOLDEN COMPANY, Limited

MONTREAL, 302 St. James Street. TORONTO, 42 York Street. WINNIPEG, 291½ Portage Ave.

ALSO AT COBALT, ONT. Address Nearest Office.



An Installation of the Tate Flexible Stay.

THE TATE FLEXIBLE STAYBOLT

THE PERFECT STAY

For Locomotive Fire Boxes

Over a million and a half bolts in service on over 100 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited

TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, - Pittsburgh, Penn., U.S.A.

Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this.

The dates given of orders, immediately following the numbers, are those on which the hearings took place and not those on which the orders were issued. In many cases orders are not issued for a considerable time after the date assigned to them.

7733, 7734. Aug. 5.—Authorizing Bell Telephone Co. to carry its wires across C.P.R. at Arnprior and Listowel, Ont.

7735. Aug. 6.—Recommending to Governor in council for approval C.N.R. by-law re spitting and smoking in railway cars and premises.

7736, 7737. Aug. 6. — Authorizing C.N.Q.R. to construct railway across road between lot 624 and lots 622 and 623 and between lots 162 and 159, St. Timothee parish, Que.

7738. Aug. 6.—Authorizing Hazeldean Rural Telephone Co. to erect wires across C.P.R. at Stittsville station, Ont.

7739, 7740. Aug. 5.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at Ouimet Ave., St. Laurent, Que., and at Daniel St., Arnprior, Ont.

7741. Aug. 5.—Authorizing Moosomin East Rural Telephone Co. to erect wires across C.P.R. between section 27 and 34, tp. 13, r. 31, w. 2 m., Satskatchewan.

7742. Aug. 5.—Authorizing Leeds and Grenville Independent Telephone Co. to erect wires across C.P.R. at Spencerville crossing, Prescott and Ottawa branch.

7743, 7744. Aug. 5.—Authorizing E. Blanchard, M.D., to erect telephone wires across G.T.R. at 11th concession, Brock tp., and at side line south of Laidlaw St., Cannington, Ont.

7745. Aug. 20.—Authorizing C.P.R. to construct its railway across Banff trail near Anthracite. Alta.

7746. Aug. 5.—Approving location of C.N.R., from sec. 2, tp. 15, r. 17, w. 6th m., to sec. 11, tp. 14, r. 17, w. 6th m., mileage 0 to 5, British Columbia.

7747. July 23.—Amending order 6538. of March 18, 1907, with respect to steel rolled tires on locomotive wheels.

7748. Aug. 3.—Authorizing Bell Telephone Co. to erect wires across C.P.R., at highway crossing west of Webbwood, Ont.

7749. Aug. 7.—Staying proceedings under order 7394 of June 28, 1909, with respect to G.T.R. station at Guelph, Ont., until question of subway at Neeve St. is disposed of.

7750. Aug. 10.—Authorizing Thedford, Arkona and East Lambton Telephone Co. to erect wires across G.T.R. at Thedford, Ont.

7751 to 7753. Aug. 10.—Authorizing the Bell Telephone Company to erect wires across C.P.R. and G.T.R. at three different points in Ontario.

7754 to 7756. Aug. 10.—Authorizing B.C. Telephone Co. to erect wires across Esquimalt & Nanaimo Ry. at three points near Duncans, B.C.

7757 to 7759. Aug. 6.—Authorizing Hazeldean Rural Telephone Co. to erect wires across C.P.R. at three points east of Stittsville station, Ont.

7760. Aug. 10.—Authorizing Claremont and Ashburn Telephone Co. to erect wires across G.T.R. at Brooklin, Ont.

7761. Aug. 10.—Authorizing C.P.R. to construct highway bridge carrying First St., Brandon, Man., over Assiniboine River and C.P.R. yard there.

7762. Aug. 10.—Authorizing G.T.P.R. to construct railway across highway between sections 10 and 11, tp. 36, r. 15. w. 3rd m., West Satskatchewan.

7763. Aug. 6.—Authorizing the C.N.Q.R. to construct railway across road between lot 624 and lot 27-12, St. Timothee parish, Que., mileage 77.11 west from Quebec bridge.

7764. Aug. 10.—Authorizing G.T.R. to construct branch line to the Blaugas Co. of Canada's premises in Montreal parish.

7765. Aug. 10.—Authorizing Hamilton Cataract Power, Light & Traction Co. to erect wires across G.T.R. north of Desjardins canal, Hamilton, Ont.

7766. Aug. 10.—Authorizing Saskatchewan Government Telephones to erect wires across C.N.R. between secs. 24 and 25, tp. 25, range 29, west 2nd meridian.

7767. Aug. 7.—Ordering refund of switching charges at St. Thomas, Ont., by M.C. Rd. to the Canada Iron Corporation. This order is given in full on another page.

7768. Aug. 7.—Dismissing complaint of C. W. Stewart of St. John, N.B., that he is unable to market cornmeal in consequence of alleged discrimination by C.P.R. This order is given in full on another page.

7769 to 7775. Aug. 12.—Authorizing Alberta Government Telephones to erect wires across Alberta Ry. & Irrigation Co.'s track at two points, and across C.P.R. at five points.

7776. Aug. 12.—Authorizing Bell Telephone Co. to erect its wires across C.P.R. 1½ miles east of Durham station, Ont.

7777 to 7779. Aug. 12.—Authorizing Bell Telephone Co. to erect wires across C.P.R. at two points and across G.T.R. at one point in Ontario and Quebec.

7780, 7781. Aug. 12.—Authorizing Ingersoll Telephone Co. to erect wires across C.P.R. at two points in West Zorra tp., Ont.

7782, 7783. Aug. 10.—Authorizing Saskatchewan Government Telephones to erect wires across C.N.R. at two points.

7784. Aug. 10.—Authorizing the C.P.R. to construct spur line to J. D. Clark & Co.'s premises, Winnipeg.

7785. Aug. 12.—Authorizing Pipestone municipality to erect wires across C.P.R. 3½ miles n.w. of Reston, Man.

7786. Aug. 7.—Authorizing G.T.R. to appeal to Supreme Court of Canada from order 7613, of July 22, 1909, directing that it provide station accommodation at or near where G.T.R. lines from Hamilton to Niagara Falls cross town line between Clinton and Louth tps., Ont.

7787. Aug. 7.—Directing Red Mountain Ry. to provide highway crossing over track a little south of Patterson's station, B.C.

7788. Aug. 7.—Authorizing village of Glencoe, Ont., to place electric light wires across G.T.R.

7789. July 26.—Authorizing C.N.Q.R. to construct spur to Warden, King & Sons' premises, Maisonneuve, Que.

7790. Aug. 16.—Amending order 6535, of March 18, 1909, by inserting the words "or steel-rolled" after the words "steel tire" in the fifth line of the operative part of order.

7791. Aug. 10.—Authorizing City of Vernon, B.C., to lay sewer pipes under C.P.R. where same crosses South Vernon, Schubert and Seventh Sts.

7792. Aug. 17.—Authorizing G.T.R. to construct spur line to Gull Lumber Co.'s premises, Bexley tp., Ont.

7793. Aug. 17.—Authorizing C.P.R. to construct spur line to Farmers' Grain & Supply Co.'s premises, Wauchope, Sask.

7794. Aug. 16.—Authorizing C.P.R. to construct two branch lines in St Boniface tp., Man.

7795. Aug. 17.—Authorizing C.P.R. to construct a second line between Bolton and Bolton Jct., Ont.

7796. Aug. 17.—Authorizing C.P.R. to construct spur line to J. Eveleigh & Co.'s premises, Montreal

7797. Aug. 17.—Authorizing C.P.R. to construct bridges at mileage 110.3 and 110.6, on its London section, Ont.

7798. Aug. 12.—Authorizing Manitoba Government Telephones to maintain wires across C.P.R. at ¼ mile west of Findlay.

7799. Aug. 13.—Authorizing Thamesville Telephone Co. to erect its wires across C.P.R. at North Thamesville, Ont.

7800 to 7805. Aug. 13.—Authorizing Alberta Government Telephones to erect wires across C.P.R. at five points.

7806, 7807. Aug. 13.—Authorizing Bell Telephone Company to erect wires across London & Port Stanley Ry. at White station, Ont., and across G.T.R. at Preston street, Ottawa, Ont.

7808. Aug. 13.—Authorizing Golden Flat Rural Telephone Co. to erect wires across C.P.R. in Saskatchewan.

7809 to 7812. Aug. 13.—Authorizing Volcanic Oil and Gas Co. to lay and maintain natural gas pipe under Michigan Central and Pere Marquette railways at four points.

7813. Aug. 13.—Authorizing City of Toronto to construct bridge to carry the highway and Toronto Street Ry. tracks over C.P.R., G.T.R., and C.N.O.R. tracks where such tracks cross Queen St. east, Toronto, and apportioning the cost. This order was given in full in our last number.

7814. Aug. 16.—Authorizing G.T.R. to construct branch line from its line between Orillia and Midland at or near Tiffin, running southerly through Tiny and Tay tps. to road allowance between lots 91 and 92, in 2nd concession of Tiny tp., Ontario.

7815. Aug. 16.—Authorizing G.T.R. to construct branch line from its line near corner of Victoria and Fourth Streets, Midland, Ont., running westerly partly through town of Midland, Tay and Tiny tps., and town of Penetanguishene, to junction with G.T.R. Penetang branch at or near Queen St., Penetanguishene, Ont.

7816. Aug. 16.—Authorizing G.T.R. to construct branch extending from its line between Colwell and Penetanguishene, near Wyevale, Tiny, Ont., and running northerly to road allowance between lots 91 and 92, 2nd concession, Tiny tp., Ont.

7817. Aug. 20.—Extending until Nov. 1, 1909, time in which branch line authorized by order 6365, of Jan. 27, 1909, was to be constructed by the C.P.R. and C.N.O.R. in Parry Sound, Ont.

7818. Aug. 16.—Approving Alberta Ry. & Irrigation Co.'s local standard passenger tariff C.R.C. 7, superseding C.R.C. 5, providing for rate of 3c. a mile.

7819. Aug. 18.—Approving revised location of C.P.R. Crow's Nest Pass branch between Pincher and Coleman, Alta., from mileage 31.60 to 37.56, and from mileage 53.42 to 56.92.

7820. Aug. 17.—Authorizing Humberstone tp., Ont., to lay culvert under G.T.R.

7821. Aug. 17.—Authorizing Bee Line Rural Telephone Co. to erect wires across C.P.R. in Saskatchewan.

7822. Aug. 17.—Authorizing the C.P.R. to construct spur to J. Y. Griffin & Co.'s premises, Winnipeg.

7823. Aug. 17.—Authorizing C.P.R. to construct spur to Tudhope, Anderson & Co.'s premises, Winnipeg.

7824. Aug. 17.—Authorizing C.P.R. to construct spur to Alpha Co.'s premises. Three Rivers, Que.

7825. Aug. 17.—Authorizing C.P.R. to close temporary crossing at Third Ave. and portion of First Avenue crossing C.P.R. right way, and to re-arrange its general yard at Moose Jaw, Sask., also to open up a temporary crossing at Fourth Ave.

7826. Aug. 20.—Authorizing the C.P.R. to construct spur to Imperial Oil Co.'s premises, Wetaskiwin, Alta.

7827. Aug. 20.—Authorizing C.P.R. to construct bridge over Dufferin and Lis-

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.

The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.

THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

American Brake Shoe and Foundry Company

NEW YORK MAHWAH, N.J. CHICACO, ILL.

THE HOLDEN CO., Limited, Agents, 302 St. James St., MONTREAL

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

THE ALGOMA STEEL CO., LIMITED

SAULT STE. MARIE, ONTARIO

IS NOW BOOKING ORDERS FOR STEEL RAILS **FOR DELIVERY DURING THE SEASON OF 1909**

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to insure desired deliveries.

Office:
CANADA LIFE BUILDING
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS

gar Sts., at Chapleau, Ont.

7828. Aug. 16.—Amending order 7639, of July 27, 1909, by striking out words "Toronto Section," in item 5 of operative part of order, and substituting therefor the words "St. Maurice Valley branch."

7829. Aug. 18.—Amending order 6084, of Jan. 14, 1909, by not requiring C.P.R. train 68 to stop at C.N.Q.R. crossing at St. Jerome, Que., on Mondays.

7830. Aug. 20.—Authorizing Town of Listowel, Ont., to lay watermain under G.T.R. tracks.

7831. Aug. 20.—Authorizing Robitaille-Eureka Distillery to lay water pipe across Quebec Railway, Light & Power Co.'s tracks at Beauport, near Quebec.

7832. Aug. 20.—Authorizing the G.T.R. to reconstruct bridge 50 at mileage 136.94, over Holland Ave., 1.16 miles west of Chaudiere Jct., Ont.

7833. Aug. 19.—Approving location of the C.N.R. Greenway branch extension, Adelpha to Wassena, through tp. 2, ranges 19-21, west principal meridian, mileage 52.11 to 64.77.

7834 to 7836. Aug. 20.—Authorizing city of Revelstoke, B.C., to lay box drain under C.P.R. smelter tracks and old wharf siding on Second St. and Campbell Ave., one on Pearson and Wynn Sts., and sewer pipe across C.P.R. right of way.

7837 to 7839. Aug. 20.—Authorizing the City of Brantford to lay two sewers under G.T.R. and one under T.H. & B.R.

7840. Aug. 17.—Authorizing Woodstock Water & Light system to erect wires across G.T.R. at Butler St., Woodstock, Ont.

7841. Aug. 20.—Authorizing the City of Toronto to construct drain pipe on girders of bridge carrying G.T.R. rails at Lansdowne Avenue.

7842. Aug. 19.—Directing C.P.R. to permit Laird tp., Algoma, Ont., to install telephone instrument in Echo Bay station.

7843. Aug. 17.—Authorizing C.P.R. to construct railway across nine highways in Saskatchewan.

7844. Aug. 18.—Authorizing C.N.R. to cross C.P.R. Wolseley-Reston branch.

7845. Aug. 19.—Authorizing C.P.R. to construct spur line to D. Maxwell & Sons' premises, St. Marys, Ont.

7846, 7847. Aug. 19.—Authorizing Manitoba Government Telephones to erect wires across C.N.R. ¾ mile north of Rounthwaite, and at Elphinstone, Man.

7848. Aug. 19.—Authorizing Allan Rural Telephone Co. to erect wires across G.T.R. in Saskatchewan.

7849, 7850. Aug. 17.—Authorizing the Woodstock Water & Light system to erect wires across G.T.R. at two points, Woodstock, Ont.

7851. Aug. 20.—Authorizing C.P.R. to construct bridge 95.85 over Cross River, Lake Superior Division.

7852. Aug. 20.—Approving location of B.C. Southern Ry. Michel to Kananaskis branch, mileage 30 to 37.84, following east bank of Elk River.

7853. Aug. 24.—Approving location of C.N.R. up North Thompson River, B.C., mileage 24 to 46.

7854. Aug. 20.—Authorizing the Hazeldean Rural Telephone Co. to erect wires across G.T.R. 3 miles s.e. of South March station, Ont.

7855. Aug. 20.—Approving location of C.N.R. through unsurveyed territory in Sudbury mining division, Ont., from mileage 80 to 100, from Sudbury Jct.

7856. Aug. 23.—Approving location of G.T.R. Melville-Yorkton branch, sec. 28, tp. 22, range 6, to sec. 6, tp. 25, range 4, west 2nd meridian, Sask.

7857. Aug. 20.—Authorizing Bell Telephone Company to erect wires across G.T.R. tracks three miles south of Kincardine station, Ont.

7858. Aug. 24.—Authorizing Manitoba Government Telephones to erect wires across C.P.R. tracks 2½ miles east of Cypress River.

7859. Aug. 20.—Authorizing City of Revelstoke, B.C., to construct undercrossing across C.P.R. main line on extension of First St. W. to road to rural cemetery.

7860. Aug. 20.—Authorizing the Bell Telephone Company to erect wires across G.T.R. 3 miles north of Sarnia, Ont.

7861. Aug. 20.—Authorizing Saskatchewan Government Telephones to erect wires across C.P.R. at Alameda.

7862. Aug. 20.—Authorizing Golden Flat Rural Telephone Co. to erect wires across C.P.R. at Drinkwater, Sask.

7863. Aug. 20.—Authorizing Bell Telephone Company to erect wires across G.T.R. north of Pickering station, Ont.

7864. Aug. 20.—Authorizing C.P.R. to construct tracks across road allowance lying to east of sec. 14-11-12, west of principal meridian, Man.

7865. Aug. 20.—Approving location of C.P.R. station at McTaggart, Sask.

7866. Aug. 20.—Authorizing C.P.R. to construct extra track across road allowance between sec. 21 and 16, tp. 10, range 20, west principal meridian, Man.

7867. Aug. 20.—Authorizing C.P.R. to reconstruct bridge 113.9 over Illecillewaet River, B.C.

7868. Aug. 24.—Authorizing Town of Barrie, Ont., to lay sewer under G.T.R. at Essa St.

7869, 7870. Aug. 24.—Authorizing Bell Telephone Company to construct conduit under G.T.R. and M.C.R. at Waterloo St., London, Ont.

7871. Aug. 20.—Rescinding order 7749, of Aug. 7, 1909, re G.T.R. station at Guelph, Ont., and staying proceedings under order 7394, June 28, 1909, in same matter, until question of subway at Neeve St. is disposed of.

7872. Aug. 20.—Authorizing Pembroke Southern Railway to construct spur to Lee Manufacturing Co.'s premises, Pembroke, Ont.

7873. Aug. 20.—Directing the C.P.R. to construct two level highway crossings over gravel pit and Andrews road crossing, Matsqui district, B.C.

7874. Aug. 20.—Approving location of C.P.R. station at Gull Lake, Sask.

7875, 7876. Aug. 20.—Authorizing C.P.R. to construct branch to Rogers-Cunningham Lumber Co.'s and Citizens' Lumber Co.'s premises, Lethbridge, Alta.

7877. Aug. 20.—Authorizing the C.P.R. to construct spur to J. Wilson's premises, Vaudreuil parish, Que.

7878. Aug. 24.—Authorizing C.P.R. to construct spur to Alberta Lumber Co.'s premises, Vancouver, B.C.

7879. Aug. 24.—Authorizing C.P.R. to construct spur through blocks 21, 12 and 5, and across lanes and streets in Saskatoon, Sask.

7880. Aug. 19.—Dismissing application of C.P.R. for order to amend order 6856, April 17, 1909, by providing that wires at crossings of Seymour Power & Electric Co. shall be supported by a four-pole structure on each side of track.

7881. Aug. 27.—Covering regulation adopted by Board for carriage of explosives by railways.

7882. Aug. 24.—Approving change of location of G.T.P.R. from east line, sec. 1, tp. 52, range 24, west 5th meridian, North Alberta, mileage 43.56 to 55.15.

7883. Aug. 24.—Approving location of G.T.P. Melville-Regina branch, sec. 31, tp. 22, range 6, to sec. 13, tp. 21, range 12, west 2nd meridian, mileage 0 to 33, Sask.

7884. Aug. 24.—Recommending to Governor in council for approval Oshawa Ry. Co.'s by-law re spitting and smoking on railway premises.

7885. Aug. 24.—Recommending to Governor in council for approval Thousand Islands Railway Co.'s by-law re spitting and smoking on railway premises.

7886. Aug. 24.—Authorizing Alberta Government Telephones to erect wires across C.P.R. in Camrose.

7887. Aug. 25.—Authorizing City of Hamilton to lay water pipe under G.T.R. at Hillyard St.

7888. Aug. 27.—Authorizing C.N.O.R. to construct joint section of C.P.R. and C.N.O.R., Parry Sound spur, under C.P.R. tracks at Parry Sound, Ont.

7889. Aug. 27.—Approving New Brunswick Southern Ry. Co.'s by-law authorizing H. W. Newnham to prepare and issue tariffs of tolls for freight traffic.

7890. Aug. 27.—Approving New Brunswick Southern Ry. Co.'s by-law authorizing H. H. McLean to prepare and issue tariffs of tolls for passenger traffic.

7891. Aug. 27.—Authorizing Bell Telephone Company to erect wires across M.C.R. 1¼ miles west of Welland, Ont.

7892. Aug. 27.—Authorizing Condie Rural Telephone Company to erect wires across C.N.R. in Saskatchewan.

7893. Aug. 27.—Authorizing Alberta Government Telephones to erect wires across C.P.R. in Frank.

7894. Aug. 27.—Authorizing Pipestone municipality, Man., to erect wires across C.P.R. ¼ mile west of Sinclair.

7895. Aug. 27.—Authorizing Branda municipality, Man., to erect wires across C.P.R. northeast of Napinka station.

7896. Aug. 27.—Authorizing Manitoba Government Telephones to erect wires across C.P.R. at Strathclair.

7897. Aug. 10.—Respecting complaint of Plymouth Cordage Company re rates on binder twine. This order is given in full on another page.

7898. Aug. 27.—Approving proposed deviation of Hamilton, Waterloo & Guelph Ry. from Sheffield to Galt, Ont.

7899. Aug. 30.—Extending until Sept. 25, 1909, time in which City of Montreal shall put in proper repair steel viaduct carrying St. Catharine St. over C.P.R., and ordering that the city be liable to a penalty of $25 a day for every day after Sept. 25 that work required to be done shall remain uncompleted.

7900. Aug. 27.—Authorizing Tilbury Telephone Co. to place wires across P.M.R., ¾ mile east of Glenwood station, Ont.

7901. Aug. 31.—Authorizing Princeton & Drumbo Telephone Co. to place wires across G.T.R. at 6th con., Blenheim tp., Ont.

7902. Aug. 31.—Authorizing Bell Telephone Co. to place wires across C.P.R. between Wallace Ave. and Dundas St., Toronto.

7903 to 7906. Aug. 31.—Authorizing Alberta Government Telephones to place wires across C.N.R. at four points.

7907. Aug. 31.—Authorizing City of Peterboro, Ont., to construct sewer under G.T.R.

7908. Aug. 31.—Authorizing C.P.R. to build spur line along lane between Eighth Ave. and Dewdney St., and between Toronto St. and St. John St., Regina, Sask.

7909 to 7913. Aug. 30.—Authorizing V.V. & E. Ry. to construct five bridges.

7914. Aug. 30.—Approving location of C.N.R. from mileage 0.00 to 51.50 in Saskatchewan.

7915. Aug. 30.—Approving location of Superior & Western Ont. Ry., mileage 0. to 6.415.

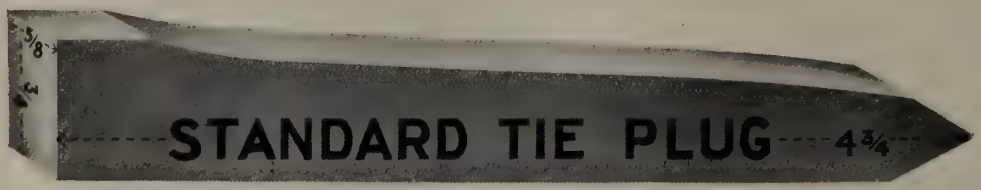
7916. Aug. 31.—Approving location of G.T.P.R. from mileage 100 to 150, British Columbia.

7917. Aug. 31.—Authorizing V.V. & E. Ry. to construct bridge 409, at mileage 24.1.

7918. Aug. 31.—Authorizing G.T.R. to reconstruct bridge across C.P.R. just west of Brockville, Ont.

7919. Aug. 27.—Approving location of C.P.R. station at Fort William, Ont.

"Note the Size and Shape"



In bags of 1000 each
Write for prices
Better and Cheaper than hand made

M'f'd by J. HARRISON & SONS CO., LIMITED

OWEN SOUND, ONT.

These plugs are giving good satisfaction. We are also large dealers in Ties, Posts, Timbers, Lumber, Sash, Doors, Interior Finish, and with the plant we have here should be able to supply you. . . .

Our Specialty is Good Material Promptly Try us once.

Bowser Pumps in a Railway Storehouse

FIRE-PROOF OIL STORAGE

When your oils are stored by the Bowser System, you know they can never be the source of a fire—

What is more, fire starting from some other source cannot get to the oils.

These are only two results of

THE BOWSER SYSTEM

The Bowser is constructed so as to secure the measure of safety prescribed by the National Board of Fire Underwriters.

Equipments for Railway Oil Houses described in Bulletin 18. Send for it.

S. F. BOWSER & CO., LIMITED
66-68 FRASER AVENUE - - TORONTO

THE

NEW HOTEL BREVOORT CHICAGO

The Twentieth Century Hotel **Absolutely Fireproof**

Centrally located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG,
PROPRIETORS

ARTHUR M. GRANT,
MANAGER

7920. Sep. 1.—Authorizing C.P. Ry. to open for traffic the portion of its mountain section between Hector and Field, B.C.

7921. Aug. 31.—Authorizing C.P.R. to construct overhead crossing at 6th Ave., Moose Jaw, Sask.

7922 to 7926. Sep. 1.—Approving location and plans of C.P.R. stations at Upsala, Ont.; Molson, Man.; Welwyn, Sask.; Bulyea, Sask., and Glenboro, Man.

7927 to 7930. Sep. 1.—Authorizing Bell Telephone Co. to place wires across C.P.R. at four points in Ontario.

7931. Sep. 1.—Approving deviation of location of portion of C.P.R. from point on revision of Crow's Nest Pass branch to Calgary & Edmonton Ry., Alta.

7932. Aug. 31.—Extending until Oct. 15, time within which C.P.R. is required to complete the work on Richmond Road viaduct, Ottawa, Ont.

7933. Aug. 30.—Authorizing Superior & Western Ont. Ry. to open for freight traffic the portion of its line from the Junction on the G.T.P.R. Lake Superior branch near mileage 154 to the head of Sturgeon Lake, at O'Brien, seven miles.

7934. Aug. 24.—Authorizing G.T.P.R. to construct its railway across Norton St., Edmonton, Alta.

7935. Sep. 1.—Authorizing G.T.R. to construct six bridges on its Ottawa division.

7936 and 7937. Aug. 31.—Authorizing V.V. & E.R. to construct bridges 437 and 400 over Twenty Mile Creek and Similkameen River.

7938 to 7941. Sept. 1.—Approving plans and location of C.P.R. stations at Redvers, Sask., Little Qualicum River, Graydon, Sask., and Goodlands, Man.

7942. Sep. 1.—Authorizing C.P.R. to build spur to Rocky Mountain Cement Co.'s premises, Blairmore, Alta.

7943. Sep. 1.—Extending until Sep. 14, time within which C.N.Q.R. may operate trains for carriage of traffic on the portion of its line connecting with Quebec & Lake St. John Ry. in Quebec City to Garneau Jct., Que.

7944. Sep. 2.—Approving stress sheets of G.T.R. for Port Hope viaduct, Ont.

7945. Sept. 2.—Approving strain sheets for C.N.O.R. bridge over Rideau River, mileage 56.9, west from Hawkesbury.

7946. Sept. 1.—Extending for 30 days from Aug. 26, 1909, time within which C.P.R. may commence construction of subway at Iberville St., Montreal.

7947. Sep. 2.—Authorizing the N. St. C. & T.R. to construct spur from Fonthill station, Ont., to Railton's gravel pit.

7948. Sep. 2.—Authorizing T.H. & B.R. to construct spur to Easterbrook & Bryan's premises, Hamilton, Ont.

7949 and 7950. Sep. 1.—Authorizing Dundurn Rural Telephone Co. to place wires across C.N.R. at two points in Saskatchewan.

7951. Sep. 2.—Authorizing Alberta Gov't Telephones to place wires across C.P.R. between secs. 2 and 3, tp. 11, r. 8, west 4th mer.

7952 to 7955. Sep. 2.—Authorizing Bell Telephone Co. to place wires across G.T.R. at three points in Toronto, and across the C.P.R. at Westmount, Montreal.

7956 to 7958. Sep. 2.—Authorizing Manitoba Gov't Telephones to place wires across C.N.R. at two points and across C.P.R. at one point.

7959 and 7960. Sep. 1.—Authorizing Saskatchewan Gov't Telephones to place wires across C.N.R. and C.P.R. at one point each.

7961. Sep. 1.—Authorizing Elmwood Rural Telephone Co. to place wires across G.T.R. at Elmwood, Ont.

7962. Sep. 1.—Amending order 7698, Aug 3, 1909, authorizing C.P.R. to construct spur to Wood-McNabb Lumber Co.'s premises, East Kootenay district, B.C.

7963. Sept. 1.—Authorizing the C.N.R. to alter level crossing on Pembina St., Winnipeg.

7964. Aug. 31.—Authorizing C.N.R. to use ticket and baggage forms in use on its lines west of Port Arthur, filed with the Board, until Board otherwise orders.

7965. Sep. 2.—Authorizing City of Brantford, Ont., to construct sewer under G.T.R. on Wilkinson St.

7966. Sep. 1.—Recommending to Governor in Council for sanction C.N.R. by-law respecting travelling upon and use of the railway, and rescinding order 7735, Aug. 6, 1909.

7967. Sep. 2.—Approving location of C.N.R. from five miles above Yale to 10 miles above Yale, B.C.

7968. Sep. 1.—Authorizing Georgian Bay & Seaboard Ry. to divert road allowance, Tay, tsp., Ont.

7969. Sep. 1.—Ordering C.P.R. to construct highway crossings at mileage 2.9 and 3.5 from Megantic, Que.

7970. Sep. 2.—Authorizing Town of Orillia, Ont., to lay sewer pipe under G.T.R.

7971. Aug. 31.—Authorizing C.P.R. to construct spur line to McColl Bros'. premises, Winnipeg.

7972. Aug. 31.—Authorizing Pacific Coast Coal Mines, Ltd., to cross by an undercrossing, Esquimalt & Nanaimo Ry. tracks in Cranberry district, B.C.

7973. May 4.—Approving plans submitted by Cameron & Co., Ltd., Ottawa, Ont., for siding to connect with G.T.R. near Aylen Lake station, Ottawa division.

7974. Sept. 2.—Authorizing Town of Arnprior to lay sewer pipe under G.T.R. at Ida St.

7975. June 1.—Authorizing Montreal Park & Island Ry. Co. to appeal to the Supreme Court of Canada upon the following question:—"Whether it is right or proper for the Board in making the said order to overlook contract dated Nov. 7, 1907, between the M.P. & I.R. Co. and Notre Dame de Grace municipality."

7976.—June 8.—Authorizing Montreal St. Ry. Co. to appeal to the Supreme Court of Canada upon the following question:—"Whether upon a true construction of sec. 91 and 92 of the British North America Act and of sec. 8 of the Railway Act of Canada, the M.S.R. Co. is subject in respect of its through traffic with the Montreal Park & Island Ry. Co. to the jurisdiction of the Board of Railway Commissioners of Canada."

7977. Sep. 3.—Authorizing C.P.R. to deviate portion of its line as constructed, between mileage 38 and 39, west of Nelson, B.C.

7978. Sep. 3.—Authorizing C.P.R. to construct spur through lots 37 to 43 of lot 5, in parish lot 47, St. John, Winnipeg.

7979 and 7980. Aug. 31.—Authorizing City of Toronto to lay water pipe under the C.P.R. at Osler St. and Symington St.

7981. Sep. 3.—Authorizing C.P.R. to costruct 12 spur lines, each crossing 7th Ave., Regina, Sask.

7982. Sep. 3.—Authorizing City of Toronto, to construct a sewer between Tiverton and Carlaw Aves. under the G.T.R.

7983. Sep. 3.—Approving C.P.R. plan for bridge 55.5, Sirdar section, Sask.

7984 and 7985. Sep. 7.—Approving C.N.R. location up North Thompson River, B.C.; mileage 46 to 55, and through tps. 34-35, and ranges 1-8, mileage 44.84 to 93.85, Sask.

7986. Sep. 7.—Authorizing East Oxford tsp., Ont., to place drain pipe under Port Dover & Lake Huron Ry. Co. near Woodstock, Ont.

7987. Sep. 3.—Authorizing Coldstream Telephone Co. to place its wires across C.P.R. at Komoka, Ont.

7988. Sep. 1.—Authorizing Yellow Grass Rural Telephone Co. to place its wires across C.P.R. between secs. 13 and 14, tp. 10, r. 17, west 2nd mer.

7989. Sep. 7.—Authorizing Markham & Pickering Telephone Co. to place its wires across G.T.R. between lots 10 and 11, 5th con., Markham tsp., Ont.

7990 to 7998. Sep. 3.—Authorizing Bell Telephone Co. to place its wires across G.T.R., M.C.R. and C.N.R. at eight points in Ontario and one in Quebec.

7999. Sep. 7.—Amending order 5956, Dec. 22, 1908, directing Quebec, Montreal & Southern Ry. to construct stations at Sorel and Pierreville, Que., within eight months from Dec. 22, 1908, by granting an extension of six months from Sep. 7, 1909, within which to construct station at Sorel.

8000 to 8002. Sep. 3.—Authorizing Manitoba Gov't. Telephones to cross C.N.R. and C.P.R. at three points.

8003 and 8004. Sep. 1.—Authorizing Alberta Gov't. Telephones to place wires across C.N.R. at two points.

8005 and 8006. Sep. 1.—Authorizing Saskatchewan Government Telephones to place wires across the C.N.R. at two points.

8007. Sep. 7.—Exempting British Yukon Ry. from provision of order 7473, May 4, as to construction and maintenance of fences on either side of its right of way, and of gates at farm crossings and of cattle guards.

8008 to 8010. Sept. 7.—Authorizing Canadian Machine Telephone Co. to place wires across G.T.R. at Lindsay and Burford, Ont.

8011 to 8014. Sep. 7.—Authorizing Village of Burlington, Ont., to lay water main under G.T.R. at four points.

8015. Sep. 7.—Approving deviation of Montreal road by C.N.R. in Cumberland tsp., Ont., mileage 41 west from Hawkesbury, subject to conditions that road as diverted, be put by the C.N.R. in as good order as existing road.

8016. Sept. 8.—Approving G.T.P.R. by-law appointing A. B. Smith Manager G.T.P.R. Telegraph Co. to prepare and issue tariffs of tolls to be charged for transmission of telegraph messages.

8017. Sep. 8.—Approving location of G.T.P.R. from east line of sec. 1, tsp. 53, r. 23, to south line of sec. 3, tsp. 52, r. 24, west 5th mer., North Alberta.

8018. Sept. 8.—Authorizing Bell Telephone Co. to place wires across M.C.R., half a mile east of Welland, Ont.

8019. Sep. 8.—Authorizing J. A. Coleman to lay gas pipe under G.T.R., two miles west of Marshville station, Ont.

8020. Aug. 26.—Authorizing Pembroke Lumber Co. to lay water pipe under C.P.R. at Pembroke, Ont.

8021. Sep. 8.—Authorizing Town of Barrie, Ont., to lay sewer pipe under G.T.R. at Bayfield St.

8022 and 8023. Sep. 8.—Authorizing Saskatchewan Gov't. Telephones to place wires across C.P.R. at two points.

8024 to 8026. Sep. 8.—Authorizing Canadian Machine Telephone Co. to place wires across G.T.R. at three streets in Lindsay, Ont.

8027. Sep. 8.—Authorizing Orford Mt. Ry. to construct bridge 6 over Fyfield Brook, Eastman, Que.

8028. Sep. 8.—Authorizing C.P.R. to construct bridge 125.2, Cascade section, over roadway near Vancouver, B.C.

8029. Sep. 8.—Authorizing Esquimalt Nanaimo Ry. to construct bridge 14.0 over Niagara ravine, B.C.

8030. Sep. 8.—Authorizing P.M.R. to move east derail and semaphore installed at Walkerville Jct., Ont., at junction with C.P.R. to a point 53 ft. further away from the crossing.

8031. Sep. 7.—Authorizing R. H. Edgar, of Bowling Green, Ont., to place telephone wires under C.P.R. at Waldemar, Ont.

8032. Sept. 9.—Authorizing Town of Gravenhurst, Ont., to lay water main under G.T.R.

8033 to 8035. Sep. 9.—Authorizing Saskatchewan Gov't. Telephones to place wires across C.P.R. at three points.

8036 to 8041. Sep. 9.—Authorizing Bell Telephone Co. to place wires across C.P.R. and G.T.R. at various points in Ontario.

THE GRAND TRUNK RAILWAY COMPANY OF CANADA.

Notice is hereby given that the Ordinary Half-Yearly General Meeting of the Grand Trunk Railway Company of Canada will be held at the City Terminus Hotel, Cannon Street, London, E.C., on Thursday, the 21st day of October, 1909, at twelve o'clock noon precisely, for the purpose of receiving a Report from the Directors, and for the transaction of other business of the Company.

Notice is also given that the Transfer Books of the Company in London and Montreal will be closed from Monday, the 20th September, to the day of meeting, both days inclusive.

By Order,
C. Rivers Wilson, President.
H. H. Norman, Secretary.

Dashwood House, 9 New Broad Street, London, E.C., September 10th, 1909.

NOTICE.—The South Ontario Pacific Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways and bridge which it has been authorized to construct by section 3 of chapter 85 of the Statutes of Canada 1887 as enacted by section 1 of chapter 92 of the Statutes of 1891, and for other purposes.

WALTER R. BAKER,
Acting Secretary.

Andrew T. Thompson,
Ottawa Agent.

Dated at Montreal the 15th Sept., 1909.

NOTICE.—The Campbellford, Lake Ontario and Western Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways which it has been authorized to construct by section 8 of chapter 54 of the Statutes of Canada of 1904, and for other purposes.

H. C. OSWALD,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

Dated at Montreal, the 15th Sept., 1909.

NOTICE.—The Walkerton & Lucknow Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways which it was authorized to construct by section 1, subsections (b) and (c) of chapter 175 of the Statutes of Canada of 1905, and for other purposes.

GEO. A. WALKER,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

Dated at Toronto the 15th Sept., 1909.

NOTICE.—The West Ontario Pacific Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways which it has been authorized to construct by section 1 of chapter 178 of the Statutes of Canada, 1906, and for other purposes.

WALTER R. BAKER,
Acting Secretary.

Andrew T. Thompson,
Ottawa Agent.

Dated at Montreal the 15th Sept., 1909.

NOTICE.—The Ottawa Northern & Western Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways which it has been authorized to construct by section 1, subsections (a) and (b) of chapter 84 of the Statutes of Canada, 1899, and by section 1 of chapter 72 of the Statutes of Canada of 1900, and for other purposes.

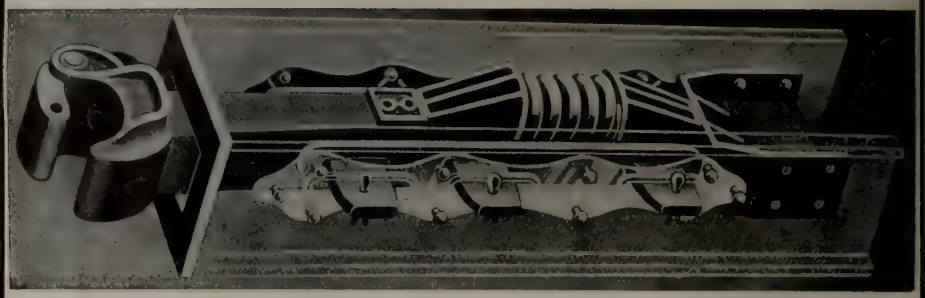
H. C. OSWALD,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

Dated at Montreal the 15th Sept., 1909.

THE

Farlow Twin Spring Draft Gear



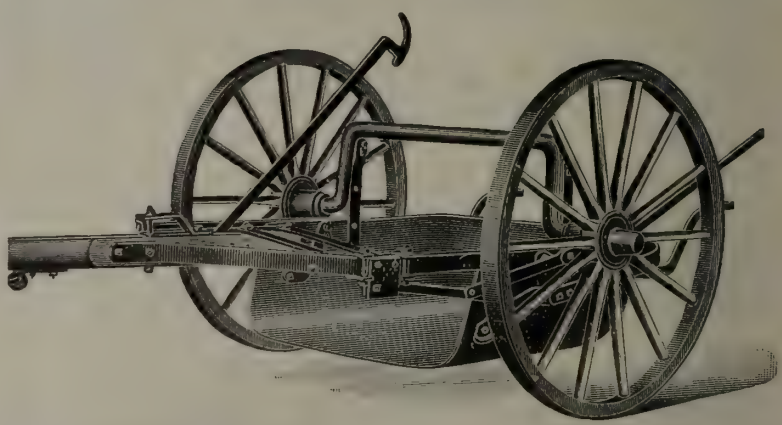
Designed for Wooden or Steel Cars and Engines.
Pulling Strains Distributed Equally on the Three Cross Keys.
Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.

Baltimore, Md. **Chicago, Ill.**

THE TORONTO PRESSED STEEL CO. LIMITED

TORONTO, CANADA



Our **SOLID PRESSED BOWL DRAG** and **WHEEL SCRAPERS** are the most satisfactory in the market They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies including

PLOUGHS **DUMP CARS**
DUMP WAGONS **DUMP CARTS**
WHEELBARROWS **TRUCKS**
CEMENT MIXERS **WAGONS**
etc., etc.

PROMPT SHIPMENTS **SEND FOR CATALOGUE**

8042. Sep. 9.—Authorizing Canadian Machine Telephone Co. to place wires across G.T.R. at Burford, Ont.

8043. Sep. 9.—Approving location of G.T.R. station at Bluevale, Ont.

8044. Sep. 9.—Authorizing Centre Thorah Telephone Ass'n., to place wires across G.T.R., in the tp. of Thorah, Ont.

8045 and 8046. Sep. 9.—Authorizing Bell Telephone Co. to place wires across the track of the T.H. & B.R. near Grimsby, Ont.; and across M.C.R. at Bridgeburg, Ont.

8047. Sep. 9.—Authorizing V.V. & E.R. & Nav. Co. to construct bridge 439 over Similkameen River, B.C.

8048. Sep. 9.—Authorizing Village of Stirling, Ont., to erect electric power wires across G.T.R.

8049. Sep. 9.—Approving location of C.N.R. up North Thompson River from Nekaliston Creek to Coldwater River, B.C.

8050. Sep. 9.—Approving location of C.N.R. through tps. 9-5, ranges 33-34, west principal meridian, and ranges 1-6, west 2nd mer., mileage 16.09 to 65.16, Sask.

8051. Sep. 9.—Authorizing the Q.R.L. & P. Co. to construct branch line or Y at St. Joachim, Que.

8052. Sep. 9.—Authorizing C.P.R. to lay tracks across 18th St. Brandon, Man.

8053. Sep. 9.—Authorizing C.P.R. to construct spur to Brandon Gas & Coal Co.'s plant, Brandon, Man.

8054. Sep. 9.—Authorizing the C.P.R. to construct spur lines for Manitoba Rollings Mills, St. Boniface, Man.

8055. Sept. 13.—Authorizing G.T.R. to construct spur line to Davies & Doty's premises, Oakville, Ont.

8056. July 13.—Approving location of C.N.O.R. through Gloucester tp. and City of Ottawa, from mileage 53.91 to 57.42 west from Hawkesbury, Ont.

8057. Sept. 13.—Extending for two weeks from date of order time within which C.N.Q.R. may operate its trains from Quebec City to Garneau Jct.

8058. Sept. 13.—Authorizing C.P.R. to construct branch line in Saskatoon, Sask., to a point to be determined by City Engineer.

8059. Sept. 10.—Authorizing C.P.R. to operate spur line to G. Vrooman's premises, Lethbridge, Alta.

8060, 8061. Sept. 10.—Authorizing Village of Stirling, Ont., to place electric wires across G.T.R.

8062. Sept. 10.—Authorizing Laval Electric Co. to place wires across C.P.R. near Therese, Que.

8063 to 8065. Sept. 13.—Authorizing Bell Telephone Co. to place wires across G.T.R. at Howick, Que.; Stevensville, Ont., and Bridgeburg, Ont.

8066. Sept. 14.—Amending order 7963, Sept 1, 1909, authorizing C.N.R. to alter existing level crossing on Pembina St., Winnipeg.

8067. Sept. 14.—Authorizing G.T.R. to construct spur to H. Corby Distillery Co.'s premises, Thurlow tp., Ont.

8068. Sept. 10.—Approving masonry work to be constructed at bridge 27.3, Macleod section, C.P.R.

8069. Sept. 10.—Authorizing C.P.R. to construct branch line in blocks 3, 7, 12 and 14, plan Q 10, Saskatoon, Sask.

8070. Sept. 14.—Approving location of C.N.O.R. Udney-Orillia line through Mara tp., Ont.

8071. Sept. 10.—Authorizing Strathcona municipality to cross C.N.R. one mile east of Belmont, Man.

8072. Sept. 10.—Authorizing Macdonald municipality to place wires across C.N.R. 2 miles northeast of Brunkild, Man.

8073, 8074. Sept. 10.—Authorizing Bell Telephone Co. to place wires across M.C.R. near Bridgeburg and near Welland, Ont.

8075 to 8078. Sept. 14.—Authorizing Volcanic Oil & Gas Co. to lay pipe under M.C.R. at four points in Ontario.

8079. Sept. 14.—Authorizing G.T.R. to construct branch line in Oakville, Ont.

8080. Sept. 14.—Authorizing G.T.R. to construct branch line and two spurs to J. R. Eaton & Sons' planing mills, Ont.

8081. Sept. 14.—Authorizing C.P.R. to open for traffic the portion of its Nomining extension from Nomining to Rapide de l'Orignal, 34.6 miles.

8082. Sept. 14.—Approving tariff of parlor car rates C.R.C. no. S. 2 of Esquimalt & Nanaimo Ry.

8083. Sept. 14.—Authorizing C.P.R. to construct extra track across road allowance between secs. 14 and 23, tp. 11, range 12, west principal mer., Manitoba.

8084. Sept. 14.—Authorizing City of Toronto to construct additional bridge across G.T.R. and C.P.R. at Dundas St.

8085. Sept. 15.—Authorizing Winnipeg Electric Co. to operate cars over C.P.R. track on Logan Ave., Winnipeg.

8086, 8087. Sept. 15.—Authorizing Mt. McKay & Kakabeka Falls Ry. to cross C.P.R. and C.N.R. at Yonge St., Fort William, Ont.

8088. Sept. 14.—Dismissing application of Town of Leamington, Ont., to construct street over M.C.R. Leamington & St. Clair branch.

8089. Sept. 15.—Authorizing Mt. McKay & Kakabeka Falls Ry. to cross G.T.P.R. at Yonge St., Fort William, Ont.

8090. Sept. 13.—Authorizing Town of Listowel, Ont., to place wires across C.P.R. at Main St.

8091. Sept. 14.—Authorizing Village of Stirling, Ont., to place electric light wires across G.T.R. at William St.

8092. Sept. 14.—Authorizing Town of Listowel to place electric power wires across C.P.R. at Inkerman St.

8093. Sept. 15.—Authorizing C. Vanderburg to lay gas pipe under G.T.R. in North Cayuga tp., Ont.

8094. Sept. 15.—Authorizing Mt. Albert Telephone Co. to place wires across G.T.R. at lots near Mt. Albert station, Ont.

8095, 8096. Sept. 15.—Authorizing N.B. Telephone Co. to place wires across C.P.R. at two points in Carleton county, N.B.

8097. Sept. 15.—Authorizing Manitoba Government Telephones to place wires across C.P.R. west of Stonewall station.

8098. Sept. 15.—Authorizing Macdonald municipality to place wires across C.P.R. near La Salle station.

8099 to 8101. Sept. 15.—Authorizing Alberta Government Telephones to place wires across C.N.R. between mile posts 816 and 817, Alta., and the C.P.R. ¼ mile south of Parkdale, and at 11th Ave., Calgary.

8102 to 8106. Sept. 15.—Authorizing Bell Telephone Co. to place wires across G.T.R. at three points and the M.C.R. at two points in Ontario.

8107. Sept. 15.—Authorizing Saskatchewan Government Telephones to place wires across C.P.R. near Glen Ewen, Sask.

8108. Sept. 15.—Authorizing Volcanic Oil & Gas Co. to lay main under C.P.R. in Sandwich West tp., Ont.

8109. Sept. 15.—Authorizing C.P.R. to construct bridge 84.7 at Six Mile Creek, Mountain section Pacific Division.

8110. Sept. 14.—Authorizing Vancouver Power Co. to cross with its tracks New Westminster & So. Ry. at Cloverdale, B.C.

8111. Sept. 15.—Directing Brandon, Sask. & Hudson Bay Ry. to employ two men and a foreman on each of the sections known as the Boissevain and Minto sections, and if that number be not sufficient that the company employ such additional men as may be necessary for the purpose.

MAINLY ABOUT PEOPLE.

Hon. L. P. Brodeur, Minister of Marine, returned to Canada from England, early in Sept.

Lady Shaughnessy and the Misses Edith and Margaret Shaughnessy sailed for England, Sept. 24.

J. J. Hill, Chairman of the Board Great Northern Ry., celebrated his 71st birthday Sept. 17.

J. P. Mabee, Chairman Board of Railway Commissioners, returned to Canada from Europe, early in Sept

F. Ree, General Manager London and North Western Ry. (Eng.), arrived in Canada on a visit, Sept. 16.

Mrs. Calderwood, wife of Hugh Calderwood, marine architect, has returned to Toronto from Scarborough Beach, Me.

R. L. Barwick, who died at Barrie Sept. 3, aged 52, was in the old Northern Ry. of Canada's service for many years.

Colin Gordon, who died suddenly at Toronto, Sept. 8, aged 50, was for many years C.P.R. agent at Arthur, Ont.

W. J. Cockburn, special agent and inspector G.T.R. General Baggage Department, Toronto, died at his residence, East Toronto, Sept. 15.

D. McNicoll, Vice President C.P.R., returned to Montreal, Sept. 10, after completing a tour of the company's western lines.

H. E. Suckling, Treasurer C.P.R., returned to Montreal, Sept. 13, after a tour over the company's lines to the Pacific coast.

Lady Reid has presented a complete ambulance to the General Hospital, St. John's, Nfld., in memory of the late Sir Robert G. Reid.

Rear-Admiral Kingsmill returned to Canada Sept. 3, from England, where he had been attending the Imperial Defence Conference in London.

Jas. Mills, member of the Board of Railway Commissioners, has returned to Ottawa and resumed his duties, his health having much improved.

Mrs. A. Piers, wife of the manager of the C.P.R. Atlantic Steamship Line, and Miss Isabel Piers, left Montreal in Sept. to join Mr. Piers in Liverpool, Eng.

A. R. Mosher was re-elected Grand President of the Canadian Brotherhood of Railway Employes, at the annual convention held at Moncton, N.B., recently.

C. R. W. Postlethwaite, who was appointed Inspector of Asylums for the Ontario Government, is a son of C. W. Postlethwaite, Harbor Master of Toronto.

A. McMillan was presented with a mahogany buffet by the C.P.R. passenger staff in Toronto Sept. 8, on the occasion of his marriage to Miss Silverthorne.

Frank E. P. Turner, C.E., of Bracondale Hill, Toronto, who died recently, left an estate valued at $356,533, which he bequeathed to relatives and friends.

Lady Kirkpatrick, widow of the late Sir Geo. Kirkpatrick, C.P.R. director, will spend the winter in Egypt, where her son, Capt. E. Kirkpatrick, is stationed.

T. S. Acheson, C.P.R. General Grain Agent, Winnipeg, while feeding a pet bear at Winnipeg Beach recently, was attacked by it and rather badly mauled. We were advised Sept. 14, that though he had not recovered the use of the injured limb, he had been able to attend to his business as usual.

The directors of the newly-formed Canada Cement Co., Ltd., include the following: Sir Sandford Fleming, W. D. Matthews, Hon. R. Mackay, directors C.P.R.; J. R. Booth, Hon. G. A. Cox, directors G.T. Pacific Ry.; and G. E.

Drummond, director Canada Iron Corporation, Ltd.

J. Nelson, formerly Superintendent C.P.R., Toronto, is now connected with Robins, Ltd., a Toronto real estate firm, and is taking charge of its immigration business in the west.

T. C. Gregory, a well known civil and mining engineer, who was engaged on the construction of the Great Western Ry., now a part of the G.T.R., died in London, Eng., recently.

H. G. Dimsdale, of the G.T.P.R. engineering staff at Vancouver, B.C., while working near the camp, Sept. 13, sustained a broken arm and shoulder blade, caused by a falling tree.

J. Hendry, Vancouver, B.C., who has been elected President of the Canadian Manufacturers' Association, is President of the Vancouver, Westminster and Yukon Ry.

H. Larose, clerk in the C.P.R. ticket office at Place Viger station, Montreal, was sentenced to three years in the penitentiary, Sept. 13, for the theft of $800 from the company.

Among the ticket agents who have joined the Canadian Ticket Agents' Association recently are: H. G. Elridge, G.T.R., Vanleek Hill, Ont.; S. Way Kent, C.P.R., Paris, Ont.

A. C. Burrows, New York Central Lines travelling passenger agent, who has been transferred from Kansas, Mo., to Denver, Colo., is a son of W. T. Burrows, of Charlottetown, P.E.I.

L. A. Hamilton, ex-Land Commissioner C.P.R., will spend the autumn and early winter at his fruit farm, Lorne Park, Ont., having rented his Toronto house to Col. S. Denison.

G. Brown, St. John, N.B., who has been engaged for some time in the Maritime Provinces in railway construction, has been appointed Assistant Chief Engineer of Public Works.

A. C. Disney, chief clerk C.P.R. Atlantic steamship department, Chicago, has resigned to enter the White Star Line's service in its cruise department at New York.

Mrs. Crangle, wife of Capt. S. Crangle, formerly Marine Superintendent St. Lawrence & Chicago Steam Navigation Co., died at Toronto Sept. 12, aged 71, after several months' illness.

Lord Mount Stephen has given $1,000 to the fund being raised in Brantford, Ont., to purchase the old Bell homestead there, as a memorial to the telephone inventor.

W. Stitt, General Passenger Agent C.P.R. Eastern Lines, Montreal, spent a few days in the Ontario highlands early in Sept., and returned to Montreal, Sept. 18.

M. J. Haney, railway and general contractor, Toronto, was a passenger on board the steamboat Ohio when she ran on a rock on the Alaskan coast, Sept. 2, and became a total wreck.

Miss Heloise Keating, third daughter of E. H. Keating, C.E., ex-City Engineer of Toronto, and formerly General Manager Toronto Ry., was married at Toronto, Sept. 11, to C. F. Macklem.

P. A. McDermott, a Canadian Northern Ry. employe at Saskatoon, Sask., who was killed in the Warman, Sask., yards, Aug. 30, was at one time C.P.R. baggage master at Carleton Place, Ont.

H. D. Lumsden, ex-Chief Engineer National Transcontinental Ry. Commission, returned to Canada by the Empress of Ireland, Sept. 16, after an absence in Great Britain of about six weeks.

A. H. Smith, Vice President and General Manager New York Central Lines, was a passenger on the C.P.R. s.s. Empress of Ireland, arriving in Canada Sept. 16 from England.

New Ways To The Woods

The six railways of the Canadian Northern Railway system offer the widest choice of new territories for the fisherman, canoeist, camper and hunter.

IN NOVA SCOTIA the Halifax and Southwestern Railway, from Halifax to Yarmouth, serves seven hundred miles of ocean shore; two score generous trout streams and the famous Rossignol lake system.

IN CAPE BRETON, sixty miles of the Gulf of St. Lawrence shore is skirted by the Inverness Railway, which gives easy access to the Margaree valley—far-famed for its salmon fishing.

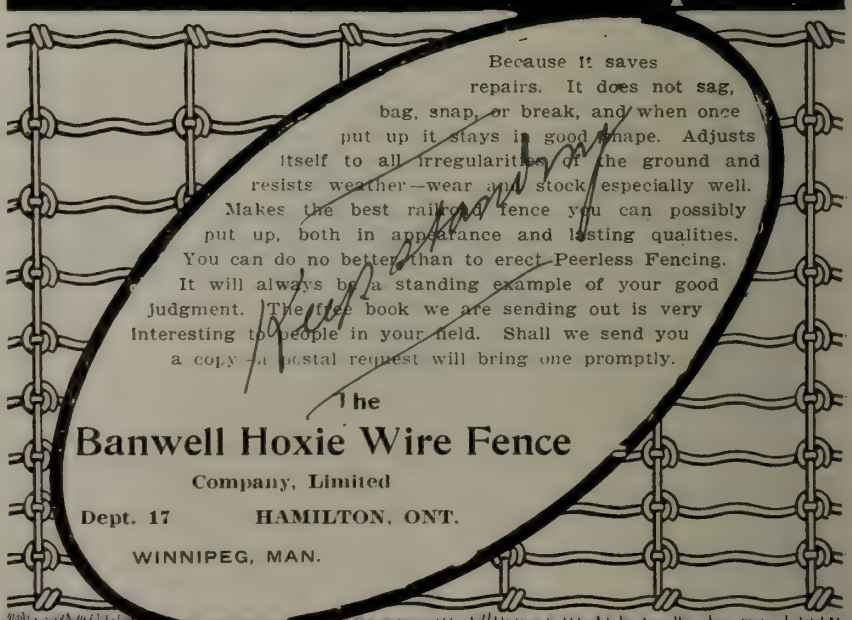
IN QUEBEC, the Canadian Northern. Quebec and Quebec, and Lake St. John Railways give easy access to the Saguenay, Upper St. Maurice, the Batiscan, the La Tuque game and fish preserve, and the valleys of the St. Lawrence and Ottawa. All good fishing waters, abounding with ouananiche, trout and bass.

IN ONTARIO, the entire range of the Muskokas, the Georgian Bay hinterland, the French, Pickerel, Still and Maganetawan rivers—well stocked with bass, mascalonge, and pickerel, are best reached by the Canadian Northern Ontario Railway.

IN WESTERN ONTARIO and the prairie provinces, the Canadian Northern Railway serves over three thousand miles of splendid territory. The Rainy River section follows the old Dawson fur trail, which is the finest canoe trip on the continent. There is an amplitude of sporting opportunities for the camera hunter, the fisherman and canoeist.

For literature and general or special information inquire of the information Bureau, Canadian Northern Railway System, Toronto.

PEERLESS
The Fence that saves Expense


Because it saves repairs. It does not sag, bag, snap, or break, and when once put up it stays in good shape. Adjusts itself to all irregularities of the ground and resists weather—wear and stock especially well. Makes the best railroad fence you can possibly put up, both in appearance and lasting qualities. You can do no better than to erect Peerless Fencing. It will always be a standing example of your good judgment. The free book we are sending out is very interesting to people in your field. Shall we send you a copy—a postal request will bring one promptly.
The
Banwell Hoxie Wire Fence
Company, Limited
Dept. 17 HAMILTON, ONT.
WINNIPEG, MAN.

STRONGER
Than Stock-Weather and Wear

P. Houston, heretofore Roadmaster Montreal and Ottawa section C.P.R., has been appointed Superintendent of Construction for Fauquier Bros., contractors for a portion of the National Transcontinental Ry.

M. J. Butler, Deputy Minister of Railways and Canals, returned to Ottawa, Sept. 4, from his trip of inspection over the lines being constructed in Western Canada in aid of which the government has granted subsidies.

D. B. Hanna, Third Vice President Canadian Northern Ry., and A. D. Davidson, Land Commissioner C.N.R., returned to Canada Sept. 4, from a brief business trip, during which they were in England, Scotland and France.

A number of championship, as well as individual prizes, were awarded by the judges at the Canadian National Exhibition, Toronto, recently to shorthorn cattle from Sir William Van Horne's farm at East Selkirk, Man.

W. W. Pope, K.C., assistant to W. H. Biggar, K.C., General Solicitor G.T.R., and Solicitor G.T.P.R., has been appointed Secretary to the Ontario Government Hydro-Electric Power Commission, with office at Toronto.

S. Spick, of the C.P.R. claims department, Winnipeg, was presented with a silver tea set by the clerks in the office, Sept. 1, on the occasion of his marriage and his removal to the company's service in Calgary, Alta.

Sir Thos. G. Shaughnessy, President C.P.R., has purchased the old Ross property on McGill St., Montreal, the price paid being, it is stated, $95,000. It is said the property has been purchased as a personal investment.

F. Ebey, C.P.R. station agent at Winnipeg Beach, Man., was presented with a case of pipes and some other smokers' supplies by the Winnipeg Beach Club, on the occasion of the closing up of the summer traffic season there.

A C.P.R. shunting engine collided with Sir Thos. G. Shaughnessy's private car early on the morning of Sept. 1, at Ottawa station. The President was asleep at the time, and he, as well as the other occupants, though somewhat shaken up, escaped without injury.

A. J. Nixon, who has resigned his position as Assistant Superintendent of the G.T.R. at London, Ont., recently, to enter the Board of Railway Commissioners service, was presented with a case of silver by the Mystic Shriners of that city, prior to leaving to take up his new duties.

S. Fay, General Manager of the Great Central Ry of England, arrived in Montreal Sept. 8, and during his stay visited the C.P.R. shops there. He was accompanied by his son, who is entering on the transportation course at McGill University.

Capt. L. A. Demers, F.R.A.S., Chief Examiner of Masters and Mates, and acting Wreck Commissioner, Ottawa, has been elected a member of the Royal Society of Arts, Eng., of which the King is a patron and the Prince of Wales the President.

Mrs. Brennan, widow of P. Brennan, yardmaster at Ottawa, who was killed in the yards June 17, has issued a writ against the G.T.R. to recover $10,000 damages, alleging that her husband's death was due to the company's negligence.

J. F. Stevens, formerly Chief Engineer of the Great Northern Ry., and latterly Chief Engineer of the Panama Canal Commission has been elected President of the Oregon Trunk Lines, the Hill railway to be constructed from the Columbia River to Central Oregon and San Francisco.

G. A. Beach, C.P.R. ticket agent at Fredericton, N.B., was arrested Sept. 8 on a charge of stealing $835 from the office there. The money was made up in a package to be sent to Montreal, and Beach claimed it disappeared during his temporary absence from the office. It is stated that an audit showed that there was a large shortage in the sale of tickets.

Mrs. Jas. Dobson, mother of C. A. Dobson, General Agent Dominion Express Co., Hamilton, Ont., died in Toronto Sept. 3, aged 93. She was a daughter of Capt. Wm. Moore, who was wounded in the battle at Queenston Heights, in which General Brock was killed. Her husband, who predeceased her by many years, was the first Reeve of Yorkville, now part of Toronto, and was a long time postmaster of Yorkville.

R. E. Perry, whose appointment as Assistant General Freight Agent Intercolonial Ry. at Montreal was announced in our last issue, was born at Drayton, Ont., July 5, 1876, and entered railway service Oct., 1891, since when he has been, to 1898, in various positions in local freight office, C.P.R., Toronto, and General Freight Agent's office, C.P.R., Toronto; 1898 to July 1, 1907, in general freight department, Intercolonial Ry., Montreal; July 1, 1907, to Aug. 1909, Chief of Tariff Bureau, I.C.R., Montreal.

Sir Thos. G. Shaughnessy, President C.P.R., accompanied by R. B. Angus, one of the directors, left Montreal on a special train Sept. 8 upon his annual inspection of the company's lines. At Toronto, W. D. Matthews and E. B. Osler, two other directors, joined the party, which went west on the Toronto-Sudbury branch, thence over the transcontinental line, intending to return via the Crow's Nest Pass route, the Minneapolis, St. Paul and Sault Ste. Marie Ry., and the Wisconsin Central Ry. Sir Thomas was expected to return to Montreal about Oct. 2.

F. H. Clendenning, who has been appointed Assistant General Freight Agent C.P.R. Pacific Division, Vancouver, B.C., was born at Montreal, Nov. 9, 1881, and entered C.P.R. service Aug. 1, 1898, since when he has been, to 1900, junior clerk; 1900 to 1902, register clerk, Traffic Manager's office, Montreal; to July, 1902, stenographer Fourth Vice President's office, Montreal; July 1, 1902, to Apr. 1, 1903, stenographer and freight clerk, Commercial Agent's office, New York Central and Hudson River Rd., Montreal; Apr. 1, 1903, to Feb. 1, 1904, stenographer and subsequently tracing clerk, C.P.R. General Freight Agent's office, Vancouver, B.C.; Feb. 1, 1904, to Sept. 1, 1908, Contracting Freight Agent C.P.R., Victoria, B.C.; Sept. 1, 1908, to Aug. 17, 1909, City Freight Agent C.P.R., and District Freight Agent Esquimalt & Nanaimo Ry., Victoria.

A. A. Tisdale, who has been appointed Superintendent G.T.P.R. Lake Superior Division, Fort William, Ont., was born at Mount Vernon, Ont., Mar. 8, 1874, and entered railway service Sept., 1889, serving until July, 1892, in various capacities in the G.T.R. local freight office at Hamilton, Ont. In July, 1892, he was transferred to the Chief Engineer's office as secretary, and remained in the same capacity when the engineering offices were removed to Montreal, Feb., 1896. In May, 1899, he was appointed secretary to F. H. McGuigan, then General Superintendent G.T.R., Montreal, and remained with him in his successive positions of Manager and Fourth Vice President, as secretary, chief clerk and assistant, and after Mr. McGuigan's resignation, he was appointed assistant to the General Transportation Manager, which position he held until his appointment as Assistant to the Vice President and General Manager G.T.P.R., Nov., 1907.

Instruction of Railway Shop Apprentices.

S. J. Hungerford, Superintendent C.P.R. Shops, Winnipeg, contributed a very interesting article on this subject to our last issue. We have since been supplied with the following official information respecting the work at the company's Angus shops, Montreal.

The system, based on broad, commonsense lines, has become well established, and while probably much remains to be accomplished, the splendid progress made thus far and the strong organization which is being built up, promise well for the future. The management is not looking for immediate results, for it is far-sighted enough to look five, even 10 years ahead, feeling sure that its present efforts will be rewarded when that time elapses.

The young recruit, when seeking admission, has to satisfy the management as to his general intelligence and good health. When in the workshops, the future mechanic is put through a systematic and continuous training, which, upon completion of his apprenticeship, enables him to qualify for a mechanic's position, and then, by further instruction, advance to the highest position in the organization. Every facility is placed in the way of the ambitious and intelligent employe to receive instruction from qualified and experienced officials in shop and railway work. The trend of this preliminary training has the tendency to create a desire in the aspiring employe. The training is progressive—starting first with educational instruction for young employes, then advancing to shop and educational instruction for the apprentices, and finally the journeyman receives educational facilities which enable him to qualify for minor positions on the staff. The moral and physical side, as well as the mental, is covered by the training given, and it is interesting to see what this railway is doing towards the development of its employes.

The primary education for young employes consists of 1, reading and writing; 2, elementary arithmetic; 3, geography of the C.P.R. system; 4, Biographical sketches of past and present eminent Canadians; 5, freehand drawing; 6, punctuality and regularity; 7, thoroughness application and self-reliance; 8, cleanliness and thrift; 9, recreation. The young employe after he has received the above training, is put through courses of instruction in shop arithmetic, shop mechanics, shop practice and mechanical drawing, which enable him upon completion of his apprenticeship to qualify as a skilled mechanic. Then, if necessary, he may take advantage of the advanced classes in mechanics, electricity, locomotive and car construction, and workshop practice.

A very interesting feature of the training is the practical work of the boys in the workshops, which is carried on under the direction of skilled shop men who are termed shop instructors. These men are carefully selected, as they are held responsible for the moral as well as the practical training of the boys. The educational side of the training is carried on in a room set apart for the purpose, and well equipped with desks, tables, blackboards, cupboards, etc. The apprentices attend the instruction classes during working hours, and for the time thus spent the boys are paid their regular wages. The instruction classes are under the charge of practical and technical trained men who are termed educational instructors. The chief Educational Instructor, Henry Maxwell, is a man with a large heart, and kindly feeling for the boys.

In order to encourage the deserving apprentices, the company donates each year a scholarship to the ten best apprentices. These scholarships consist of complete courses in mechanical or elec-

trical engineering, following the courses of the correspondence schools, but taught by the company's own instructors. The company also awards two scholarships, tenable for four years at McGill University, Montreal, each year to sons of employes. The holders of these McGill University scholarships are employed by the company during vacation, and receive remuneration for their services. Last year several officials of the company awarded prizes to successful employes attending evening classes.

A glance at the syllabus of the evening classes shows that the education given is upon very practical lines. Over 250 employes take advantage of these classes, the upkeep of which is chiefly borne by the men themselves, but is assisted by the company and the Educational Department of the Province of Quebec. Following is the syllabus for the season 1909-1910:

Locomotive Shop Practice—Instructor, A. H. Kendall, foreman, locomotive erecting shop, C.P.R.

Electrical Engineering—Instructor, G. McDermot, construction foreman, electrical department, C.P.R.

Mechanical Drawing—Instructor, D. L. Davis, draftsman, C.P.R.; H. Tetlaw, assistant foreman, machine shop, C.P.R.

Car Drawing—H. Vezina, educational instructor.

Mathematics—Instructor, H. Maxwell, educational instructor.

Iron and Steel—Instructor, E. B. Tilt, Assistant Engineer of Tests, C.P.R.

These instructors are all experienced officials, holding responsible positions in the company. With such a splendid system of training, the future of Canadian boys who enter upon railway work in the C.P.R. service will be assured. Inefficient and unskilled labor is always plentiful, but skilled labor is scarce. This interesting work is carried out under the supervision of H. H. Vaughan, Assistant to the Vice President; R. Johnson, Assistant Superintendent of Motive Power; and R. W. Burnett, Acting General Master Car Builder. These officials take a keen, personal interest in the welfare of the apprentices, and firmly believe that a properly organized apprenticeship system would do much to correct the scarcity of skilled labor. The supervisor of apprentices is Martin Gower, a graduate of London and Cambridge Universities, and a man who has had considerable practical engineering experience, as well as holding technical appointments. He has made a specialty of apprentice work for several years, both in the workshop and the school.

The young clerks in the general and other offices at Montreal have equal opportunities with the apprentices in the shops for equipping themselves for their life work. Schools of telegraphy and shorthand have been in operation for some time, and the advantages they offer are being eagerly seized by a number of ambitious youths. The schools are under competent teachers—L. W. Power being in charge of the telegraphic and C. A. Bennett in charge of the shorthand classes. The schools are located in the C.P.R. building, immediately west of Windsor St. station, Montreal. There are two terms each year, and the classes meet three evenings a week, when the students of telegraphy are instructed in the mysteries of the key, taught how to dispatch trains, etc., etc. In the shorthand school Isaac Pitman's system is used. To ensure a regular attendance a monthly fee of $2 is charged each pupil, but this is refunded in full at the end of six months' term to the pupils who have attended 75% of the classes.

The G.T.P.R. has recently had executed a large painting in oils, depicting Mount Robson in the Rocky Mountains. It has been exhibited in Montreal and Toronto, and will be sent to London, Eng., for display in the G.T.R. offices there.

The Improved
RAMAPO
Automatic, Safety
SWITCH STANDS
have no equal.

Canadian Ramapo Iron Works
LIMITED
Manufacturers
Niagara Falls, Ont.

AGENCIES:

Dominion Equipment & Supply Co.,
354 Main St. Winnipeg

C. L. Hacket.
605 Eastern Townships Bank, Montreal

Style No. 17 Style No. 20

Ask for Information about Six Other Styles.

WROUGHT PIPE
STANDARD WEIGHT
for Steam, Water and Gas
EXTRA HEAVY
for Car Heating

Our Pipe is made by experienced workmen, from the best material we can procure. Every length tested under high pressure, and carefully inspected before leaving our Mill.

Our trade mark on every bundle is a guarantee of quality.

TRADE M.R.M. CO. MARK

The Montreal Rolling Mills Co.

TRANSPORTATION APPOINTMENTS.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Alberta Central Ry.—J. G. Macgregor, of Goderich, Ont., is reported to have been appointed Chief Engineer of this projected railway, with office at Red Deer, Alta.

Board of Railway Commissioners.—It was announced in our last issue, on official advice from Ottawa, that A. J. Nixon, heretofore Assistant Superintendent G.T.R., London, Ont., had been appointed as the Board's Operating Officer, his duties to commence Oct. 1. We have since been advised, officially, that Mr. Nixon has been appointed, by order in council, Chief Operating Officer, at a salary of $3,600 a year.

A. F. Dillinger, heretofore Operating Assistant Traffic Department, has been appointed Assistant Chief Operating Officer.

J. Ogilvie and W. S. Blyth, heretofore respectively Inspector and Assistant Inspector Railway Equipment and Safety Appliances; E. C. Lalonde, Inspector of Accidents, and J. Clarke and M. J. McCaul, Assistant Inspectors of Accidents, will be attached to the Operating Department.

Canadian Northern Ry.—G. R. Fairhead, heretofore chief clerk General Freight and Passenger Agent's office, Toronto, has been appointed City Freight Agent, Toronto, vice G. E. McCulloch, resigned.

C. H. Green, heretofore clerk, has been appointed chief clerk General Freight and Passenger Agent's office, Toronto, vice G. R. Fairhead, promoted.

Canadian Pacific Ry.—The operation and maintenance of the Company's Atlantic Steamship Line has been placed under the jurisdiction and supervision of G. M. Bosworth, Fourth Vice President. The Manager of the line reports to him and is governed by his instructions, instead of reporting to the President, as heretofore. Mr. Piers' jurisdiction is now confined to the Company's Atlantic Steamship Line.

G. A. G. Bartlett, heretofore locomotive engineer, running out of McAdam Jct., N.B., has been appointed Assistant Air Brake Instructor, and is Assistant to C. W. Carey on the air brake car.

J. R. Brennan, heretofore Roadmaster Maniwaki and Waltham branches, has been appointed Roadmaster Montreal and Ottawa section, vice P. Houston, resigned to enter the service of G. & F. E. Fauquier, railway contractors.

S. Jeffery, heretofore section foreman, Chalk River section, Ont., has been appointed Roadmaster Maniwaki and Waltham branches, Que., vice J. R. Brennan, transferred.

H. W. Dummert, heretofore fitter, has been appointed shop foreman, Carleton Jct., Ont., vice C. A. Stark, appointed Locomotive Foreman, Smith's Falls, Ont.

A. A. Sheppard, heretofore Locomotive Foreman, Schreiber, Ont., has been appointed Locomotive Foreman, Chapleau, Ont., vice G. P. Morton, transferred.

J. R. Gildea, heretofore Assistant Shop Foreman, North Bay, Ont., has been appointed Locomotive Foreman, Schreiber, Ont., vice A. A. Sheppard, transferred.

G. P. Morton, heretofore Locomotive Foreman, Chapleau, Ont., has been appointed assistant shop foreman, North Bay, Ont., vice J. R. Gildea, transferred.

W. J. Singleton has been appointed Trainmaster at North Bay, Ont.

S. C. Bushnell has been appointed Travelling Freight Agent for the C.P.R., Minneapolis, St. Paul and Sault Ste. Marie Ry., Duluth, South Shore and Atlantic Ry., C.P.R. Steamship Lines and the Canadian Pacific Dispatch, reporting to the State Agent at Milwaukee, Wis.

E. W. Kolb, heretofore Assistant Superintendent Sleeping, Dining and Parlor Cars and News Service, Central Division, has been appointed Superintendent of that service, vice O. V. Dotts, resigned. Office, Winnipeg.

S. A. Simpson, heretofore chief clerk Superintendent Sleeping, Dining and Parlor Cars and News Service office, Winnipeg, has been appointed Assistant Superintendent that service, Central Division, vice E. W. Kolb, promoted. Office, Winnipeg.

J. G. Cameron, Trainmaster, Winnipeg, has had his jurisdiction extended over Second Division lines east of Brandon and east of Belmont, Man.

G. A. Cunliffe has been appointed Trainmaster at Brandon, Man., with jurisdiction over lines west of Brandon and west of Belmont, Man.

W. J. Renix, heretofore acting Locomotive Foreman, Brandon, Man., has been appointed shop foreman, Brandon, Man.

J. C. Robinson, heretofore night yardmaster, has been appointed General Yardmaster at Brandon, Man., vice D. Nicks, transferred.

F. Nicklin, heretofore in the train service, has been appointed night yardmaster at Brandon, Man., vice J. C. Robinson, promoted.

T. Bates, heretofore Locomotive Foreman at Moose Jaw, Sask., has been appointed General Foreman, Calgary, Alta.

D. Nicks, heretofore General Yardmaster at Brandon, Man., has been appointed General Yardmaster at Moose Jaw, Sask.

H. W. Craig has been appointed Divisional Car Foreman, Western Division. Office, Calgary, Alta.

J. A. Tobin has been appointed acting Trainmaster at Macleod, Alta., vice R. H. Foster.

W. R. Haldane, formerly General Freight Agent, Pacific Division, has been appointed General Freight Agent, Kootenay and Boundary Districts, vice R. E. Larmour, transferred. Office, Nelson, B.C.

E. Sterling, heretofore trainman, has been appointed acting Trainmaster, Nelson, B.C., vice J. M. Cameron, transferred.

F. H. Clendenning, heretofore City Freight Agent C.P.R., Victoria, and District Freight Agent Esquimalt and Nanaimo Ry., has been appointed Assistant General Freight Agent Pacific Division, vice W. H. Robertson, resigned. Office, Vancouver.

We are advised that it is expected that W. H. Gardiner, formerly Contracting Freight Agent, Vancouver, will succeed Mr. Clendenning at Victoria.

Chicago and Great Western Ry.—A. C. Gillespie, heretofore assistant ticket agent C.N.R., Edmonton, Alta., is reported to have been appointed City Freight and Passenger Agent, C. and G.W.R., Winnipeg.

Cincinnati, Hamilton and Dayton Rd.—W. L. Kellog, heretofore Superintendent of Motive Power and Car Department, Detroit, Mich., has been appointed Superintendent of Motive Power, in charge of locomotive and car department. Office, Lima, O.

Grand Trunk Pacific Ry.—A. A. Tisdale, heretofore Assistant to Vice President and General Manager at Montreal, has been appointed Superintendent Lake Superior Division. Office, Fort William, Ont.

P. H. McFadden, at one time General Roadmaster G.T.R., Allandale, Ont., has been appointed General Roadmaster G.T.P.R. lines west of Winnipeg, reporting direct to General Superintendent. Roadmasters report to and receive instructions from the General Roadmaster. Office, Melville, Sask.

T. Young, heretofore Locomotive Foreman, Biggar, Sask., has been appointed Travelling Engineer. Headquarters, Biggar, Sask.

G. M. Carruthers has been appointed Locomotive Foreman at Biggar, Sask., vice T. Young, assigned to other duties.

Grand Trunk Ry.—J. D. Scott has been appointed Locomotive Foreman at Brockville, Ont., vice W. H. Walker, resigned.

J. H. Stortz, heretofore Locomotive Foreman, East Toronto, has been appointed Locomotive Foreman at Mimico, Ont., vice N. MacNicol, resigned.

W. J. Hallett has been appointed Car Foreman at Allandale, Ont., vice D. H. Sargent, deceased.

C. G. Bowker, heretofore Trainmaster at Stratford, Ont., has been appointed Assistant Superintendent, Middle Division, vice A. J. Nixon, resigned. Office, London, Ont.

J. A. McLardy, heretofore Trainmaster Wabash Rd., St. Thomas, Ont., has been appointed Trainmaster at Stratford, Ont., vice C. G. Bowker, promoted.

The following agents have been appointed:—Lacadie, Que., G. W. Kimball; River Beaudette, Que., J. Giroux; King, Ont., F. A. Tebo; Powassan, Ont., W. J. Buchanan; Thornton, Ont., T. Barlow; Burlington Jct., Ont., T. H. Sumner; Harley, Ont., N. A. Oxley; Aubrey, Que., F. O. Parent (temp.); Ste. Polycarpe Jct., Que., O. Clement (temp.); Arnprior, Ont., J. Boyd; Douglas, Ont., J. M. Joynt.

Grand Trunk Ry. and Wabash Rd.—G. F. Sullivan, heretofore night yardmaster, Fort Erie, Ont., has been appointed General Yardmaster at Black Rock, Buffalo, N.Y., vice J. W. Canatsy.

Intercolonial Ry.—Press reports stated recently that N. L. Rand, Master Mechanic, Moncton, had been placed on the pension list. We were officially advised, Sept. 13, that the report was unfounded. We understand that Mr. Rand is desirous of retiring from service, and has asked to be placed on the pension list.

V. Saindon, heretofore fitter, has been appointed acting roundhouse foreman, Riviere du Loup, Que., vice T. Ryan, whose appointment as acting Division Master Mechanic there was announced in our last issue.

Northern Navigation Co.—R. Beaumont has been appointed, temporarily, General Agent at Port Arthur and Fort William, Ont., vice J. Bell, resigned.

Pere Marquette Rd.—W. Boughton, heretofore Master Mechanic at Saginaw, Mich., has been appointed General Master Mechanic in charge of locomotive and car departments, vice W. L. Kellog, Superintendent of Motive Power and Car Department, resigned. Office, Detroit, Mich.

J. H. Anderson, heretofore Travelling Freight Agent, Buffalo, N.Y., has been appointed Commercial Agent, Cincinnati, O.

C. S. Stephens, heretofore Travelling Freight Agent, Chicago, Ill., has been appointed Travelling Freight Agent, Indianapolis, Ind., reporting to General Freight Agent, Detroit, Mich.

H. K. Patriarche, heretofore Travelling Freight Agent, Pittsburg, Pa., has been appointed Travelling Freight Agent, Boston, Mass., reporting to New England Freight Agent, Boston, Mass.

H. C. Dithridge has been appointed Travelling Freight Agent, Pittsburg, Pa., reporting to Commercial Agent, Pittsburg, Pa.

Quebec, Montreal and Southern Ry., Napierville Jct. Ry.—Press reports recently stated that G. H. Burgess had been appointed Chief Engineer Quebec, Montreal and Southern Ry., with office at Montreal. We are advised that he has been appointed Chief Engineer Delaware and Hudson Co.'s main and branch lines, not including those in Canada. The position of F. D. Anthony, as Chief Engineer Q.M. and S.R., and N.J.R., remains unchanged.

Wabash Rd.—J. W. Canatsy, heretofore General Yardmaster G.T.R. and W. Rd., Black Rock, Buffalo, N.Y., has been appointed Trainmaster at St. Thomas, Ont., vice J. A. McLardy, appointed G.T.R. Trainmaster at Stratford, Ont.

The Wabash Rd. has opened an agency for freight and passenger business at Seattle, Wash. This agency has jurisdiction over business in the State of Washington and in British Columbia. W. D. Stubbs, General Agent, has charge of the office.

F. H. Wegener, heretofore Station Passenger Agent at St. Louis, Mo., has been appointed Travelling Freight and Passenger Agent at Seattle, Wash., reporting to W. D. Stubbs, General Agent.

Wisconsin Central Ry.—C. F. Clement has been appointed Treasurer of the company, vice W. R. Hancock, resigned. Office, Minneapolis, Minn.

Meals at C.P.R. Angus Shops.

Napoleon said that an army travels on its stomach; a good comfortable meal for a workingman certainly means better work. Among the many special features at the C.P.R. Angus shops, Montreal, are the dining-rooms for the men, which are unique in Canada. Good, wholesome, well-cooked food is served in warm, comfortable surroundings at very low prices. This service is possible because the company furnishes free buildings, light, etc. The system used is known as the "help yourself"—the men come in at one door, take a tray and pass along a counter, where they help themselves to what they desire as they pass to their seats. A ticket or check is placed by one of the attendants upon each tray, showthe price of the food they have selected. A full meal costs 19c., and an average meal about 15c. One thousand men can be comfortably seated at once in the two large dining-rooms. The following reprint of the menu shows the prices paid for the various foods:

Soup	2	Iron brew, per bottle	5
Beef stew	3	Ginger ale, per bottle	5
Irish stew	3	Cream soda, per bottle	5
Hamburg steak	5	Apple nectar, bottle.	5
Roast beef	5	Lemon soda, bottle.	5
Roast pork	5	Dry toast	2
Corn beef	5	Buttered toast	3
Beefsteak (to order)	10	EGGS.	
Beefsteak pie	5	Fried—one	4
Fried liver	5	Scrambled—one	4
Boiled ham	5	Poached—one	4
Codfish cakes (fast days)	5	Poached—one. on toast	5
Creamed codfish on toast (fast days)	5	Force, with milk	5
VEGETABLES.		Shredded wheat.	
Boiled potatoes	3	with milk	3
Mashed potatoes	3	Canada Flakes, with milk	5
French fried potatoes	3	Oatmeal, with milk.	5
German fried "	3	SANDWICHES.	
Green peas	3	Ham	5
Stewed corn	3	Beef	5
Stewed tomatoes	3	Egg	5
Mashed turnips	3	Cheese	5
Boiled onions	3	Stewed prunes	3
Pickled beets	3	Cakes	1 and 2
Boiled cabbage	3	Crullers	1
Coffee	3	Pies, per cut	3
Tea	3	Pudding	3
Milk, per glass	3		

The above bill of fare includes bread with all meats, soups, stews and fish, and milk and sugar with coffee and tea. There is a change of bill of fare daily—serving two kinds of meat, two vegetables and choice of pie, pudding or cake. The dining-rooms are open every working day from 6 a.m. to 7 p.m. To see the men when at their meals is sufficient evidence that these dining-rooms are appreciated and enjoyed.

Conductor, on railway train—"This isn't the right ticket."

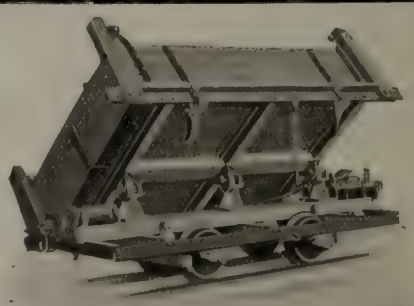
Passenger, absent-mindedly—"What's the matter with it?"

Conductor—"This ticket calls for a diamond ring."

THE N. L. PIPER RAILWAY SUPPLY CO.
314 FRONT ST. WEST LIMITED
TORONTO

EMBOSSED ALUMINUM NUMBERS

Our Signs and Numbers are made of ALUMINUM and riveted with ALUMINUM RIVETS to a BLACK JAPANNED STEEL PLATE. The great benefit of our Numbers and Signs is. that being made of Aluminum they will never CRACK, RUST or TARNISH, and can be seen much better both by day and night than any other manufactured. The Light, Glistening Aluminum Figure standing out on the Black Background makes a PERFECT CONTRAST between the Number and the Plate.



THE MEAFORD WHEELBARROW CO., LIMITED
MEAFORD, ONTARIO
Manufacturers of Contractors' Supplies including:
WHEELBARROWS — both Wooden and Steel, also STERLING line of Roller Bearing Easy Pushing Wheelbarrows and Concrete Carts.
DUMP CARS, DUMP CARTS, GRADING PLOUGHS, WHEEL SCRAPERS both Square Box and Pressed Bowl.
DRAG SCRAPERS—Pressed Steel. TRUCKS of every description
Catalogue for the Asking

Canadian Northern Ry. Construction, Etc.

The Canadian Northern Quebec Ry. is preparing to erect a roundhouse and machine shop at Joliette, Que. Plans have been prepared, but the matter has not yet reached the construction stage. It is said that it will be built by the Imperial Construction Co., of Toronto.

Quebec and Lake St. John Ry.—We are advised that the only work to be done at present in Quebec is the remodelling of the yard and putting up an addition 50 by 100 ft. to the car repair shops.

Canadian Northern Ontario Ry.—Tracklaying has been completed on the extension from Hawkesbury to the vicinity of Ottawa, and ballasting and other work necessary to complete the line for operation is well advanced. It is expected that construction into Ottawa will be completed so as to permit of the opening of the line for traffic early in Oct. Work on a temporary bridge over the Rideau River was started Sept. 15, to be completed by the end of Sept.

Tenders were received to Sept. 18 for the grading, etc., of the first section of the line between Ottawa and Toronto, viz., from Toronto to Trenton, about 100 miles. The route adopted leaves the company's Toronto-Sudbury line in the Don Valley, about six miles from Toronto, and will strike the boundary of Scarboro tp. about midway between the G.T.R. and the C.P.R., and keeping about equi-distant from these two lines, strikes the boundary of Pickering tp. in the vicinity of Cherrywood, where the line will join the line formerly located. This line runs through the middle of Pickering and Whitby tps., crossing the G.T.R. branch line from Whitby near Brooklin. The line will then drop a little southerly to Orono, in Clarke tp., and thence will gradually run south east until it reaches Port Hope; from thence it will parallel the G.T.R. to Trenton, passing through Cobourg, Grafton, Colborne and Brighton. Beyond Brighton the line crosses the G.T.R. main line and follows along the Bay of Quinte shore to Trenton. The contract of the construction of the Toronto-Trenton section has been let to Angus Sinclair, C.E., Toronto, and work will be started immediately.

D. D. Mann stated in an interview Sept. 7 that the company's general locomotive and car repairing and construction shops would be located in Toronto. They will not be constructed until the line from Toronto to Ottawa and the line from Sudbury to Port Arthur have been completed. The matter has been brought before the city council by the Mayor. A suggestion has been made that the G.T.R. yards at East York, which have been closed, the work done there being transferred to Mimico, would be suitable for the C.N.O.R. It is stated that a C.N.O.R. official has made an inspection of the property.

Canadian Northern Ry.—The Mayor of Fort William, Ont., received a letter Sept. 3 from H. Sutherland, Executive Agent C.N.R., Winnipeg, to the effect that the company was willing to pay its share of the cost of the Yonge St. subway according to the understanding between the city and the C.P.R. The propositions which remain to be approved by the C.N.R. pertain to the abandonment of certain rights on Arthur and Vickers streets, and the terms offered by the C.P.R. for the lease of running rights over C.P.R. rails from West Fort William to Port Arthur. When carried out this agreement will bring about the concentration of the railway tracks on the river front.

Application is being made for the amalgamation of the Northern Extension Ry. with the C.N.R. The N.E.R. connects different portions of the C.N.R. system in and adjacent to Winnipeg, crossing at St. James bridge and Portage Ave.

A contract has been let for supplying a duplicate pumping plant to provide water for the Fort Rouge shops and yards, Winnipeg. Each unit of the plant will be capable of pumping 500,000 gallons in 24 hours.

The stables at the joint terminal at Fort Garry are in course of erection. The building is to be of two stories, 228 by 100 ft. wide, containing 144 stalls. The contractors are G. H. Archibald and Co.

Tenders were received to Sept. 22 by the city engineer of Saskatoon, Sask., for the construction of a subway under the C.N.R. there.

Surveys on the line from Yellowhead Pass to Vancouver, B.C., are being pushed vigorously. The latest reports were that parties were working in the vicinity of Cranberry Lake. The surveys are extending northwards along the valley of the North Thompson River. Another party is working westward through the foothills of the Rocky Mountains towards the Yellowhead Pass. Two other parties, it is reported, have practically completed the final location of a line through the Fraser River canyon between Lytton and Yale, 54 miles. The location of the line between Yale and Hope is also in hand. Between Hope and New Westminster no serious engineering difficulties are likely to be encountered, as the Fraser River valley widens out considerably and there is plenty of room for more than one railway. (Sept., pg. 683.)

American Association G. P. and T. A.

The 54th annual convention of the American Association of General Passenger and Ticket Agents was held at Toledo, Ohio, Sept. 14 and 15. The President, G. T. Bell, Assistant Passenger Traffic Manager G.T.R. and G.T.P.R., occupied the chair, and in replying to an address of welcome by the Mayor made a number of interesting references to the position of Toledo as a railway centre In his closing address Mr. Bell urged co-operation between the Association and the baggage agents, travelling passenger agents and ticket agents associations, and expressed the hope that a new system of interline ticketing would be introduced that would immensely reduce the number of forms now used and reduce the ticket sellers' work, and suggessted an attempt to secure at leading stations where the ticket business requires the exclusive attention of one or more ticket sellers, the most efficient and experienced men.

Following the annual custom, the retiring President was presented with a gavel, the presentation being made by E. J. Weeks, Chairman New England Passenger Association. The gavel, which is a very handsome one, is made partly of Canadian oak from the Northern Navigation Co.'s s.s. Hamonic, and of ebony from a Mexican railway tie. The handle is a portion of Wright Bros.' first successful aeroplane. The gavel is bound together with a steel strand from the old G.T.R. suspension bridge at Niagara Falls, embedded in the gavel is a rivet from the original Victoria bridge at Montreal, and on it is a silver hand made from ore from the Drummond mine at Cobalt. The case for the gavel is made of British Columbia fir, inlaid with Mexican ebony.

W. Bunton, G.T.R. ticket agent, Peterboro, Ont., who attended as the representative of the Canadian Ticket Agents Association, addressed the meeting at length and was given a very cordial reception.

The following officers were elected:—President, S. G. Hatch, G. P. A. Illinois Central Rd., Chicago; Vice President, S. Moody, G. P. A. Pennsylvania lines west, Pittsburg; Secretary, C. M. Burt, G. P. A. Boston & Maine Rd., Boston.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases from 1908-09, from July 1, 1909:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July	$ 843,500	$613,900	$229,600	$26,700+
Aug.	807,100	602,700	204,400	18,300+
	$1,650,600	$1,216,600	$434,000	$45,000+
Inc.	$ 174,700	$129,700	45,000	.....
or Dec.	.....	.....	.....	.....

Approximate earnings for three weeks ended Sept. 21, $700,900, against $587,800 for same period 1908.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1908-9, from July 1, 1909:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
July	7,140,029.93	4,660,159.20	2,479,870.73	205,297.48+
Inc.	$847,149.11	$641,851.63	$205,297.48	.....
or Dec.	.....	.....	.....	.....

Approximate gross earnings for Aug., $7,152,000, and for 3 weeks ended Sept. 21, $5,385,000; against $6,254,000 and $4,203,000 for same periods 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross operating earnings for July, $285,234.18; expenses, $203,288.70; net operating earnings, $81,945.4, against $226,114.98 gross operating revenue; $164,363.88 expenses; $61,751.10 net operating earnings for July, 1908. Approximate gross earnings for Aug., $308,376, and for two weeks ended Sept. 14, $143,525, against $234,773 and $112,529 for same periods 1908.

MINERAL RANGE RD.—Operating revenue for July, $73,665.33; expenses, $62,850.00; net operating earnings, $10,815.33, against $73,826.80 operating revenue; $60,898.17 expenses; $12,928.63 net operating earnings, for July, 1908. Approximate gross earnings for Aug., $74,015, and for two weeks ended Sept. 14, $34,495, against $70,437 and $29,157 for same periods 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for July, $1,144,521.82; expenses, $657,048.06; net earnings, $487,473.76, against $950,108.98 gross earnings; $556,808.02 expenses; $393,300.96 net earnings for July, 1908. Approximate earnings for Aug., $1,066,830, and for two weeks ended Sept. 14, $1,117,326, against $994,983 and $986,931 for same periods 1908.

CHICAGO DIVISION.—Gross earnings for July, $718,412.08; expenses, $435,376.11; net earnings, $283,035.97, against $659,261.94 gross earnings; $412,110.92 expenses; $27,151.02 net earnings for July. 1908.

Grand Trunk Ry. Earnings, Expenses Etc.

TRAFFIC RECEIPTS OF THE SYSTEM

Aggregate from July 1;

	1909	1908	Inc.	Decr.
Grand Trunk	£1,163,035	£1,056,914	£106,120	.....
Canada Atlantic	69,779	76,916	.....	£7,137
G. T. Western	215,267	202,573	12,694	.....
D.G.H. & M.	66,425	61,656	4.769	.....
Total	£1,514,506	£1,398,060	£116,446	.....

Approximate earnings for Aug., $3,897,409, against $3,483,778 for same period 1908.

Railway engineers are becoming increasingly alive to the importance of building both track and rolling stock with reference to the heavy centrifugal forces which are brought into play when heavy trains are run at express speed around curves. These stresses are particularly severe in the case of heavy electric locomotives built for use on steam railways. To prevent "nosing" or side oscillation, the New Haven electric locomotives have been provided with end pony trucks, and the New York Central locomotives with four-wheel trucks. In both cases the improvement in the running has been very marked.

BALDWIN LOCOMOTIVE WORKS

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND

LOCOMOTIVES

Mine, Furnace and Industrial Locomotives

Electric Locomotives with
Westinghouse Motors and Electric Trucks

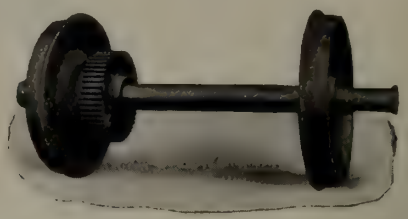
Principal Offices and Works, 500 North Broad Street
PHILADELPHIA, PA., U.S.A.

Cable Address;—"Baldwin," Philadelphia

STANDARD STEEL WORKS CO.

Harrison Building, Philadelphia, Pa., U.S.A.

THE BRYDGES ENGINEERING AND SUPPLY CO. Limited
WINNIPEG, MAN. Representatives



Wheels mounted on axles fitted with motor gear ready for application to equipment

STANDARD

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

Weld Frames Without Dismantling

Why go to the bother and expense of taking down a locomotive frame to weld it? Thermit enables you to weld it in place and return your engine to service with the least possible delay. Some shops are making a regular practice of doing the entire job in twelve hours or less. The process is equally advantageous for repairing driving wheel spokes, connecting rods, mud rings, crank shafts and for general repair work.

Write for pamphlet No. 25 N and for "Reactions," the Thermit Quarterly which give full information.

GOLDSCHMIDT THERMIT CO.
103 Richmond St. West, Toronto, Ont.
General Offices: 90 West St., New York.
Pacific Coast Branch, 432-436 Folsom St., San Francisco

OCEAN STEAMSHIP OFFICES

AMERICAN LINE

Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.

Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE

New York—London
Sailing from New York Saturdays.

WHITE STAR—DOMINION LINE

Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Docks (Bristol and Antwerp)

RED STAR LINE

New York—Dover—Antwerp
Sailing from New York Saturdays.

WHITE STAR LINE

N.Y.-Queenstown-Holyhead-Liverpool
Sailing from New York Saturdays.

N.Y.—Plymouth—Cherbourg—Southampton
Sailing from New York Wednesdays.

Boston—Queenstown—Liverpool
Regular Departures.

NEW YORK AND BOSTON MEDITERRANEAN SERVICE
To Italy and Egypt

Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured.

H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO
41 KING ST. EAST, TORONTO.

GENERAL RAILWAY SIGNAL COMPANY.

ROCHESTER, N.Y.

DESIGNERS AND MANUFACTURERS OF

SIGNALING APPLIANCES

FOR STEAM AND ELECTRIC RAILWAYS

ELECTRIC AND MANUAL INTERLOCKING SYSTEMS

AUTOMATIC and CONTROLLED MANUAL BLOCK SYSTEMS, TELEPHONE SELECTORS, RELAYS, INDICATORS,

CIRCUIT CONTROLLERS, LOCKS, CROSSING GATES, DERAILS.
CATALOGUES, ESTIMATES AND PLANS ON REQUEST.

CHICAGO: 1339 Monadnock Bldg. NEW YORK: 708 Night and Day Bank MONTREAL: 605 Easterntownships Bank

ELECTRIC RAILWAYS.

Canadian Street Railway Association.

President, D. McDonald, Manager, Montreal St. Ry.; Vice-President, J. Anderson, Manager, Sandwich, Windsor and Amherstburg Ry.; Secretary Treasurer, Acton Burrows, Managing Director, Railway and Marine World.

Association's Office, 157 Bay St., Toronto.

Executive Committee:—P. Dubee, Secretary. Montreal St. Ry.; E. A. Evans, General Manager, Quebec Ry. Light and Power Co.; R. J. Fleming, General Manager, Toronto Ry.; H. M. Hopper, Secretary-Treasurer, St. John Ry.; J. E. Hutcheson, Superintendent and Purchasing Agent, Ottawa Electric Ry.; C. B. King, Manager, London St. Ry.

Assistant Secretary, Aubrey Acton Burrows, Secretary and Business Manager, Railway and Marine World.

B. C. Electric Railway Locomotives.

The illustrations given herewith show one of three electric locomotives which have been built for the British Columbia Electric Ry. for its interurban line now under construction between New Westminster and Chilliwack, a distance of over 60 miles. The locomotives are of the articulated truck, four-axle type, with one motor mounted upon each axle. The maximum rated tractive effort is 16,000 lbs. drawbar pull, and the maximum instantaneous effort is 25,000 lbs.

A feature of special interest is that the body of the locomotive rests upon two four-wheeled trucks, coupled together by a massive hinge having lateral flexibility but vertical rigidity, thereby enabling the rear trucks to resist any tendency to tilt under the action of the forward truck, and vice-versa. The centre pins and cab platform framing are not subjected to any longitudinal stress, except that due to its own inertia when starting and stopping, the whole pull of the motors being transmitted direct from the motor through the trucks. Suitable arrangements are made to allow the trucks to radiate when passing round a curve. The spring suspension is of the locomotive type, the weight being carried by semi elliptic springs resting on the journal box saddles.

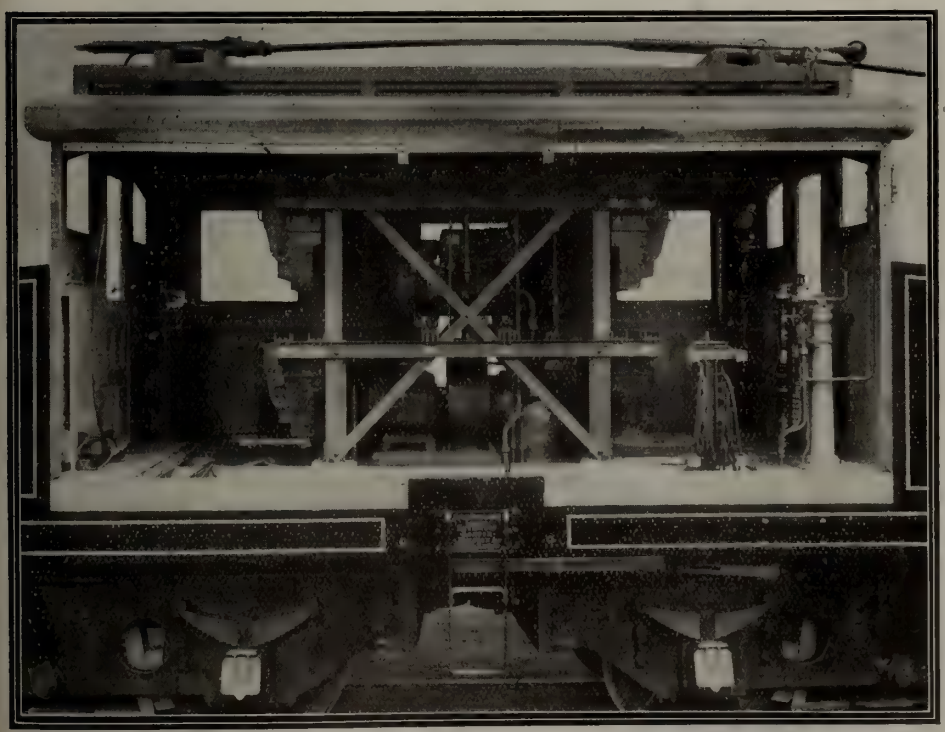
ELECTRIC LOCOMOTIVE FOR B.C. ELECTRIC RY. CO.'S FRASER VALLEY BRANCH.

Fig. 1 shows the general appearance of the locomotives, and fig. 2 gives a view of the interior of the cab. Here can be seen the two master controllers, one at each end of the cab, the contactor boxes, circuit breakers, switches, etc. The control equipment is of the standard multiple unit type, with series magnets operating the various contactors. The resistances are placed in the sloping ends of the superstructure.

The motor equipment consists of 4 D.K. 12 A motors. When operating on a 600 volt circuit, each motor will give a tractive effort of 4,040 lbs. on the periphery of the 42-inch wheels and a speed of 15 m.p.h. at the one hour rating. Each motor is fitted with reduction gear having a ratio of 3.64 to 1. The armature bearings of the motor are lubricated by oil rings which are specially designed to prevent flooding when running at high speeds. The axle bearings are lubricated by a system of wicks which are immersed in oil wells. No grease is used as an emergency lubricator. The whole of the gearing of the motors is contained in a malleable iron oil tight gear box, which is provided with suitable stiffening ribs. It is supported by the axle bearing at one end, and by the pinion bearing and motor shell at the other end.

The motors are designed and arranged for forced ventilation, the air being blown into the motor shell at the end farther from the commutator, and passing out at suitable openings provided at the commutator end.

The air for the forced ventilation is obtained by means of a centrifugal blower situated in the centre of the cab and driven by a motor. The controller for operating this motor is situated near the right hand master controller seen in fig. 2. In addition to the blower for the motors, there is an electrically driven air compressor with suitable air reservoirs for the air brake equipment, the locomotive being fitted with combined straight and automatic air brake. The compressor for the brake equipment is mounted above the motor driven blower in the cab. Two current collectors are provided, these being of the straight under running trolley type, the current being collected from an overhead trolley line. The trolleys are equipped with retrievers.



INTERIOR OF ELECTRIC LOCOMOTIVE CAB. B.C. ELECTRIC RY.

Following are general dimensions, etc.

Number of motors	4
Gear ratio	3.64 to 1
Number of driving wheels	8
Diameter of driving wheels	42″
Total wheel base	24′ 6″
Wheel base of each truck	8′ 0″
Length over all	35′ 7″
Length of main cab	16′ 5″
Height of cab above rail level	14″ 1½″
Width of cab	9′ 8″
Total weight of locomotive	50 tons

The locomotives were built by Dick, Kerr & Co., Ltd., the electrical equipment at Preston, Eng., and the trucks and mechanical portion generally at Kilmarnock, Scotland.

IMPERIAL PNEUMATIC TOOLS

Two Photos, showing "IMPERIAL" Air Tools at Works of Locomotive and Machine Company, Montreal.

CHIPPERS
RIVETERS
AIR DRILLS
MOTOR HOISTS

Built in all Standard Sizes. Efficiency Guaranteed.

A complete line of the above appliances and all sizes of Air Compressors for pneumatic work carried in stock for immediate shipment.

Canadian RAND Co. Limited
MONTREAL. QUE.
Branches at:
TORONTO, WINNIPEG, ROSSLAND, COBALT, HALIFAX, MONTREAL.

This Shop's Power Cost is Probably 40% Lower than Your Shop's

—unless your shop, too, is equipped with Hawthorn Direct Drive Motors, you are actually wasting from 20 to 50 per cent. of the horsepower you spend good money for. The Individual Motor Drive is specially valuable in a railway machine shop. The Variable Speed Hawthorn Motor maintains any desired speed at the will of the operator—it greatly increases production. These Motors economise floor-space, and permit machinery to be placed where it can be used most advantageously. BULLETIN 714, mailed you on request, goes into details that will interest you. Please send for it.

Hawthorn Motors are built in types and sizes suitable for all uses, and can be mounted anywhere—on floor, ceiling or wall.

THE NORTHERN ELECTRIC AND MANUFACTURING CO. LIMITED

MONTREAL TORONTO WINNIPEG VANCOUVER REGINA

Manufacturers and suppliers of all apparatus and equipment used in the construction, operation and maintenance of Telephone and Power Plants.

JOHN S. METCALF CO.

ENGINEERS AND CONTRACTORS FOR

GRAIN ELEVATORS ONLY

CONCRETE—STEEL—WOOD

Plans and Specifications our Specialty

MIDLAND, ONTARIO CHICAGO, ILL

Quebec Railway, Light and Power Co.

The 11th annual report submitted at the shareholders' meeting, Sept. 14, is signed by the new president, W. G. Ross, who is also Managing Director Montreal St. Ry. Following are extracts:

Gross earnings	$724,648 32
Operating expenses	444,300 39
Net earnings	$280,347 93
From which deduct:—	
Interest on bonds	$125,000 00
City percentage on earnings	10,683 56
Interest, etc., paid and accrued	10,238 83
Dividends on preferred stock	44,123 95
Dividends on common stock	50,000 00
	$240,046 34
Surplus	$ 40,301 59
Which has been transferred to surplus account, making a total to the credit of this account of	$462,947 74

The gross earnings increased during the year, $68,815.27, or 10.49%; the operating expenses, $26,381.23, or 6.31%, and the net earnings $41,886.88, or 17.57%. The increase in gross earnings of 10.49% compares favorably with the increase of 1907-1908, which was 8.59%. The operating expenses were 61.31% of gross earnings, against 63.72% the previous year, decrease of 2.41%. The fixed charges, however, exclusive of dividends on common stock, have increased $38,651.72, or 25.53%. This increase is due to the dividend upon the additional preferred stock, which was issued last year for the new power developments. The additional issue of $250,000 of preferred stock was made and allotted, making the total issue now $750,000. The premium of $7,760.00 derived from this issue was placed to credit of surplus account.

Following are extracts from General Manager E. A. Evans' report:—The total number of passengers carried upon the city division was 6,859,679, an increase of 810,476. The average fare per passenger was 4.19c. against 4.22c.; the income per capita of the population increased from $3.55 to $3.65 (the income per capita in 1899 being $2.04). The operating expenses show an increase of $12,652.58, principally due to increased wages, etc. The car mileage was 1,394,744, an increase of 62,434 miles. The continued increase of travel upon this division has necessitated the purchase of additional direct current machinery, and a contract was entered into for a 1500 k.w. motor generator set, which is now practically installed in the sub-station. The installation will enable the company to improve the car service during the coming winter. Further additions to the rolling stock and car shed accommodation are necessary; this expenditure will materially increase the revenue of the company.

The total number of passengers carried upon the Montmorency division was 1,442,327, an increase of 43,982; the average fare per passenger was 10.28c. Upon the elevator 266,814 passengers were carried, an increase of 26,904. The operating expenses have increased $1,719.52, principally due to increase of wages. The business upon this division is increasing rapidly, and it will be necessary to purchase additional electrical machinery and rolling stock to effectually handle the traffic upon this division.

The earnings from the power division have increased 15.55%. The cost of generating and distribution has increased 14.19%; a large proportion of this can, however, be considered an extraordinary expenditure, consisting of the re-winding of the motor generators, in the sub-station, very considerable renewals to the pole and distribution lines, etc., all of which have been charged to operating for this year, instead of distributing the same over a number of years. The remodelling and fire-proofing of the power house has been completed, and it may now be considered as modern and fireproof.

ASSETS.

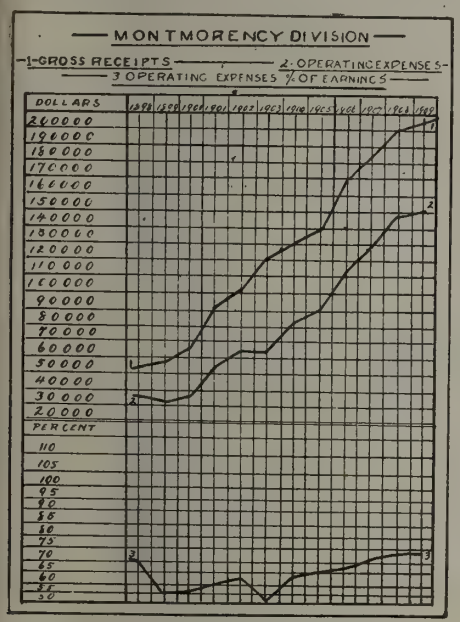
Road and equipment, real estate, buildings, etc., including Kent House	$6,239,499 25
Cash on hand and in bank	14,428 85
Power division—operating account, accounts receivable, stores and equipments, etc.	68,031 54
Kent House—operating account	11,835 37
City Division—operating account, represented by stores on hand	16,253 34
Montmorency Division—operating account, stores on hand, cash assets, etc.	64,307 36
Accounts receivable	25,249 49
	$6,439,605 20

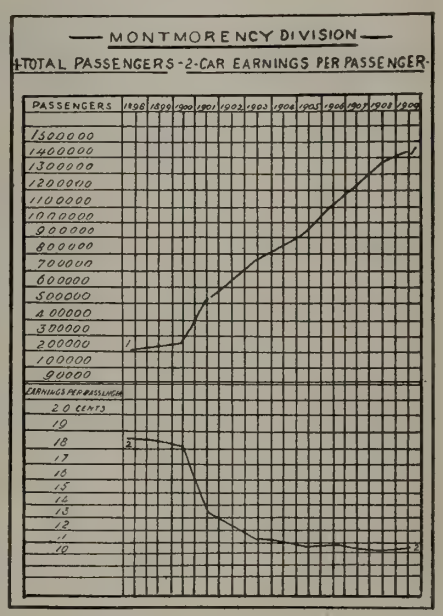
LIABILITIES.

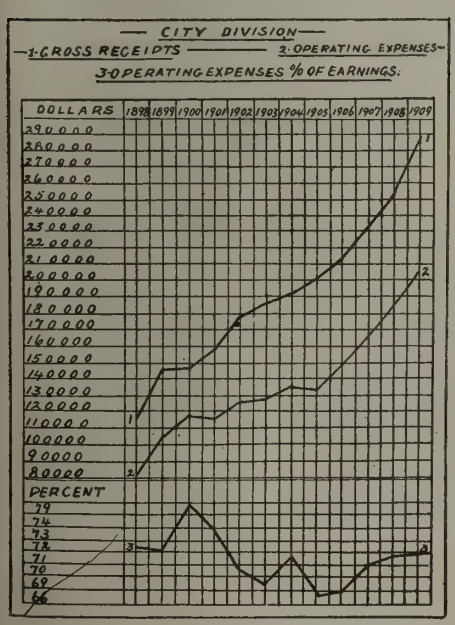
Capital stock	$2,500,000 00
Bonds	2,500,000 00
Preferred capital stock	750,000 00
Dividend payable Sept. 15, 1909, common stock	25,000 00
Bills payable	23,899 14
Accrued interest account	29,542 47
Accounts payable and other liabilities	88,215 85
Contingent account	40,000 00
Accident insurance fund	20,000 00
Surplus account	462,947 74
	$6,439,605 20

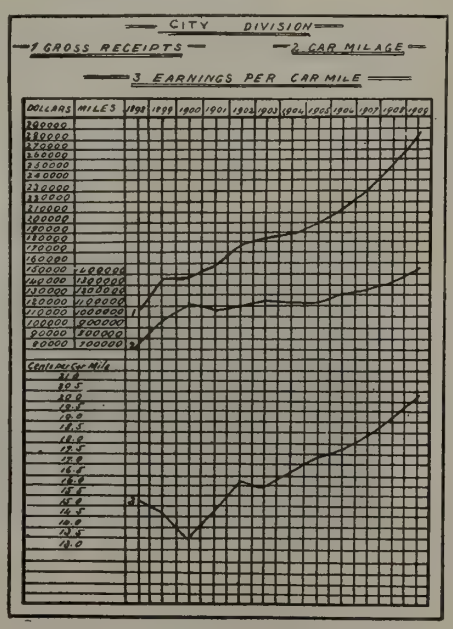
PROFIT AND LOSS ACCOUNT.

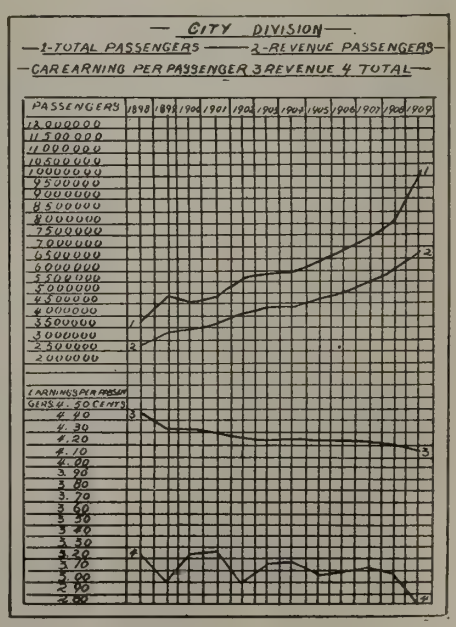
Net earnings year ended June 30, 1909		$ 280,347 93
Interest on bonds	$125,000 00	
City percentage on earnings	10,683 56	
Interest, etc., paid and accrued	10,238 83	
Dividends on preferred stock	44,123 95	











BOOKS
for
Railroad and Elevator Men and Contractors

ECONOMICS OF RAILWAY OPERATION.

By M. L. Byers.
C.E., Ch. Eng. M. of W., Mo. Pac. Ry.

Cloth, 672 pp., many diagrams and forms illustrating the best modern practice, $5 net.

The only publication explaining in detail the operative systems of American railways. Sir William Van Horne says of it: "I regard it as a most useful and valuable book."

TRACK AND TRACK WORK

(Third Edition, Revised and Enlarged)
By E. E. R. Tratman
Assoc. M. Am. Soc. C. E.

Cloth, 520 pages, 232 illustrations, 44 tables and an appendix of statistics of standard track construction - - - - $3.50 net

The standard treatise on this subject.

DESIGN OF TYPICAL STEEL RAILWAY BRIDGES

By W. Chase Thomson
M. Can. Soc. C.E. Assist. Eng. Dominion Bridge Co.

Cloth, 178 pages, 21 figs., 5 fold. plates, $2 net.

FIELD PRACTICE OF RAILWAY LOCATION

By Willard Beahan

Cloth 270 pages, 50 illustrations - $3.00 net

RIGHT OF WAY SURVEYING

By A. I. Frye

Cloth 8vo, 50 pages - - - $1.00 net

RAILWAY LOCATION AND CONSTRUCTION.

By E. N. McHenry

Cloth, 88 pages, 2 folding plates, $1.00 net

DESIGN OF WALLS, BINS AND GRAIN ELEVATORS

By M. S. Ketchum
Dean of College of Eng., Univ. of Colo.

Cloth, 394 + XIV pages, 260 figs., 40 tables and 2 folding plates - - $4.00 net.

Giving a systematical analysis of the stresses in structures containing granular materials.

EARTHWORK AND ITS COST

By H. P. Gillette

Cloth, 256 pages, illustrated - - $2.00 net

CONCRETE SYSTEM

By Frank B. Gilbreth

Flex. Morocco; 8½ x 11 ins.; 200 pages 220 illustrations and 10 Folding Plates; Printed on finest coated paper - - $5.00 net

Full descriptive circulars of these and other books on request.

(The Imprint of Authority.)

ENGINEERING NEWS
BOOK DEPARTMENT
220 Broadway. New York.

The McConway & Torley Co.
PITTSBURG, PA.

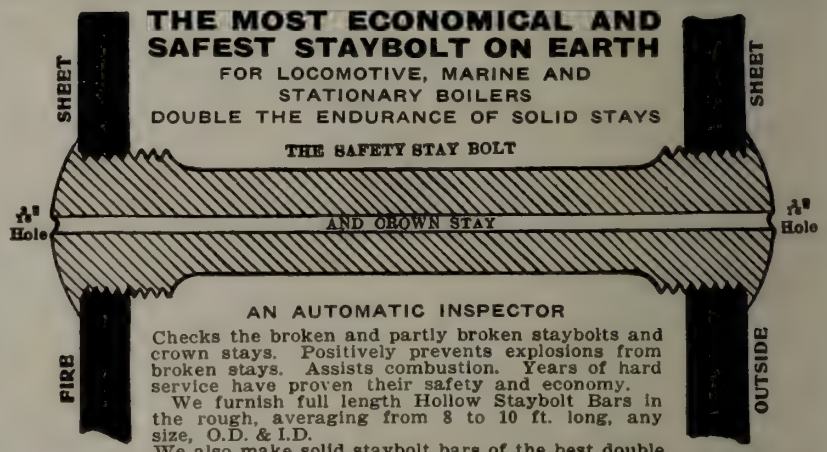
Manufacturers of the

JANNEY,
JANNEY "X"
AND
PITT FREIGHT COUPLERS

BUHOUP 3-STEM EQUIPMENT
BUHOUP VESTIBULE EQUIPMENT

MALLEABLE IRON AND STEEL CASTINGS FOR RAILROAD USE

THE MOST ECONOMICAL AND SAFEST STAYBOLT ON EARTH
FOR LOCOMOTIVE, MARINE AND STATIONARY BOILERS
DOUBLE THE ENDURANCE OF SOLID STAYS



AN AUTOMATIC INSPECTOR

Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

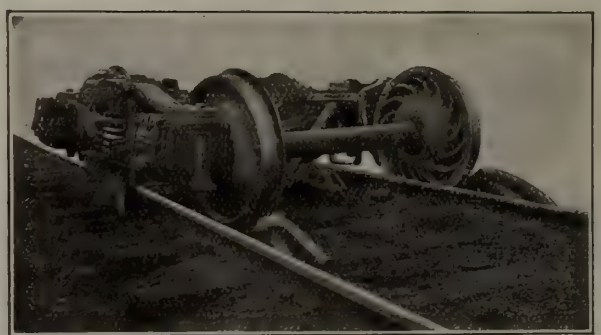
We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO

Representatives Dominion of Canada: Brydges Engineering and Supply Co., Winnipeg, Canada; Mussens Limited, Montreal, Canada.

The Alexander Car Replacer



60,000 PAIRS IN USE.

Manufactured at
Montreal, Que., and
Scranton, Pa.,
of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY
F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

Dividends on common stock.	50,000 00	
		240,046 34
Surplus transferred to surplus account.	$ 40,301 59	

Following are the directors for the current year:—President, W. G. Ross, Montreal; Vice President, F. Ross, Quebec.; R. Forget, J. N. Greenshields, Hon. R. Mackay, W. Price, F W Ross, L. C. Marcoux and N. Belleau.

Winding up of the Von Echa Company.

An order was made in Toronto by Chief Justice Mulock for the winding up of the Von Echa Company, of Erie, Pennsylvania, and subsequently of Brantford, Ont. The company was incorporated under the laws of West Virginia, Oct. 2, 1900, for the object of mining, but its charter was wide enough to cover other purposes. The authorized capital was $250,000. The incorporators were H. W. Surtees, E. L. Wood, J. E. Scraggs, J. E. Chilton and T. J. Paxton, all of Charleston, W. Va. The Ontario Government granted on April 2, 1903, a license to construct railways, bridges, etc., in Ontario, allowing the company to use not more than $40,000 capital in Ontario. S. Ritter Ickes wes president of the company, and J. H. Armstrong secretary. In Oct., 1900, the company commenced to operate in Ontario under a contract for the construction and operation of the Woodstock and Thames Valley and Ingersoll Electric Ry. The Provincial Secretary was notified on May 15, 1906, by J. G. Wallace, of Woodstock, solicitor, that the company was practically out of business; that the railway between Woodstock and Ingersoll had been built several years before, and that between Brantford and Galt was completed about February, 1904; that Ickes was practically the company, the other shareholders being merely nominal; that in 1905 Ickes had sold out his interest in the railway, and, so far as Wallace knew, paid up all the Von Echa liabilities, then went to Seattle, where he died in April, 1906. His whereabouts had not been known till his death was announced. On May 20, 1902, the Von Echa Co. entered into an agreement with the Grand Valley Railway Company to build a railway from Brantford to Paris, thence to Blue Lake, thence to St. George, and thence to Galt, for $28,000 cash, 6,750 shares of G.V.R. stock and $560,000 G.V.R. bonds. The company also constructed, owned and operated the Brantford St. Ry. The winding up is on the petition of C. Mickle of Gravenhurst and S. Dyment of Barrie, who claim that the Von Echa Co. became insolvent owing to Ickes in 1905 taking away and retaining its assets. Their claim is for $562.28, due since Dec. 21, 1905. Ickes' estate is said to amount to $54,834. A writ for $611.10 and $40.52 costs was issued, and judgment obtained against the company by the petitioners on Jan. 21, 1907, but the Trusts & Guarantee Co. refused to pay the claim without proof that Ickes was personally liable to pay the debts. The petitioners, therefore, asked for an investigation of the company's affairs. The Local Master at Brantford is appointed provisional liquidator.—Globe.

Electric Railway Position Wanted.

WANTED.—Position with Canadian Electric Railway to take charge of traffic transportation or employment and inspection department. Capable of organizing and installing modern system in either. Fifteen years experience. At present employed by one of the largest American Electric Railway properties. References from present and past employers. Canadian citizen. Box 4325, care The Railway and Marine World.

Projects, Construction, Betterments, Etc.

Barrie, Ont.—It is reported that a proposal has been submitted to the council for the construction of an electric railway connecting the C.P.R. and C.N.R. at Atherley with the C.P.R. at 13th concession, Essa tsp. It is stated that the right of way over certain streets in Barrie and some financial assistance for the project will be asked from the town shortly. J. W. Moyes, Toronto, is interested in the scheme.

Berlin and Bridgeport Electric St. Ry.—We are advised that the company is considering the extension of its line through Bloomingdale, Winterbourne and west Montrose, where it will cross the Guelph and Goderich line of the C.P.R., to Elora and Fergus. J. H. Wuest is Superintendent of the company.

Berlin and Waterloo St. Ry.—A by-law has been passed to raise $19,000 by debentures for the construction of a second track along a portion of the line between Berlin and Waterloo, Ont. (Mar., 1908, pg. 202.)

British Columbia Electric Ry.—The new capital which is being provided, by an issue of stock on the London, Eng., market, will be utilized for the purpose of carrying out a number of improvements on the company's lines, and for constructing a new terminal station in Vancouver.

A contract has been let for the construction of about four miles of second track in South Vancouver to Christian, Hartney and Christian, Vancouver.

Steel on the first 12 miles of the line from New Westminster to Chilliwack was expected to be laid by Sept. 15. This will carry the line to Cloverdale. It is expected that this section will be opened for traffic about Nov. 1. We are advised that the grading has been practically completed as far as Abbottsford, a further distance of 26 miles. Immediately the line is opened to Cloverdale the work of track laying and electrifying this additional portion of the line will be started. It is expected that the line into Abbottsford will be completed ready for operation by July, 1910. A contract has been let to the Puget Sound Bridge and Dredging Co., Vancouver, for the clearing and grading of 12 miles, from Abbottsford to Sumas Lake, and another contract has been let to Palmer Bros. and Henning, Vancouver, for the grading of a further distance of 12 miles from Sumas Lake to Chilliwack. It is expected that the line from Abbottsford to Chilliwack will be completed by Dec. 31, 1910.

The extension of the Vancouver and Lulu Island Ry., owned by the C.P.R., but operated as an electric railway by the B.C.E.R., from Eburne to New Westminster was opened for traffic Sept. 15. The line follows the north arm of the Fraser River, and is now open from Steveston to New Westminster.

Victoria ratepayers have passed a by-law under which the city agrees not to enter the power business without first offering to buy the company's plant. The company in return agrees to spend $1,500,000 in installing a power plant at Jordan River.

A contract has been let to Malcolm and Dimsdale for an addition to the power plant on Store St., Victoria.

A proposition has been made to the company with a view of the construction of a street car line in Nanaimo with branches to Wellington, Ladysmith and other contiguous points. (Sept., pg. 683.)

Edmonton Radial Ry.—The electric railway in Edmonton, Alta., is owned by the corporation, which also owns the lines to and in Strathcona, constructed under the Strathcona Radial Ry's charter. Out of the 10.5 miles of track laid up to the end of 1908, about 0.75 mile was laid in 1907; all the Strathcona portion of the system was laid in 1908, and about 6.5 miles have been laid this year. Power is obtained from the city power house, which is owned by a separate department, and is located on the bank of the river about half a mile above the Saskatchewan bridge. The track is laid with 64 lb. steel. The rolling stock at present consists of seven semi-convertible cars, purchased from the Ottawa Car Co., and four pay-as-you-enter cars, purchased from the Preston Car and Coach Co. The officers of the line are: Superintendent, C. E. Taylor; Road Master, W. J. Fountain; Barn Foreman, A. Isseling; Accountant, J. Carr. (July, pg. 522.)

Elk Lake City, Ont.—J. Garvin, speaking at a dinner to the members of the Ontario Legislature and the Commissioners of the Temiskaming and Northern Ontario Ry. recently said: "Give us a charter for an electric railway and we will finance it ourselves." It was suggested on the part of the Government that a proposition should be submitted by those interested.

Fort William, Ont.—The city council decided Sept. 9 to consider the desirability of constructing a spur line to connect the industrial quarter in the vicinity of the Canada Iron Corporation's foundry with existing lines within Fort William's municipal boundaries. (Sept., pg. 684.)

Guelph Radial Ry.—The Mayor of Guelph announced Sept. 13 that, with the delivery of power from Niagara Falls in the city next year, the G.R.R. commission will take up the question of the extension of the railway to Puslinch Lake. (April, pg. 283.)

Hamilton Radial Electric Ry.—We are advised that the company has no present intention of extending its line from Oakville to Toronto. (Sept., pg. 684.)

International Power Co.—The New Brunswick Legislature at its last session incorporated a company with this title for the purpose, among other things, of constructing an electric railway from Milltown to Sprague's Falls, so called, in the county of Charlotte. The company is also authorized to construct a bridge across the St. Croix River at Sprague's Falls to connect the railway with the opposite side of the river. The provisional directors are: I. R. Todd, G. J. Clarke, C. F. Todd, G. A. Curran, C. F. Pray, B Y. Curran.

Moncton Electric Tramway Co.—The New Brunswick Legislature at its last session amended the act of incorporation of this company in a number of particulars. The provisional directors are: J. L. Harris, J. Starr, C. P. Harris, E. H. Keating, M. Carney, W. F. Humphrey, M. Lodge, instead of those formerly acting. The company is authorized to construct an electric railway along the city streets, subject to the approval of the city council, and also along any of the streets or highways of Moncton parish, subject to the approval of the county council. The act also contains general paragraphs as to the city's rights and the matters upon which the city and company have to agree. The privileges, powers, etc., granted to the Moncton Electric St. Ry., Heat and Power Co. under sec. 3, chap. 76 of the statutes of 1894 are revived and confirmed for 40 years from the passing of the act, provided that the lines authorized be completed and in operation within a year. (June, pg. 447.)

Montreal and Southern Counties Ry.—Construction along the first section of this line is rapidly nearing completion, and it is expected that cars will be running between Montreal and St. Lambert, Que., by Oct. 20. The city section has been completed to the west end of the Victoria bridge, with the exception of about 400 ft. of concrete wall which is

RENOUF
Publishing Co.
61 Union Avenue
Montreal

BAKER—**A Treatise on Masonry Construction.** 8vo, xvi+746 pages, over 100 tables, and 244 illustrations. Tenth edition, entirely rewritten and enlarged. Total issue, 26,000. Compared with the ninth edition, the number of pages has been increased from 619 to 762, and the illustrations from 160 to 244. Cloth, $5.00.

TRAUTWINE—**The Civil Engineer's Pocket-Book.** New (19th) edition, 100th thousand, 1909. 200 pages. Cloth, $5.00 net.

FLANDERS—**Gear-Cutting Machinery.** Comprising a Complete Review of Contemporary American and European Practice, together with a Logical Classification and Explanation of the Principles Involved. Large 12mo, vii +319 pages, 219 figures. Cloth, $3.00.

TRAUTWINE—**Concrete (Plain and Reinforced).** Indexed. Full contents. Cloth, $2.00 net.

TAYLOR AND THOMPSON—**Concrete, Plain and Reinforced.** Eleventh thousand, second edition, thoroughly revised and enlarged by the addition of over two hundred pages. 8vo. Cloth, $5.00.

COLLINS—**Manual of Wireless Telegraphy and Telephony.** Second edition, enlarged. 12mo, xii +250 pages, 104 figures, and 1 communication chart. Cloth, $1.50 net.

BOVEY—**Theory of Structures and Strength of Materials.** Fourth edition, rewritten and enlarged. 8vo, xiii+968 pages, 943 figures. Cloth, $7.50 net.

KIMBALL—BARR—**Elements of Machine Design.** 8vo, viii+444 pages, 196 figures. Cloth, $3.00 net.

THE CLIFTON HOTEL
NIAGARA FALLS, CANADA.

Rates $4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

The only Hotel that Commands an Unrivalled View of Both Falls.

HOW TO REACH THE CLIFTON HOTEL.

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes. Arriving on Michigan Central Rd., Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make Canada plain in the address.

C.P.R. LANDS

The Canadian Pacific Railway Company have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally)	8.00 to per acre.
Map No. 5 South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160	Acres at	$ 8.00	per acre,	cash payment	$191.70	first year's interest	$ 65.28	and nine instalments of	$160.00
"	"	9.00	"	"	213.70	"	"	"	73.46	"	"	180.00
"	"	10.00	"	"	239.70	"	"	"	81 62	"	"	200.00
"	"	11.00	"	"	263.60	"	"	"	89.78	"	"	220.00
"	"	12.00	"	"	287.60	"	"	"	97.96	"	"	240.00
"	"	13.00	"	"	311.55	"	"	"	106.10	"	"	260.00
"	"	14.00	"	"	335.60	"	"	"	114.32	"	"	280.00
"	"	15.00	"	"	359.50	"	"	"	122.44	"	"	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-selected districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

WOVEN RAILROAD FENCING

We are in the best possible position to supply anything in this line. We make both a "wrapped" stay —the "Safe Lock," a rigid fence, and a "straight" stay of the usual type, our "Monarch," therefore we can take care of any kind of an enquiry, to your liking. Both fences are made of No. 9 wire throughout and are made in the most up-to-date style.

We solicit your enquiries for catalogue, further information, samples and prices.

The Owen Sound Wire Fence Co. LIMITED

OWEN SOUND, ONTARIO

being erected on Riverside St. The overhead work on Victoria bridge has been completed, and the flooring and tracklaying is being gone on with. Tenders are under consideration for the grading of the section of 4.5 miles through St. Lambert, Brooklin Park, Montreal South and Longueuil. The steam plant for the generation of electricity to be used on the line is being installed near the Victoria bridge by the Canadian Westinghouse Co. (Sept., pg. 684.)

Niagara, St. Catharines and Toronto Ry.—We are advised that the projected extension to Port Colborne, Ont., will pass through Welland, Welland Junction and Humberstone. Trestle bridges will be used for crossing the Welland canal feeder at Welland. The construction will be done by the company's own staff. Work is to be commenced immediately and it is expected that the line will be in operation by the beginning of 1910. The company is in the market for the necessary material for the construction of this extension. (July, pg. 523.)

Ottawa and St. Lawrence Electric Ry.—It is reported that at a meeting of directors at Ottawa Sept. 3 an offer was submitted from a syndicate of British capitalists to take over the charter and to provide the funds needed to construct the line, and that the directors have given the syndicate an option on the charter until Nov. 30. The route is said to have been decided upon between Ottawa and Morrisburg, although the exact location of the entrance into Ottawa has not been arranged, and it is stated that grading will be started at the beginning of Oct. The line will be 55 miles long, and will pass through the towns and villages of Williamsburg, Bouck's Hill, Elma, Dunbar, Winchester Springs, Chesterville, Winchester, Morewood, St. Therese, Ormond, Kenmore, Vernon, Metcalfe and Greeley. (July, pg. 523.)

Ottawa Electric Ry.—The question of the extension to the cemeteries is still before the city council. The street railway's committee has held several meetings, and at one held Sept. 3 a letter from the company was submitted showing the relative cost of several lines to the cemeteries. In connection with this matter it should be noted that it is the council of Eastview village, and not of Eastwood, as previously stated, that is interested. (Aug., pg. 609.)

Quebec Ry. Light and Power Co.—After a meeting of directors held Aug. 30 an inspection was made along St. Valier St. as far as the cemetery on which it is proposed to construct an extension of the line, as soon as arrangements are made with the C.P.R. regarding the crossing on St. Valier St.

Plans have been deposited in the registry offices of Montmorency county, showing the proposed location of a branch or Y in the parish of St. Joachim. Application will be made to the Board of Railway Commissioners for authority to construct it. (Aug., pg. 609.)

Toronto Ry.—The Board of Railway Commissioners has refused to allow the company to appeal against the order for the construction of a high level bridge on Queen St. east. The company objects to paying 15% of the cost of the construction. The bridge is to provide accommodation for the street railway over the railway tracks on Queen St. east at the Don.

The company is erecting a large block of car barns on Lansdowne Ave. The contractors are the Imperial Construction So., Toronto.

The Winnipeg Electric Ry. is operating cars over the new loop line at the north barns down Athole St. and up Inkster Ave. A large force started work Sept. 9 on the excavation for new barns at the corner of Athole and Main streets.

Electric Ry., Finance, Meetings, Etc.

Berlin, Waterloo, Wellesley and Lake Huron Ry.—In the C.P.R. annual report for the year ended June 30, the list of acquired securities shows that the C.P.R. owns the entire issue of $426,000 of 4% first mortgage bonds of the

Berlin and Bridgeport Electric St. Ry.—The adjourned annual meeting was held Sept. 20. Following are the officers and directors for the current year:—President, W. H. Breithaupt; Vice President, J. S. Anthes; Secretary, A. Millar; other directors: L. J. Breithaupt, Berlin; G. M. Shirk, Bridgeport.

British Columbia Electric Ry.—Gross earnings for July, $220,665; working expenses, $123,063; net operating earnings, $97,602; renewal funds, $16,084; net earnings, $81,518; approximate income from investments, $16,500; net income, $98,018; against $174,410 gross earnings, $92,172 working expenses, $82,238 net operating earnings, $13,816 renewal funds, $68,422 net earnings, $13,550 approximate income from investment, $81,972 net income, for July, 1908.

The company is placing on the London, Eng., market an issue of £500,000 of new debentures, to provide capital for improvements to the line, and the construction of terminals in Vancouver.

Edmonton Radial Electric Ry.—Net earnings for Aug., $8,161.87. Passengers carried during month, 193,704, and from the inauguration of the railway, Nov. 9, 1908, 1,347,600.

Halifax Electric Tramway.—Railway receipts for Aug., $21,366.12, against $20,052.81 for Aug., 1908. Receipts for 3 weeks ended Sept. 21, $13,156.97, against 16,144.71 for same period 1908.

Hull Electric Co.—Following are the officers and directors for the current year: President, A. R. Creelman; Vice President and General Manager, W. R. Baker; other directors, D. McNicoll, I. G. Ogden, E. W. Beatty, J. Oborne, E. Hanson. The company is owned by the C.P.R. and no separate statement of its earnings, etc., is issued.

Montreal Park and Island Ry.—The annual meeting was held at Montreal, Sept. 16. Following are the officers and directors for the current year:—President, Hon. L. J. Forget; Vice President, K. W. Blackwell; other directors: W. G. Ross, Sir H. Montagu Allan, F. L. Wanklyn, D. McDonald and T. A. Trenholme.

Montreal St. Ry.—Passenger earnings for Aug., $344,513.84; miscellaneous earnings, $10,715.88; total earnings, $353,-229.72; operating expenses, $183,582.60; net earnings, $171,647.12; city percentage on earnings, $44,083.70; interest on bonds and loans, $14,444.55; rent leased lines, $498.67; total charges, $59,026.92; surplus, $112,620.20; against $319,300.07 passenger earnings; $10,471.98 miscellaneous earnings; $329,772.05 total earnings; $164,261.92 operating expenses; $165,510.13 net earnings; $36,137.89 city percentage on earnings; $17,530.22 interest on bonds and loans; $444.43 rent leased lines; $54,112.54 total charges; $111,397.59 surplus for Aug., 1908. Aggregate passenger earnings for 11 months ended Aug. 31, $3,408,784.01; miscellaneous earnings, $83,992.54; total earnings, $3,492,776.55; operating expenses, $2,078,-393.01; net earnings, $1,414,378.54; city percentage on earnings, $248,270.70; interest on bonds and loans, $165,208.25; rent leased lines, $5,322.68; total charges, $418,801.63; surplus, $995,576.91; against $3,258,784.01 aggregate passenger earnings; $70,158.90 miscellaneous earnings; $3,329,059.97 total earnings, $1,978,659.18 operating expenses; $1,350,400.79 net earnings; $225,130.54 city percentage on earnings; $193,315.27 interest on bonds and loans; $4,575.29 rent leased lines; $423,021.10 total charges; $927,379.69 surplus for same period 1907-08.

Montreal Terminal Ry.—The annual meeting was held at Montreal, Sept. 16. Following are the officers and directors for the current year:—President, F. L. Wanklyn; Vice President, G. S. Campbell; other directors: J. G. Ross, C. H. Catelli, R. Forget, C. Archer, F. E. Meredith; Secretary, L. G. Morin.

Montreal Terminal Ry.—Montreal press reports Sept. 14 stated that the Canadian Northern Quebec Ry. was about to secure control of the Montreal Terminal Ry. The Chateauguay and Northern Ry., now a part of the C.N.Q.R., was originally in the same hands as the M.T.R., and the entrance of the C.N.Q.R. into Montreal was arranged in connection with the M.T.R. C.N.Q.R. officials at Toronto state that the rumor probably originated in the fact that the two companies recently had to close out an agreement regarding an overlapping track. The M.T.R. is owned by the Montreal Street Ry.

The Quebec Ry. Light and Power Co. has declared a dividend of 1% on its common stock for the six months ended June 30.

South Western Traction Co.—The Master in Chancery, London, Ont., has made an order in the action of the London and Western Trusts Co. against the S.W.T. Co., directing the sale on Oct. 20 of the latter company's electric railway, property, franchises, etc. The railway is described as 28 miles long, connecting London with Port Stanley, passing through St. Thomas. About 14 miles is constructed on private right of way, including the entrance into London, the remaining mileage being on the public highways. The power house is situated adjacent to London, and is fitted with engines, boilers and generators having a capacity of 275 h.p. The rolling stock consists of 15 passenger cars, 2 freight cars, 1 combination construction car and snowplough, 5 flat cars and 2 steam road box cars.

At a special meeting of St. Thomas city council, Sept. 9, it was decided to accept the offer of the liquidators of the company to pay the amount due for rental of the St. Thomas St. Ry. tracks less $700, amount of rental for the seven months during which the company did not use the tracks prior to the completion of its line to Port Stanley. The offer was accepted without prejudice on the condition that the amount due be paid by Sept. 13.

Toronto Ry.—Gross earnings for July, $329,804; operating expenses, $168,201; net earnings, $161,603; against $299,646 gross earnings; $152,896 operating expenses; $146,750 net earnings, for July,

Gross earnings for Aug., $333,223.09; expenses, $166,056.55; net earnings, $167,166.54; against $299,932.97 gross earnings; $149,626.08 expenses; $150,306.89 net earnings for Aug., 1908. Aggregate gross earnings for eight months ended Aug. 31, $2,477,310,22; expenses, $1,266,-064.33; net earnings, $1,211,245.89; against $2,275,126.62 gross earnings; $1,252,519.44 expenses; $1,022,607.18 net earnings for same period 1908.

Winnipeg Electric Ry.—Gross earnings for July, $214,000; operating expenses, $100,900; net earnings, $113,100; against $178,600 gross earnings; $89,700 operating expenses; $88,900 net earnings; for July, 1908. Aggregate gross earnings for 7 months ended July 31, $1,424,800; net earnings, $715,300; against $1,197,700 gross earnings, and $598,800 net earnings for same period 1908.

The usual quarterly dividend of 2½% was declared at a meeting of directors Sept. 13, making the second successive year that a 10% dividend has been declared.

KERR'S GLOBE AND GATE VALVES

STRICTLY HIGH GRADE. TESTED & PACKED

THE KERR ENGINE CO. LIMITED

VALVE AND HYDRANT MANUFACTURERS

WALKERVILLE, ONT.

ESTABLISHED 1849

BRADSTREET'S

Capital and Surplus $1,500,000

Offices throughout the Civilized World

Executive Offices:

NOS. 346 and 348 BROADWAY, N. Y. CITY, U. S. A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

Correspondence Invited.

OFFICES IN CANADA:

Halifax, N.S.; Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.; Toronto, Ont.; Vancouver, B.C.; Calgary, Alta.; Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada. Toronto.

JAMES THOMSON, Pres. and Mang. J. G. ALLAN, Director. JAMES A. THOMSON, Vice-President. ALEX. L. GARTSHORE, Secretary. Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED

MANUFACTURERS OF

CAST IRON PIPE

3 Inches to 60 Inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER

HAMILTON, ONT.

NEW AND RELAYING

RAILS

FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.

LOCOMOTIVES, CARS AND OTHER EQUIPMENT.

John J. Gartshore

83 Front Street West - TORONTO

Standard Paint & Varnish Co. Limited

Makers of High Grade Varnishes, Japans, Paints, Colors & Enamels.

Windsor Ont.

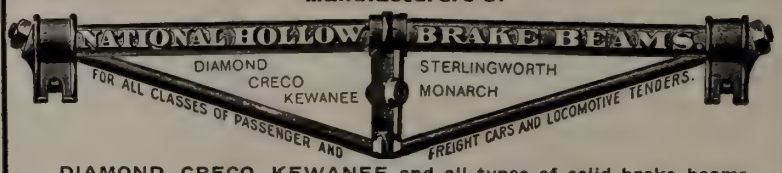
E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES
46th, Robey and Lincoln Streets.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.

Manufacturers of



DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:

22 St. John Street
MONTREAL, QUEBEC

I. A. YOUNG,
AGENT

Electric Railway Notes.

The British Columbia Electric Ry. is reported to be planning to construct 25 pay-as-you-enter cars at its Vancouver shops.

F. L. Wilson, who died at Centre Island, Toronto, Sept. 16, was father of C. L. Wilson, Assistant Manager Toronto and York Radial Ry.

The Windsor, Essex and Lake Shore Rapid Ry., is in the market for six new or second hand flat cars and three box cars, standard type, equipped with air brakes.

E. Richards, Assistant Treasurer and General Freight Agent, Chatham, Wallaceburg and Lake Erie Ry., was married Sept. 11 in Wallaceburg, Ont., to Miss D. Colville.

The Quebec Ry., Light and Power Co.'s employes' annual picnic was held at Cap Tourmente, Sept. 16 and 23, half of the employes forming the party on each occasion.

R. H. Sperling, General Manager British Columbia Electric Ry., was presented with a tea and coffee service by the company's Vancouver staff, on the occasion of his recent marriage.

In accordance with the Public Utilities Act passed last session of the Nova Scotia Legislature, the electric railway companies operating in the province have filed in the Attorney General's office schedules showing rates in force on their lines.

The General Manager of the Quebec Ry., Light and Power Co., states, in his annual report, that owing to the rapid increase of business on the Montmorency Division, it will be necessary to purchase additional electrical machinery and rolling stock.

The cars for the Montreal and Southern Counties Ry. are being manufactured by the Ottawa Car Co., and the first delivery will be made Oct. 1. They are of the vestibule type, with smoking compartment in the rear. Each car has a seating capacity for 65.

As a result of a complaint, the Calgary, Alta., city council has increased the pay of its conductors and motormen to 25c. an hour, the increase to date from Oct. 1. The men demand that the increase date from Aug. 15, and threaten to strike if the demand is not complied with.

R. Forget, M.P., is reported to have said in an interview, Sept. 15, that the outlook for the proposed merger of street railway, electric and water power interests in the Quebec district was most assuring, and in his opinion such a merger would be a good thing for Quebec.

D. McDonald, Manager Montreal St. Ry., and President Canadian Street Railway Association, whose portrait appears on the first page of this issue, returned to Montreal, Sept. 13, after spending a little over three months in Europe. Biographical data respecting him were published in our July issue.

By reference to summaries of orders 7975 and 7976, passed by the Board of Railway Commissioners, as given on an earlier page of this issue, it will be seen that the Montreal St. Ry. Co. and the Montreal Park and Island Ry. Co., have been authorized to appeal to the Supreme Court against two of the Board's decisions.

The Winnipeg city council which recently took up the question of heating the street cars operating in the city during the winter, about which there appears to have been some complaint, has received a letter from the Manager of the Winnipeg Electric Ry., stating that steps have been taken to ensure that the cars will be properly heated.

The Winnipeg city council is seeking to obtain an injunction against the Winnipeg Electric Ry., to restrain it from erecting light and power poles on the streets without permission. Pending the hearing of the original action the council inserted a clause in the permits, without prejudice, to which the railway company took exception and is taking further action.

A committee of the Halifax city council discussed Sept. 9, a complaint relating to the noise alleged to be made by street cars on Sundays while passing places of worship. A sub-committee was appointed to further discuss the matter with the Halifax Electric Tramway Co., to see what steps could be taken. The company, some time ago, issued instructions to motormen and conductors to avoid all possible noise in the vicinity of churches.

Following are the chief particulars of the "pay-as-you-enter" cars, which the Silliker Car Co., Halifax, is building for the Halifax Electric Tramway Co.:

Length over end sills	21′ 0″
Length of rear vestibule	5′ 0″
Length of front vestibule	4′ 0″
Length over all	30′ 0″
Width over side sills	7′ 7¾″
Width at belt rail	8′ 2¾″
Height from sills to under sides of plate	6′ 0⅜″
Stationary seats	15
Upholstering	Rattan.
Inside finish	Cherry
Wheels, diam.	33″
Fenders	H. E. T. Co.'s standard.
Seating capacity	30

Recently the Mayor of Hamilton notified the Hamilton Radial Electric Ry. that it must cease operating freight cars on King St. The company has the right to operate freight cars to the corner of Sanford Avenue and Wilson St. On receipt of this notice the company gave notice that it would cease the handling of freight altogether. As a result there was a meeting between the members of the council and officers of the company Sept. 14, when an arrangement was made by which such freight as may be carried in a combination passenger car to be approved of by the council can be carried along King St. to the terminal, but the right of running through freight cars is not conceded. The Manager stated that the carrying of freight would be resumed now that the difference of opinion as to what constituted a freight car had been removed.

Regina.—A plan has been submitted to the Works Committee of the Regina, Sask., city council for the construction of an electric railway in the city. The plan provides for the construction of a system covering the old town plan no. 33. In this area the line would run on Fourth Ave., from Winnipeg St. westward to Government Road, south to Thirteenth Ave., east to Elphinstone, south again to Sixteenth, extending easterly to Winnipeg St. and north on to the starting point. It also provides for a line on Dewdney St. from Government Road to Winnipeg St., and one on Thirteenth Ave. from Elphinstone to Winnipeg, with intersections on a number of other streets. An outer belt line is also proposed, taking in all the present annexes. The matter is under consideration.

A lady passenger riding on a street car recently said to the conductor: "Can you tell me, please, on which cars these transfers are good? I am from another town and am rather mixed up." "It's very simple, madam," replied the polite conductor. "East of the junction by a westbound car a transfer from an eastbound car is good only if the westbound car is west of the junction formed by the eastbound car. South of the junction formed by a northbound car a transfer from a southbound car is good south of the junction at the time of issue, but only south of the junction going south if the southbound car was going north at the time it was south of the junction. That's all there is to it."

Pere Marquette-Lehigh Valley Line—G. H. Anthony, heretofore General Agent, Chicago, Durham, M. St. P. and S.S.M..R., Winnipeg, Man., has been appointed General Agent P.M.-L.V. Line, with offices at St Paul and Minneapolis, Minn. He has charge of Northwestern Territory, covering Minnesota, the Dakotas and the Canadian Northwest, also Superior and Ashland, Wis.

The Canadian Westinghouse Co., Ltd., has declared a quarterly dividend of 1½% payable Oct. 11.

The Dominion Iron and Steel Co., Ltd., has declared a 7% dividend on its preferred stock, payable Oct. 1.

R. J. Mackenzie, of Mackenzie, Mann & Co., Winnipeg, is reported, from New York, to have purchasesd four horses, to add to his stable.

The various companies operating sleeping, dining and parlor cars in Canada have filed with the Board of Railway Commissioners standard tariffs of maximum tolls charged on their lines.

W. Gell, formerly Master Mechanic Grand Trunk Pacific Ry., Rivers, Man., died at Stratford, Ont., Sept. 9. He was appointed Master Mechanic G.T.P.R. in Feb., 1908, having previously, for some years, been Master Mechanic G.T.R., Ottawa, and resigned the position, on account of ill health, June, 1909.

E. Dunsmore, who has occupied the position of secretary to A. J. Nixon, heretofore Assistant Superintendent G.T.R., London, Ont., who has been appointed Chief Operating Officer of the Board of Railway Commissioners, is reported to have been appointed private secretary to the Vice President St. Louis and West-

The Imperial Government has included in its Irish Land Bill a provision whereby mortgage bonds and debentures of railways in Canada, the U.S., Mexico and the Argentine are included in the list of securities in which the trustees of estates purchased from life tenants under the bill may hereafter invest this purchase money.

G. J. Ellis, a former employe of the company, has entered action against the Atlantic, Quebec and Western Ry., claiming $5,399.50 for false arrest. Some time ago, $1,200 disappeared from the company's office at New Carlisle, Que., and he was arrested on a charge of theft, and being kept under arrest for some time, was acquitted.

Grace Henderson, cashier Thousand Islands Ry., Gananoque, Ont., who was recently charged with the theft of a considerable sum from her employers, was acquitted at Brockville, Ont., Sept. 21. It was proved by the evidence that whatever discrepancies existed, were made to cover loans to her superior employes. The jury expressed the opinion that she should be recompensed by the company.

A recent press report stated that W. H. Walker, G.T.R. Locomotive Foreman at Brockville, had been appointed as Master Mechanic of the Northern Railway of Costa Rica in charge of shops and road. We are officially advised that Mr. Walker is not entering the Northern Railway's service, and that A. Curotte, who has been acting Master Mechanic for some time, has been appointed Master Mechanic.

The reorganization of Rhodes, Curry & Co., Ltd., under the title of Rhodes, Curry Co., Ltd., has been completed, and the properties of the first named have been transferred to the new company. Following are the officers and directors for the current year:—President, N. Curry; Vice President, N. A. Rhodes; other directors, T. J. Drummond, W. M. Aitken, C. H. Cahan, Montreal; V. G. Curry, H. S. Dupuy, Amherst; and J. M. Robinson, St. John; Secretary Treasurer, J. M. Curry, Amherst; Assistant Secretary, O. B. MacCallum, Montreal.

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.

BRIDGES

TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

THE CANADIAN BRIDGE CO., LIMITED

WALKERVILLE, ONTARIO

LOCOMOTIVE
TURNTABLES
ROOFS
STEEL BUILDINGS

Manufacturers of
Railway and Highway
BRIDGES

STRUCTURAL
IRON WORK
OF ALL
DESCRIPTIONS

INTERESTING

TO RAILROAD PURCHASING AGENTS
To Know that We are in the
FOUNDRY EQUIPMENT LINE

Molding Machines "The Gravity" and "PARKS" Jar Ram Machines.
HOISTS, CUPOLAS, LADLES mfgd. by Calumet Engineering Works, Harvey, Ill.
HAUCK BURNERS, for Foundries, Machine and Boiler Shops.
CYCLONE HOISTS, from 1-2 ton to 30 tons.

GET OUR PRICES BEFORE PURCHASING. (Will Pay)

ONTARIO WIND ENGINE & PUMP CO., Ltd., TORONTO and WINNIPEG

UNDERWOOD

In buying a typewriter, it is well to know something of the mechanical facilities of the firm handling the machine.

We have a staff of twenty-seven expert typewriter mechanicians who repair and re-build typewriters of different makes.

It may be noted that only two of them repair Underwoods. The Underwood has but a speaking acquaintance with repair-men.

UNITED
TYPEWRITER COMPANY LIMITED
TORONTO
and all other Canadian Cities

CRUCIBLE SAW
AND
SHEET STEEL

MADE BY
JESSOP STEEL CO.
Washington Pa., U.S.A.

TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools.

Jessop's "Ark" High Speed Air Hardening Steel
is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings.

WILLIAM JESSOP & SONS, Limited, SHEFFIELD, ENG.
CHAS. L. BAILEY, Agent, 80 BAY STREET, TORONTO, ONTARIO

MARINE DEPARTMENT.

The Shipping Federation of Canada.

President, H. A. Allan, Montreal; Manager and Secretary, T. Robb, 526 Board of Trade, Montreal.

Dominion Marine Association.

President, C. J. Smith, Montreal; Counsel, F. King, Kingston, Ont.

Canadian Association of Masters and Mates.

Grand Master, Capt. F. Scott, Collingwood, Ont.; Grand Secretary-Treasurer, Capt. H. O. Jackson, 376 Huron St., Toronto.

Lake Shippers' Clearance Association.

In our last issue we gave some particulars respecting the establishment of a grain clearing house at Fort William and Port Arthur, Ont., since when the following information has been supplied. The Lake Shippers' Clearance Association has been organized as an agency for the purposes of facilitating dispatch in loading grain cargoes at the terminal ports of Fort William and Port Arthur, and as a general headquarters for marine interests at the head of the lakes. For a number of years it has been apparent that organized effort was necessary to obviate the delay due to cargo being taken from three to seven or more elevators. At the same time some general depot where vessel captains on arrival might report for orders, and to which the owners might address instructions, has seemed particularly desirable. The Lake Shippers' Clearance Association is designed to meet these various requirements, and to operate in general to the advancement of all shipping interests. It has already received the unanimous endorsation of the exporting and lake shipping interests in the Winnipeg Grain Exchange, and the support of many U.S. shipping firms has already been promised. The Grain section of the Dominion Marine Association has also given its hearty approval, and sanctioned a graduated scale of charges for the services of same for 1,000 bushels as under:

For loading at one elevator	30c.
" two elevators	20c.
" three or more elevators	10c.

The balance of the necessarily heavy expense is guaranteed by the members of the Association, who will also, by a process of clearing warehouse receipts facilitate as much as possible the general dispatch of vessels. Commodious quarters have been secured and will be fitted up at Fort William. The services of a very competent authority on marine and financial matters have been secured for the management, and a strong staff selected to further the interests of the Association in every particular. The co-operation of every grain vessel owner is anticipated. Orders in general will be given by grain exporters through the Association's office, and vessels not complying with its regulations and tariffs will lose the advantage of the quick dispatch which the Association will be enabled to give, and will be subject to the annoying delay that has been experienced in the past. To prevent any misunderstanding on arrival of vessels, captains and pursers should be invariably instructed to apply for orders to the Lake Shippers' Clearance Association, where telegrams or letters may be directed, and prompt delivery assured. Instructions should also be issued for the payment of Association charges before clearing.

The Association's officers are:—President, Jno. Fleming, of A. McFee & Co.; Vice President, C. Tilt, of Jas. Carruthers & Co., Ltd.; H. N. Baird, of Norris & Co.; Treasurer, A. K. Godfrey, of the Canadian Elevator Co.; Secretary, A. C. Ruttan, of Jas. Richardson & Sons, all of Winnipeg; General Manager, F. W. Young, Fort William; Assistant Manager, A. H. Bevan, Winnipeg. F. W. Young has been a bank manager at Fort William for some years, and is a brother of C. A. Young, one of the National Transcontinental Railway Commissioners.

Dominion Lighthouse Service Steamboat.

The twin screw steel steamboat, no. 21, which is being built at the Dominion Government shipyard, Sorel, Que., was launched there Sept. 4, and named Montmagny. She will be used in the lighthouse service below Quebec for carrying material and men for lighthouse construction, in distributing supplies for the various stations and for inspection work. Following are her principal dimensions, etc.:—

Length between perpendiculars	212 ft. 8 ins.
Length over all	222 " 0 "
Beam moulded	34 " 8 "
Depth moulded to upper deck	22 " 0 "
Draught of water (loaded)	15 " 0 "
Displacement to l.w.l.	2064 tons.
Cargo at load draught	600 "
Coal at load draught	230 "
Reserve feed tank at load draught	25 "
Fresh water tank at load draught	10 "
Capacity of fore peak tank	13 "
Capacity of after peak tank	45 "
Capacity of double bottom	120 "
Capacity of trimming tank	85 "
Estimated speed (loaded)	11½ knots.

The vessel is built of steel and is of the flush deck type, with two pole masts. There are three steel decks: the upper one sheathed with wood throughout, the main and lower ones are sheathed with wood only in the way of accommodation. There is a double bottom 3 ft. deep extending through machinery space, and bunker divided, into three watertight compartments, that under the boilers forming the reserve feed tank. There are 6 watertight bulkheads. The whole of the steel scantlings are not less than required for Lloyd's highest class. The accommodation for the officials is placed aft and consists of two state-rooms, an office and bath-room in a deck house, and a dining saloon, 2 two berth cabins, 2 four berth cabins, pantry and bath-room, also baggage and linen rooms on the main deck. Accommodation for captain, chief mate, chief engineer, 2nd and 3rd mates and wireless operator, with mess-room and bath-room, also the galley is placed in the deck house amidships. Accommodation for the 2nd and 3rd engineers, two cooks and three spare two berth cabins are on the main deck amidships, where are also placed the ice house, 2 provision store rooms, boatswain's store, paint locker, lamp room, and workshop, which is proposed to be fitted up with lathe, shaper, drilling machine, etc., driven by an electric motor. The accommodation for 4 oilers, 4 quarter-masters, boatswain, carpenter, mess-room, bath-room and carpenter's store is arranged on main deck forward. Accommodation for 12 sailors and 12 firemen is arranged on lower deck forward. Temporary accommodation for 20 men with pantry and lavatories is arranged at the after end of forehold on the main deck. The two lower masts are of steel to the hounds, with pitch pine top masts. The steam winch for the forehold is arranged with suitable derrick and gear for lifting 12 tons with a purchase of two double blocks or 3½ tons direct from the barrel. The after winch will lift 2 tons direct from the barrel. There is a steam and hand windlass for lifting the anchors (30½ cwt. each, with 1⅝" cable), also a steam warping capstan aft. The boats include 2 life-boats, 3 surf boats, 1 gasoline launch and 1 dinghy. On the boat deck, which extends the length of the midship deck house is a wheel house and chart room, with a navigating bridge on top. The steam steering engine is placed in the engine casing, with one wheel on the bridge and one in the wheel house, there is also screw hand gear aft. The vessel is lighted throughout with electric light including signal lanterns, and is fitted with wireless telegraph apparatus. The machinery consists of twin screw triple expansion engines, having cylinders 15", 24" and 39" diameter by 24" stroke, supplied with steam from 2 boilers of the marine return tube type, 14' dia. by 10' long each, having three furnaces 3' 3" diameter and 272 3" tubes. The working pressure is 180 lbs. per sq. in. There is a donkey boiler of the vertical type, 5' diameter by 9' 2" high; working pressure, 125 lbs. The auxiliaries include a feed pump, ballast pump, general service and fire pump, feed heater, sanitary and fresh water pumps, also ash ejector. A "navy" type hand pump is placed in the casing and connected to the general service pump for use when steam is not available.

Pickford and Black, Ltd., Halifax, N.S., has chartered the Furness Line s.s. Almeriana, to replace the s.s. Dahomey, on the West Indies route.

SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie Canals during August:

Articles.			Canadian Canal	U. S. Canal	Total
Copper	Eastbound	Net tons	578	12,976	13,554
Grain	"	Bushels	1,878,016	628,605	2,506,621
Building stone	"	Net tons	.....	145	145
Flour	"	Barrels	153,364	422,610	575,974
Iron ore	"	Net tons	4,373,678	2,405,707	6,779,385
Pig iron	"	"	.....	6,175	6,175
Lumber	"	M. ft. B.M.	9,623	82,384	92,007
Wheat	"	Bushels	952,898	455,836	1,408,734
General merchandise	"	Net tons	7,741	11,391	19,132
Passengers	"	Number	4,841	4,978	9.819
Coal, hard	Westbound	Net tons	57,400	111,164	168,564
Coal, soft	"	"	387,088	1,099,844	1,486,932
Flour	"	Barrels	220	35	255
Grain	"	Bushels	.....	500	500
Manufactured iron	"	Net tons	23,104	51,438	74,542
Iron ore	"	"	2,387	.....	2,387
Salt	"	Barrels	21,309	58,953	80,262
General merchandise	"	Net tons	56,756	59,207	115,963
Passengers	"	Number	6,122	4,672	10,794
Vessel passages		Number	1,008	1,893	2,901
Registered tonnage		Net	2,942,614	4,128,687	7,071,301
Freight—Eastbound		Net tons	4,479,664	2,648,246	7,127,910
" —Westbound		"	529,804	1,330,509	1,860,313
Total Freight		"	5,009,468	3,978,755	8,988,223

THE INTERNATIONAL MARINE SIGNAL CO.

OTTAWA, CANADA

Manufacturers of

Automatic Acetylene Gas Buoys, Beacons and Fog Signals

Mariners describe our lighted buoys as "floating lighthouses."

WILLIAM WARREN
Laggan, Alta. and Field, B. C.

Guide and Outfitter to all points in Canadian Rockies

FISHING AND HUNTING PARTIES (fully equipped) a specialty
Seven years' experience on some of the most extensive private trips ever made since this greatest hunting and recreation ground has been opened.

References Furnished

Now is the time to place your order for Contractors' Locomotives. Why not buy the best?

VULCAN IRON WORKS
WILKES-BARRE, PA., U.S.A.

Canadian Representatives - MUSSENS LIMITED, MONTREAL

Largest Dealers Rebuilt Equipment in United States

TWO SEPARATE PLANTS

EAST PLANT
Capacity, 25 New Freight Cars per day
10 New Coaches per month

WEST PLANT
Capacity, 10 Heavy Repairs Locomotives per month
Besides Coach and Freight Car Repairs

PROMPT DELIVERY—New Passenger and Freight Equipment—Rebuilt Locomotives, Passsenger and Freight Equipment

HICKS LOCOMOTIVE AND CAR WORKS, = = Chicago, Ill.

PROVINCIAL STEEL CO., LTD.

COBOURG, ONT.

Notices to Mariners

The Department of Marine has issued the following:

No. 77. Aug. 31. 199.—British Columbia, Chatham Sound, approach to Prince Rupert, Ridley Island range day beacons discontinued. 200.—British Columbia, Chatham Sound, Metlakatla harbor, Shrub beacon replaced by buoy. 201.—British Columbia, Vancouver Island, east coast, Stuart channel, chart of Boat harbor issued. 202.—British Columbia, Chatham Sound, chart of middle passage, Skeena River, issued.

No. 78. Sept. 1. 203.—New Brunswick, south coast, Bay of Fundy, Cape Spencer, change in character of light. 204.—Nova Scotia, Bay of Fundy, Digby Gut, Point Prim, change in character of light. 205.—Nova Scotia, west coast, Cape St. Mary, change in character of light. 206.—Nova Scotia, south coast, Country Harbor approach, Green Island, change in character of light. 207.—Prince Edward Island, northeast coast, east point, change in light. 208.—Prince Edward Island, southeast coast, Cape Bear, change in color of light. 209.—Prince Edward Island, south coast, Hillsborough Bay, Charlottetown harbor, Blockhouse Point, light improved. 210. Prince Edward Island, northwest coast, North Point, change in light.

No. 79. Sept. 3. 211.—Ontario, Lake Ontario, Simcoe Island, Nine Mile Point, change in character of light. 212—Ontario, Detroit River, Limekiln Crossing, Texas Dock range, additional lights established. 213.—Ontario, River St. Clair, east of St. Clair middle ground, characteristic of gas buoy light. 214.—United States of America, Detroit River, wreck removed.

No. 80. Sept. 8. 215.—Ontario, Lake Ontario, east end, Pigeon Island, new lighthouse, change in character of light. 216.—Ontario, Lake Erie, Port Maitland, hand fog horn at light station. 217.—Ontario, Georgian Bay, Parry Sound, wreck.

No. 81. Sept. 9. 218.—Nova Scotia, Cape Breton Island, east coast, Bras d'Or, Boularderie Island, McNeil Beach, light mast replaced by tower. 219.—Quebec, Chaleur Bay, Port Daniel, color of light on wharf. 220.—Newfoundland, Strait of Belle Isle, Flower Island, change in light. 221.—Newfoundland, east coast, White Bay, Seal Cove, new tower, change in color of light. 222.—Newfoundland, east coast, Canada Bay, Aiguillettes or Inglee harbor, new tower, change in color of light. 223.—Ireland, east coast, Rosslare harbor, shoals in. 224.—Wales, Cardigan Bay, alterations in lights and buoys.

No. 83. Sept. 29. 230.—Nova Scotia, southeast coast, Cranberry Island, intended change in character of light. 231.—Newfoundland, southwest coast, Port Basque, Channel head, change in character of light.

No. 84. Sept. 22. 232.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, above Portneuf, gas buoy established. 233.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, eastern end of Lake St. Peter, changes in buoyage.

No. 85. Sept. 24. 234.—Quebec, River St. Lawrence below Quebec, temporary change in position of Beaujeu Bank west end gas buoys. 235.—Quebec, River St. Lawrence, Lake St. Peter, St. Francis River, description of range lights.

Tax on Vessels Entering U. S. Ports.

Section 36 of the new United States tariff bill imposes a duty of two cents a ton at each entry on all vessels which shall be entered at any port in the U. S. from any foreign port or place in North America, and various other countries on the American continent; and a duty of six cents a ton on all vessels entering from any other foreign port. The tonnage duty will not be levied on vessels in distress or not engaged in trade; and in the first case is not to exceed 10 cents a year, and in the second case 30 cents a year. The new tax comes into force Oct. 5. In connection, the so-called reciprocal tonnage tax exemption law of 1886 is repealed.

Under the existing law vessels from Ontario ports have been exempt from taxation in the U. S. as the sick mariner's charges are not levied by the Province on U. S. vessels entering Ontario ports. Such taxes are levied in Quebec and the Maritime Provinces, and have been met by a corresponding tax on vessels entering U.S. ports from Quebec and the Maritime Provinces. Several attempts have been made in the U. S. to place a tax on all Canadian vessels entering U.S. ports, but have hitherto been defeated. This year it was hoped that the opposition offered to the passing of the new law would have secured the exemption of the Great Lakes therefrom. The avowed object of the advocates of the law was to prevent the foreigner from saving $10 where the U. S. vessel owners only saved $1. This was not unreasonable in respect of ocean tonnage, where the preponderance is against the U. S.

The new law applies impartially to U. S. as well as to foreign vessels, so that all vessels, Canadian or U. S., entering U. S. ports from Canadian ports will be liable to pay a tax not to exceed 10 cents a ton in any one year, for the privilege of trading between ports not in their own country.

Under the new International Waterways Treaty, approved by Congress, and awaiting the approval of the Dominion Parliament, it is agreed that the navigation of all boundary waters shall for ever continue free and open for the purposes of commerce to the vessels of both countries, equally, subject to any laws or regulations of either country, within its own territory, not inconsistent with the privilege of free navigation, and applying equally to the inhabitants and vessels of both countries. It is a question whether, under this treaty, either country could tax the vessels of the other country without taxing its own.

Under these circumstances it would appear that vessel owners at the Canadian ports on the Great Lakes where U. S. vessels are free from sick mariner's

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING AUGUST, 1909.

Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Analine	126,275	NewWestminster, B.C., 1909	Screw 15 n. h. p.	31.1	8.0	2.9	9	5	NewWestminster, B.C	J. B. Wilson, New Westminster, B.C.
Blaneys	126,504	Ladysmith, B.C., 1909	" 5 "	35.0	9.4	3.4	7	4	Victoria	C. A Ryan, Ladysmith, B.C.
Colaly	126,249	Vancouver, B.C., 1909	" 7 "	49.6	10.5	6.0	23	13	"	F. S. Barnard, Victoria, B.C.
Conveyor	126,250	Victoria, B.C., 1909	Paddle 15 "	137.5	31.4	5.4	583	380	"	G. T. P. Ry. Co., Montreal.
Elraesenga	126,559	Vancouver, B.C., 1909	Screw 1 "	31.6	8.1	4.4	8	6	Vancouver, B. C.	W. E. Damer, Vancouver, B.C.
Granville	122,587	Shelburne, N.S., 1909	" 25 "	90.0	22.0	9.0	140	49	Yarmouth, N.S.	Valley Steamship Co., Ltd., Granville Ferry, N.S.
L. Paul	126,453	Sorel, Que., 1909	" 1 "	55.2	14.0	7.2	23	16	Sorel, Que.,	J. Paul, Sorel, Que.
Let Me Pass	126,558	Vancouver, B.C., 1909	" 2 "	26.0	7.5	3.2	6	4	Vancouver, B. C.	P. Seelis, Vancouver, B.C.
Maagen	126,557	" " "	" 13 "	53.5	16.2	6.8	45	31	"	A. Pederson, M.O., Vancouver, B.C.
Maud Allen	126,543	Long Lake, B.C., 1909	" ½ "	39.0	8.1	3.2	10	7	Victoria	Johnston & Carswell, Ltd., Long Lake, B.C.
Operator	126,501	Victoria, 1909	Paddle 15 "	137.5	31.4	5.4	583	380	"	G. T. P. Ry. Co., Montreal.
Shutka	126,556	Vancouver, B.C., 1908	Screw 1 "	28.3	8.0	2.7	7	5	Vancouver, B. C.	C. G. Stuart, Vancouver, B.C.
Simcoe	125,456	Newcastle, Eng., 1909	" 217 "	180.0	35.2	15.5	913	438	Ottawa	Minister of Marine and Fisheries, Ottawa.
Sokum	126,502	Sechart, B.C., 1909	" 16 "	27.6	8.8	4.4	[illegible]	5	Victoria	A. Lane, Cowichan Bay, B. C.
Tokolo	126,462	Kingston, Ont., 1909	" 8 "	49.2	9.2	4.5	12	8	Kingston, Ont.	J. H. Davis, Kingston, Ont.
Winnitoba	122,274	St. Boniface, Man., 1909	Paddle 21 "	170.0	28.5	7.0	883	556	Winnipeg	Hyland Navigation and Trading Co., Ltd., Winnipeg.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING AUGUST, 1909.

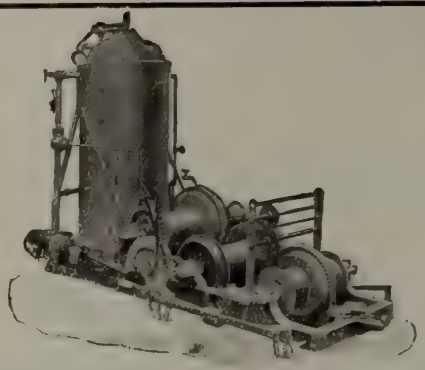
Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
Annie Hilton	126,380	Owls Head, N.S., 1909	Schr.	37.0	10.8	4.8	10	Halifax	J. R. May, Owls Head, N.S.
Babette	126,471	Halifax, N.S., 1909	Sloop	31.0	8.4	4.0	5	"	F. H. Bell, Halifax, N.S.
H. C. 3	126,256	United States	Scow	93.0	35.0	7.0	—	Chatham, N.B.	R. Loggie, M.O., Loggieville, N.B.
H. C. 4	126,257	"	"	93.0	35.0	7.0	—	"	" "
Hayward 5	126,258	"	"	76.0	23.0	7.6	115	"	Eastern Dredging Co., Ltd., Loggieville, N.B.
Hayward 6	126,259	"	"	76.0	23.0	8.0	123	"	" " "
R. M. Co., Dredge No. 8	122,566	Hastings, Ont., 1909	Dredge.	79.0	28.6	6.7	103	Peterboro, Ont	Randolph McDonald Co., Ltd., Toronto.
Rock King	122,418	Welland, Ont., 1909	"	101.0	30.0	8.0	401	Midland, Ont	Canadian Dredge and Construction Co., Ltd, Midland, Ont.
Z. Lebrun	126,496	St. Michel, Que., 1908	Sloop	93.7	22.3	6.9	94	Montreal	Z. LeBrun, St. Aimie, Que.

TURNBUCKLES

FORGINGS
OF ALL KINDS

CLEVIS NUTS

CLEVELAND CITY FORGE & IRON CO.
CLEVELAND, OHIO, U.S.A.

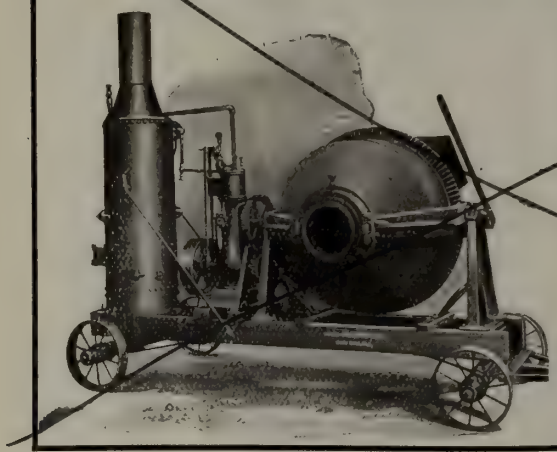


M. Beatty & Sons, Limited
Welland, Ont.

Dredges - Ditchers - Derricks
Steam Shovels
Steel Dump and Deck Scows

Submarine Rock Drilling Machinery
Mine Hoists, Hoisting Engines
Centrifugal Pumps, Clam Buckets
Steel Skips, Coal and Concrete Tubs
and other Contractors' Machinery.

Marsh Concrete Mixers



Simplest, Lightest, Most Durable and sold at Popular Prices.

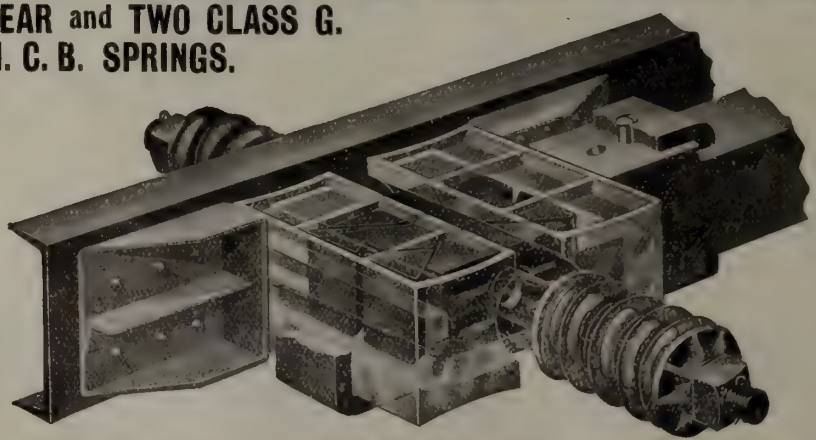
Especially adapted to Canadian business.

Write for catalogues.

Marsh Co.
Old Colony Bldg.,
Chicago, Ill.

JOHN DATE
MANUFACTURER OF
DIVING APPARATUS
FOR SALE OR HIRE
Brass Founder & Coppersmith
152 Craig St. West, Montreal

35 to 1 is the relative amount of work done by ONE CARDWELL FRICTION DRAFT GEAR and TWO CLASS G. M. C. B. SPRINGS.



CARDWELL FRICTION DRAFT GEAR—MADE BY
UNION DRAFT GEAR CO., CHICAGO, ILL.

METEOR WIRE
FOR
Make and Break
Contact Points
AND
Spark Points
IN
Gas & Gasoline Engines
Automobiles

DURABLE NON-CORROSIVE
ABSOLUTE SUBSTITUTE FOR PLATINUM
WRITE FOR CATALOGUE

Hermann Boker & Co.
332 ST. JAMES ST. - - MONTREAL

charges, should direct their effort to inducing the U. S. Congress to exclude the Great Lakes from the programme of taxation, rather than to ask the Dominion Parliament to pass a measure imposing a retaliatory tax, which Canadian vessels might also have to pay.

Hydrographic Survey Steamship.

The Dominion Government is having constructed in England a steamship for hydrographic survey work on the Pacific coast. She will be built of steel, with straight stem, elliptical stern, and fitted with two pole masts. Her dimensions will be: length, over all, 173½ ft.; length between perpendiculars, 163 ft.; beam, moulded, 29 ft.; depth, 15 ft. 7 in. Displacement, on a mean draught of 11 ft. above bottom of keel angles amidships, with 150 tons of coal and 80 tons of stores and water, 850 tons. She is to class 100 A1 at Lloyds. The hull will have a double bottom extending from aft the engine-room to the forward bulkhead, and a watertight flat forward and aft of same. It will be divided into seven complete watertight bulkheads extending to the main deck, and, in addition, there will be four watertight bulkheads extending to the water tight flats. The rudder will be of the single plate type, controlled by a 2-cylinder 4 by 5 in. steering gear. There will be on the main deck, one steam winch for handling boats and warping ship; one steam winch for handling anchors, etc.; and on the shade deck, two gasolene launches, each fitted with a 15 h.p. 4-cycle engine, two 27 ft. cutters, and one 18 ft. light gig or dinghy.

There will be four decks—orloop, main, forecastle, and shade. On the shade deck will be deck-house, pilot house and bridge. The accommodation to be provided on the different decks will be as follows, from aft forward:—Orloop deck—Store-room, saloon, stateroom for officer in charge of hydrographic work, and staterooms for the staff of four; forward of the engine-room space will be quarters for the petty officers and seamen. Main deck—Saloon and staff mess-room aft; and forward of the engine-room space, officers' mess-room, cabins for the chief, second and third engineers, and cabin for the mate, lavatories, carpenter's shop, etc. Shade deck—Pilot house, chart-room, sailing master's stateroom.

The machinery is to consist of two vertical, inverted three cylinder, triple expansion engines, cylinders 11½, 18 and 31 inches diameter, by 24 inch stroke, driving a 3-bladed septre bronze propellor 8 ft. diameter, and 9 ft. 6 in. pitch. Steam will be supplied to the engines by two Scotch boilers, each 10¼ ft. long and 11½ ft. mean diameter, each with two or three corrugated iron furnaces as large as can be got into the shell. The combined grate surface to be about 90 sq. ft., and the collective heating surface about 3,000 sq. ft. The boilers to be tested for a working pressure of 185 lbs. to the square inch. The two main boilers will be placed in the middle of the ship, with a common fire room. The bunker capacity to be 150 tons. The auxiliary machinery in the engine-room will consist of a steam turbine dynamo, an independent bilge pump, fire pump, auxiliary pump, a 10-ton evaporator, and a distiller with a capacity of 1,600 gallons of potable water per 24 hours. There will be two feed and filter tanks of 150 gallons each located in the aft end of the engine-room.

When completed, the builders have to give the vessel a sea test, during which she is to steam for six consecutive hours at the rate of not less than 11½ knots an hour. The vessel was designed and the specifications prepared by R. L. Newman, Victoria, B.C.

R. & O. Navigation Co.'s s.s. Rochester.

The vessel which is being built for the Richelieu and Ontario Navigation Co., at Detroit, Mich., was launched Sept. 4, and christened Rochester. When completed, she will be a thoroughly modern, twin screw passenger steamer of the lake and river type. Her dimensions are: length, over all, 256 ft.; beam, 43 ft. 8 ins.; depth of hull, molded, 14 ft. 9 ins.; draft, 9 ft. 6 ins. Her engines will be of the triple expansion, inverted surface condensing type, with four cylinders working on four cranks, with a stroke of 22 ins., developing about 2,000 i.h.p. at 180 revolutions a minute. The boilers will be of the round return tubular type with induced draught. She will be equipped with six water tight bulkheads, two of which are provided with water tight doors, the remainder being without openings, and will be supplied with stockless anchors, with flukes recessed inside the line of hull plating, steam windlass and capstan, and six lifeboats. Her propellors are of the sectional type with semi-steel hub and manganese bronze blades. The most modern type of steam steering gear will be supplied. Her stipulated speed is about 18 miles an hour.

The dining-room and pantry will occupy about one-third of the after portion of the main deck, and immediately forward of the dining-room will be the engine-room and entrance hall, in which will be situated the purser's office and check-room. Forward of this the main deck is clear and will be used for the carriage of motor cars and express freight, with the exception of the bow, which will be taken up with sleeping-rooms for the engineers, stewards, etc. The main staircase situated in the entrance hall leads up to the first saloon deck, which is taken up entirely with staterooms and toilet-rooms. A new feature is the making of all staterooms of the outside type. There are also several parlor staterooms with bath-rooms connecting on this deck. Forward and aft on this deck there is comfortable saloon space for passengers desiring to sit indoors, and forward and aft there are also observation decks. The same general arrangement of the main saloon deck is carried out on the gallery deck, and above which is the hurricane deck on which will be found the smoking-room, ladies' room, buffet and news stand, and forward of the smoking-room are the rooms of the captain and navigating officers, as well as the pilot house.

The main entrance hall will be panelled in mahogany with rubber tile floor, and the dining-room in oak. The main saloon deck and gallery deck will be painted to give a light and cheerful effect, while the smoking-room will be panelled in polished hard wood. The main saloon and gallery deck will be carpeted in colors harmonizing with the decorations.

The steward's department will be equipped with a refrigerating plant of five tons ice capacity.

The Rochester will have 133 staterooms and eight parlors with baths attached.

Vessels Removed from the Register.

During Aug. the following vessels were removed from the register for the reasons assigned:—Steam: Daisy, Victoria, 41 tons, wrecked; Sweet Mary, Collingwood, Ont., 9 tons, burned. Sailing: Ancenis, Yarmouth, N.S., 1,700 tons, sold to foreigners; F. Richard, Weymouth, N.S., 94 tons, broken up; Ladysmith, Parrsboro, N.S., 597 tons, transferred to Barbadoes; Phœnix, Parrsboro, N.S., 397 tons, wrecked; Ste. Anne, Quebec, 44 tons, broken up; Ste. Anne, Quebec, 18 tons, lost; Semidas, Quebec, 41 tons, broken up.

Atlantic and Pacific Ocean Marine.

In connection with the recent grounding of the s.s. Jeanara, J. B. McGillivray, pilot, was fined $50 and suspended for one month by the Pilot Commissioners at Sydney, N.S., recently.

The s.s. Belle of Spain, chartered by the Dominion Iron and Steel Co., sailed from Sydney, N.S., Aug. 30, with steel rails and fittings for Prince Rupert, B.C. It is anticipated that she will complete the voyage round the Horn, in 65 days.

A dispatch from Rome, Italy, states that, at the request of the Italian Government, the General Italian Navigation Co. has decided to extend its New York service to Boston, with the probability that such service will be extended to Canada, commencing in Nov.

Furness, Withy & Co., operating the Furness Steamship Line, have added two vessels to their fleet running between Halifax, N.S., and Great Britain, making 10 vessels now running out of that port, under the company's management. Five of these run to London and the remainder to Liverpool.

The Donaldson Steamship Line has ordered a twin screw steamer, to be ready for service by May, 1910, for the Montreal-Glasgow route. She is to have a speed of 15 knots, accommodation for 300 cabin and 1,000 third-class passengers, and to be equipped with all the latest devices, including wireless telegraph.

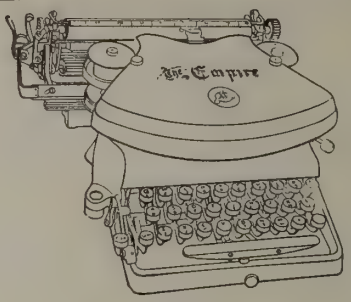
It was recently announced that F. Waterhouse & Co., had established an agency in Vancouver, B.C., with Greer, Coyle & Co., with the intention of inaugurating a passenger and freight service between Vancouver and New Zealand and Australia, during Sept. A monthly service, it is said, is to be maintained, with three vessels.

A press report states that the Shipping Federation of Canada has received advice from Liverpool, Eng., to the effect that the Cunard Steamship Co.'s steamships Etruria and Umbria, which were recently withdrawn from service and offered for sale, may be placed on the St. Lawrence route shortly. The prices offered for the vessels were not considered sufficient, and it is stated that the company may retain them and enter the Canadian trade.

The Ulster Steamship Co.'s annual report states that the net earnings of the company's vessels, for the year, are £17,321. The net balance to credit of profit and loss after paying interest on deposits, income tax, etc., is £9,584, from which an interim dividend of 2% has been paid, leaving a balance of £5,684, from which a further dividend of 2% has been declared, and £1,784 carried forward. The company owns the Head Line operating between Montreal and Ireland.

A feeling is reported to be current in London, Eng., amongst Anglo-Canadians, that after the conclusion of Lord Strathcona's present visit to Canada, or very shortly after his return to England, an announcement will be made regarding an agreement between the British and Canadian Governments, as to the subsidy to be paid for a fast trans-Atlantic service, to be followed by full particulars as to the route decided upon and the service to be given, with the name of the successful tenderer.

The Allan Line s.s. Laurentian, running between Boston and Glasgow, went ashore, Sept. 6, at Mistaken Point, five miles from Cape Race, Nfld., and was considered to be a total loss. She carried 50 passengers and 40 of a crew, all of whom were taken ashore and sent to St. John's. The divers who examined the wreck are reported to have said that the keel was severely damaged and firmly embedded in the rocks, while the plates are crooked and badly torn in



THE
EMPIRE TYPEWRITER
PRICE $60.00 ONLY

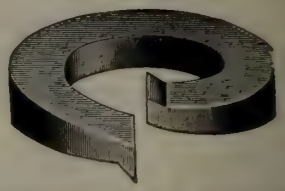
Perfect in Construction
Permanent Alignment
Hardened Steel Type
Visible Writing

Made in Canada

BUILT FOR HARD WORK
Will Outlast any Standard Machine made, irrespective of price.
Agents Wanted in every part of Ontario
Communicate Direct with us.

THE WILLIAMS MANUFACTURING CO., LIMITED
P. O. Box 2424 - MONTREAL, P. Q.

THE **POSITIVE LOCK WASHER**
Is the BEST Nut LOCK for all purposes



We also make plain coils and tail nut locks.
The Positive Lock Washer Co.
Sole Mfrs., Newark, N.J.
F.H. HOPKINS & CO., Agts., Montreal

IMPERIAL BANK
OF CANADA

Capital Authorized - - $10,000,000.00
Capital Paid Up - - - 5,000,000.00
Reserve Fund - - - - 5,000,000.00
HEAD OFFICE - - - - TORONTO

AGENTS—London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.

Sterling exchange bought and sold. Letters of credit issued available in any part of the world.

A general Banking business transacted. **Branches throughout the Dominion of Canada.**

SAVINGS DEPARTMENT—Interest allowed on deposits from date of deposit.

RAILWAY SPRINGS

Locomotive, Tender and Passsenger Car Springs of every description

Equalizing, Draw-bar, Buffer and Spiral Springs of all kinds

Street Railway Springs from the largest to the smallest

Manufactured by
B. J. COGHLIN & CO., 432 St. Paul St., Montreal, Can.

LEHIGH VALLEY RAILROAD

BEST LINE FROM TORONTO AND ONTARIO POINTS
— TO —
NEW YORK, PHILADELPHIA AND SOUTH

For particulars, write to or call on
MR. ROBERT S. LEWIS
Canadian Passenger Agent
54 King St. East - - - - Toronto

REAMERS ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

WOOD PATTERNS
—ALL KINDS—
High Grade. Right Prices. Prompt Delivery.
THE HAMILTON PATTERN WORKS
HAMILTON, ONT.

SESSIONS-STANDARD
Friction Draft Gear
Simplest and Best

Both Made by
Standard Coupler Co.
2 RECTOR STREET NEW YORK

STANDARD STEEL PLATFORMS
Used by all Canadian Railways

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA
A PURELY CANADIAN COMPANY
JOHN EMO, General Manager H. W. PEARSON, Secretary-Treasurer D. MURPHY, President
AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.
Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

JAMES PLAYFAIR, Pres. & Gen'l Mgr. D. L. WHITE, Vice-President. J. W. BENSON, Sec'y-Treas.
MIDLAND TOWING & WRECKING CO., LIMITED, MIDLAND, ONT., CANADA
FIRST-CLASS TUGS FOR WRECKING, RAFT TOWING, ETC.
STEAM PUMPS, DIVERS, JACKS, HAWSERS AND LIGHTERS

places. The greater proportion of the cargo has been salved, and it is considered probable that the vessel may be refloated, should the weather continue favorable. The Laurentian was built at Greenock, Scotland, in 1872, and was formerly known as the Polynesian. Her dimensions are: length, 400 ft.; breadth, 42.2 ft.; depth, 35.5 ft.; tonnage, 4,522 gross, 2,838 register. She was originally on the St. Lawrence route, in the Montreal-Liverpool mail service, but for several years has been on the Boston-Glasgow route. During the Boer war she was chartered by the British Government as a troop ship, and carried troops and horses from Halifax to South Africa.

For several weeks past rumors have been current on both sides of the Atlantic as to changes which were taking place in the management and control of the Allan Line Steamship Co. The general trend of these rumors was that the company was to be absorbed by the G.T.R. The facts are, that J. and A. Allan, of Glasgow, Scotland, have retired from business as managers and agents of the company, which will be still carried on there under the management of Allan Bros. & Co., Ltd., which company will continue the agencies of the Allan Line Steamship Co., in Liverpool and London, Eng., as heretofore. For the present, the head office will remain in Glasgow, but it is expected that the vessels will, in the near future, be transferred to the Canadian Register, and when this has been effected, the head office will be transferred to Montreal. The importance of such a change to Canada will be appreciated, when it is remembered that the fleet consists of 30 vessels, aggregating 160,000 tons. The following board of directors has been elected for the current year, replacing the previous one:—President, H. A. Allan; Vice President, Sir H. Montagu Allan; other directors, A. A. Allan, B. J. Allan and J. S. Park.

As mentioned in our Aug. issue, the Thomson Steamship Lines are increasing their trans-Atlantic service, by the inauguration of a direct service between Canada and Italy, during the approaching winter season. The s.s. Tortona, which is under construction at Wallsend-on-Tyne, Eng., was launched there recently, and it is anticipated that she will be ready for service early in Nov. She is a four-masted twin screw steamer with complete shelter deck. Her length is 464 ft., beam 54 ft., and depth, 40 ft. to shelter deck. She has been built to the highest class at Lloyds and in accordance with the regulations of the British Board of Trade, and the U.S. and Italian emigration laws, with accommodation for 37 first class and 1,082 third class passengers. There is a dining saloon, with ladies' cabin and smoking room situated forward of the bridge, while the shelter deck is allotted to the sleeping quarters of the third class passengers, fitted with galvanized iron beds and spring mattresses. There are three dining rooms for the third class, situated amidships on the shelter deck, and additional dining accommodation has been provided 'tween decks whenever required. Two kitchens have been provided, one forward and the other aft for the third class passengers, and a separate kitchen supplies the needs of the first class passengers. The machinery includes 14 derricks with capacities of from 5 to 20 tons, with 12 powerful steam winches. The steering gear is on the latest principle, and is actuated by telemotor gearing from the wheel house amidships. Steam heat is supplied throughout the vessel and fire extinguishing pipes are laid to all holds, and the vessel is lighted throughout with electricity. The propelling machinery consists of two sets of triple expansion, surface condensing engines with cylinders 25½", 41" and 88" diar. by 46" stroke, supplied with steam by four single-ended boilers, having 16 furnaces and a total heating surface of about 13,200 sq. ft. Amongst the latest appliances with which this vessel is equipped, is a wireless telegraph installation. The vessels of this line are managed in Canada by Robert Reford Co., Montreal.

Maritime Provinces and Newfoundland.

The s.s. Margaret, which recently went aground on Thrum Cap Shoal, left the Halifax marine slip, Sept. 9, after having received a new foremast and other repairs necessitated by the accident.

The Newfoundland Legislature last session voted the following sums for marine services: Ocean services, Allan Line, $9,734; service from Port aux Basques and Sydney, N.S., $20,280; occasional ocean services, $1,000; for 15 coastal services, $186,200.

It is reported that when the icebreaking steamer Earl Grey reaches Canada, she will be placed in charge of Capt. Finlayson, who will be succeeded on the s.s. Minto by Capt. Brown of the s.s. Stanley. The Stanley will, it is said, be used as a lighthouse supply vessel on the Bay of Fundy, under the charge of Capt. C. Fraser.

The New Brunswick Legislature has confirmed an agreement made with the Maritime Steamship Co., by the council of Charlotte county, N.B., whereby the company is exempted from taxes, except those for educational purposes, for 15 years, in return for a steamship service between ports in that county and St. John.

The city of St. John has been authorised, by the New Brunswick Legislature, to transfer certain property and privileges to a body which may be constituted as a commission for the harbor of St. John, upon such terms as may be agreed upon by the city council, after the question of the transfer has been submitted to a vote of the ratepayers.

The construction of the breakwater at Summerside, P.E.I., having been completed, it was handed over to the Dominion Government by the contractor, H. McDonald, Sydney, N.S., early in Sept. It extends from the lighthouse to Indian Head, and is 51 ft. wide, and 5 ft. above water. The construction has extended over two years.

The s.s. Turret Bell, which was recently floated off Cable Head, P.E.I., after having lain there since she stranded in Nov., 1906, was originally insured on a valuation of £18,000, and the loss was paid by the underwriters in 1907. She was offered for sale by private tender Aug. 31, but it is reported that none of the offers received were considered sufficiently high, and that she has been withdrawn, for the present, and berthed for the winter, at Quebec.

The icebreaking steamboat, Earl Grey, which is illustrated on this page, and which arrived in Canada recently, met with some difficulties on her first voyage from England. She ran short of coal, and had to put into Newfoundland for supplies. Regarding press reports as to the transfers of the vessels Minto and Stanley, when the Earl Grey is put into service, we are officially advised that it has not yet been decided what changes, if any, will be made in the work which these vessels are now doing, nor is the question of their command finally settled.

Tenders were recently received by the Newfoundland Postmaster General for a steamship service for the conveyance of passengers and mails between Kelligrews and Belle Isle, calling at Portugal Cove and Broad Cove, making train connections at Kelligrews twice daily, that is, with the outgoing train from St. John's in the morning and with the incoming train to St. John's in the evening. The contract is for five years dating from Sept. 1, 1909, and may be terminated at any time by either side giving one month's notice.

The Valley Steamship Co.'s s.s. Granville, recently built at Yarmouth, N.S., in her trial trip developed a speed of 10 knots an hour. Her dimensions are: length, 90 ft.; breadth, 22 ft.; depth, 9 ft.; tonnage, 140 gross, 49 register. Her machinery consists of an engine of 25 n.h.p. driving a screw, steam steering apparatus, etc., and she has accommodation for 43 regular passengers, and has been passed to carry 250 passengers on Annapolis Basin. She will operate between St. John, N.B., and Annapolis, N.S., under the charge of Capt. C. W. Collins, Granville Ferry, N.S.

Province of Quebec Marine

E. Laplante, an old pilot on the St. Lawrence route, died suddenly at Quebec, Aug. 31.

J. Chalifour, Gaspe, Que., first officer of the Government cruiser Princess, has

DOMINION GOVERNMENT ICEBREAKING STEAMSHIP EARL GREY.
Photographed on trial trip, when making 18 knots an hour.

DOMINION BUREAU

ROBERT W. HUNT & CO.
ENGINEERS

BUREAU OF INSPECTION
TESTS AND CONSULTATION

Chemical and Cement Laboratories, Montreal

NORFOLK HOUSE, CANNON ST., LONDON

CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

E. L. DREWRY
REDWOOD BREWERY
WINNIPEG, MANITOBA

MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE,
EXTRA STOUT AND
REDWOOD LAGER

Also the GOLDEN KEY BRAND
AERATED WATERS

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited
MONTREAL, CANADA

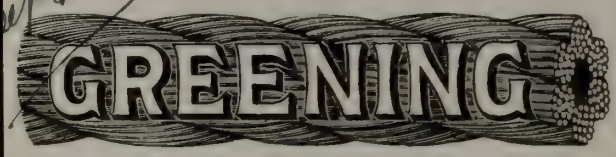
BARE AND INSULATED ELECTRIC WIRE
Electric Light Line Wire, Incandescent and Flexible Cords,
RAILWAY FEEDER AND TROLLEY WIRE
Americanite, Magnet, Office and Annunciator Wires,
Cables for Aerial and Underground Use.

Otto Brothers
FIELD, B.C. LAGGAN, ALTA.

GUIDES and OUTFITTERS
for the greatest scenic spot of the world,
The Canadian Rockies

Mountain climbing, exploring, hunting and fishing parties arranged on short notice. Reliable men and horses. References.

WIRE ROPE



All Kinds and Sizes and for All Purposes.
Standard and Lang's Patent Lay.
PRICES RIGHT.
PROMPT SHIPMENTS.

Rope Fittings—Rope Grease.

THE B. GREENING WIRE CO., Limited
HAMILTON, ONT. MONTREAL, QUE.

CARS
NEW and REBUILT
Box, Flat, Gondola and Tank

Steam Shovels, Rails, Locomotives and Contractors' Equipment
Immediate and Prompt Deliveries
Correspondence Solicited

ROBT. M. BURNS & CO.
Railway Exchange
CHICAGO

JAMES T. GARDNER
RAILWAY EQUIPMENT
615 Railway Exchange
CHICAGO, ILL.

Has on hand at all times

First-Class Freight and Passenger Locomotives
Also
Contractors' Locomotives
Cars, Rails, Etc.

Specifications with Prices on Application

SHERIFFS
MANUFACTURING CO.

MILWAUKEE, WIS., U.S.A.
ESTABLISHED 1854

NOTICE

The Consolidated Car-Heating Company is the owner of Canadian patent No. 113,350 to James E. McElroy, for Regulating Devices for Steam Heating Systems. This patent covers the system of vapor heat for railway trains. Arrangements have been made for manufacturing this device at Coaticook, Canada, and it is prepared to fill Canadian orders from such manufacture.

(Signed),
CONSOLIDATED CAR-HEATING COMPANY.

been appointed to the Fisheries Protection Service.

G. W. Stephens, Chairman Montreal Harbor Commission, visited New York in the middle of Sept. to study the conditions of the grain traffic.

The Parks and Ferries Committee of the Montreal city council, recently promised that an investigation would be made regarding the management of the ferry service between Montreal and St. Helen's Island. Complaints have been made that the service has been made an hourly one, instead of half-hourly, as called for by the contract.

The Montreal Harbor revenue for Aug. was $48,769 as compared with $43,482 for Aug., 1908. The aggregate receipts for the period of navigation to Aug. 31, were $190,897, an increase of $6,054 over those for the same period, 1908. Imports and exports at the port show a decrease, but local traffic, especially that from the lakes, shows a considerable increase over the returns for the previous year.

Ontario and the Great Lakes.

The Dominion Bessemer Mines Co. is constructing docks in connection with its iron mining properties, about 22 miles from Port Arthur, on Thunder Bay.

The port of Key Harbor, Ont., has been established as an outport of Customs and warehousing port under the survey of the port of Parry Sound.

R. Beaumont has been appointed, temporarily, General Agent Northern Navigation Co. at Port Arthur and Fort William, vice John Bell, resigned.

A press report from Halifax, N.S., states that the Government cruiser Canada, which has been in the coast service for some time, is to be transferred to the Great Lakes.

The Keystone Fish Co.'s steam tug Ogle, of Erie, Pa., was caught in Canadian waters recently, and it is reported that she will be offered for sale to the highest bidder, at Port Dover.

The Canadian Locomotive Co., is making considerable extensions to its docks at Kingston, and at the same time reclaiming some of the land from the water, thus extending its premises.

The steam tug, Charles F., registered at Port Stanley, Ont., was offered for sale at Detroit recently on instructions from the Ontario Government. She was seized some time ago for fishing without a license.

A. McVittie, President Toledo Shipbuilding Co., who died at Detroit, Mich., Sept. 15, aged 67, was born in Scotland, and came to Montreal at an early age, and later lived at Bothwell, Ont., before going to the U.S.

Montreal rumors credit the Richelieu and Ontario Navigation Co., with the intention of increasing its capital in the near future, and pursuing a more progressive policy. Among other things said to be included in the proposed policy, are, the construction of several large and modern steamers, and the reconstruction or refitting of the day-boats running between Montreal and Quebec.

The name of the steamboat Dortha, no. 100397, registered at Brockville, has been changed by order in council to Ramona, and the name of the steamboat Florence Main, registered at Toronto, no. 111920, has been changed to Mohawk Belle.

A Collingwood press dispatch recently stated that there is every possibility of the C.P.R. steamboats, Alberta and Athabasca, being lengthened there during the approaching winter. We have been officially advised that there is no truth in the report.

The Thousand Islands Steamboat Co.'s steamboat, Islander, was destroyed by fire at Alexandria Bay, N.Y., Sept. 15. She was built at Rochester in 1871, her dimensions being: length, 425 ft.; breadth, 20 ft.; tonnage, 118 gross, 59 net. The loss has been estimated at $25,000. The boat was not on the Canadian register.

A Port Arthur press dispatch states that preliminary steps are being taken for the formation of a company for the operation of a line of lake vessels in the package freight trade. It is said that the company will be closely allied with the Western Drydock and Shipbuilding Co.

The International Waterways Commission met at Toronto, Sept. 3, when after a brief discussion relating to proposed improvements on Lakes Erie and Huron and connecting rivers, and the conduct of ordinary routine business, the meeting was adjourned until Oct. 15, at Buffalo, N.Y.

The U. S. steamboat, Arthur H. Hawgood, ran into the stone pier at the upper entrance of the Canadian canal at Sault Ste. Marie, Sept. 5, and sank with a large hole in her port side, just aft of the bow. It is said that the accident was due to mistaken signals. The position in which the vessel lies does not seriously impede navigation.

A Vancouver press dispatch dated Sept. 15, states that the Mayor has received a letter from a Calgary official, to the effect that on account of the lack of terminal facilities at Vancouver, the operation of the grain route by way of the Pacific coast has been abandoned for this season, and that grain will be shipped via Fort William.

The Farrar Transportation Co., has entered a protest against the decision of the underwriters who have awarded the contract for the raising of the steamboat Collingwood, which was sunk in the Detroit River, Aug. 24, to a U.S. company, after it was practically understood that it was to go to a Canadian concern, whose tender of $13,800 was the lowest one received.

The Department of Public Works will, it is announced, lease the graving dock at Kingston, for 21 years. For some time past, complaints have been received that the dock is not provided with necessary facilities for repairing vessels, thus causing considerable delay. It is rumored that interests closely connected with the Canadian Locomotive Co., will acquire the lease.

The Superintendent of the Canadian Canal at Sault Ste. Marie, notified the Lake Carriers' Association, Sept. 8, that the draught of the canal had been reduced to 19 ft. 3 ins., for both up and down vessels. It is surmised that the canal officials have the idea that the greater depth on the Canadian side causes overloading of vessels and possible trouble in getting them through.

The Richelieu and Ontario Navigation Co.'s steamboat, Prescott, was destroyed by fire recently. This vessel, formerly named Bohemian, was built at Montreal in 1873, and rebuilt at Sorel, Que., in 1900. Her dimensions were: length 195.1 ft.; breadth, 27.8 ft; depth, 9 ft.; tonnage, 1,107 gross, 648 register, with engine of 53 n.h.p., driving paddle wheels. She was valued at £8,250, and was insured in London, Eng., against fire risk alone.

The U. S. Lake Survey reports the levels of the great lakes for Aug., in feet above tide water, as follows:—Superior, 602.42; Michigan and Huron, 581.04; Erie, 572.79; Ontario, 246.82. During Sept., it was anticipated that Superior would be 1¼" higher, Michigan and Huron, 2" lower; Erie 3¼" lower, and Ontario 5" lower. Compared with the Aug. average for the past 10 years, Superior was 7½" lower, Michigan and Huron 1¾" lower, Erie 1½" higher, and Ontario 4½" higher.

The Fort William Coal Dock Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of $50,000 and office at Fort William, to purchase, lease, construct and operate coal and ore docks, derricks, hoists, lighters, vessels, barges and dredges, tracks and tramways, and all plant and machinery for loading and unloading coal, ore and fuel, and for other purposes. The provisional directors are, H. J. Cuaig, F. W. Grant, B. Chew, F. P. Nesbitt and J. S. Montgomery, Midland, Ont.

Regarding a report from Collingwood to the effect that the Northern Navigation Co. proposes to undertake some extensive alterations and repairs to the Huronic during the winter, we are advised, that the management has been considering the advisability of remodelling the Huronic, so as to make her equal to the Hamonic, but that it has been practically decided that nothing in this direction will be undertaken next winter, beyond the preparation of plans and estimates for the directors' consideration.

The steamboat Kathleen, owned by Elliot and Moynes, Lindsay, was struck by lightning and burnt to the water's edge, at Sturgeon Point, Sept. 2. She was rebuilt at Lindsay in 1905, her dimensions being: length, 66 ft.; breadth, 14 ft.; depth, 4 ft.; tonnage, 37 gross, 26 register. She was equipped with an engine of 6 n.h.p. driving a screw. This vessel was formerly known as the Greyhound, and before its reconstruction, plied between Fenelon Falls and Bobcaygeon, and subsequently was utilized as a tugboat.

The Great Lakes and St. Lawrence Navigation Improvement Association was organized at Toronto Sept. 9, for the purpose urging on the Government the advisability of improving the navigation route from the Great Lakes to Montreal. It was decided to send a delegation to the Dominion Government in connection with the proposed deepening of the Welland Canal, and in the meantime, all municipalities along the route are being circularized with information as to the necessity for such improvements. H. W. Richardson, Kingston, was elected President, and the following were elected Vice Presidents:—A. A. MacKay, H. Champ, Hamilton; T. Conlan, Thorold; T. L. Church, A. E. Kemp, J. B. Miller, Toronto; T. King, Kingston; J. S. Campbell, St. Catharines; Col. Ponton, Belleville; L. L. Henderson, Montreal, and L. H. Daniels, Prescott.

A press report states that H. L. Timms, of Chicago, Ill., has been appointed Superintendent of the Western Drydock and Shipbuilding Co., Port Arthur. By an agreement with the city, the company agrees to build, equip and operate in the city, first a drydock capable of receiving and handling the largest vessels plying on the great lakes, and second, a shipbuilding plant adequate for the construction and equipment of such vessels. The work is to be commenced within two months of the ratification by the ratepayers, or of the date of the passing by the Ontario Legislature of an act empowering the municipality to enter into the agreement, should the authority of such an act be found necessary. Both the drydock and shipbuilding plant are to be ready for operation by Sept. 1, 1911, and at least 300 hands are to be kept in steady employment in the works. The city has provided a site of 100 acres, free of cost, with water frontage on Thunder Bay. The company's property is exempt from taxation, except for school purposes, fixed at $2,000 a year, for 20 years. For the first ten years the company receives an annual cash subsidy of $25,000, but if fewer

HEADLIGHTS-WE MAKE THEM

For OIL, for Pyle ELECTRIC equipment or SPECIAL to Blue Print, and carry a large stock of standard headlight reflectors, burners, burner parts, felt wicks and chimneys.

The HIRAM L. PIPER CO., Limited

17 to 23 Normand Street, Montreal.

Get our No. 30 Catalogue. (Between St. Peter and McGill Sts.)

MALLEABLE IRON CASTINGS

of Superior Quality

GALT MALLEABLE IRON CO., LIMITED, - GALT, ONT.

NICKEL

THE CANADIAN COPPER COMPANY

NICKEL FOR NICKEL STEEL

THE ORFORD COPPER COMPANY

WRITE US FOR PARTICULARS AND PRICES

General Offices: 43 Exchange Place, NEW YORK

Delaware & Hudson

"The Leading Tourists' Line"

Shortest, Quickest and Best Line between

MONTREAL AND NEW YORK

Through Pullmans

Trains leave Montreal 7.00 p.m. daily, 8.01 p.m. daily, 7.16 a.m. daily, and 10.05 a.m. Sunday.

Perfectly equipped trains. Handsome, large steamers on Lake Champlain and Lake George connect with trains for Saratoga Springs, Albany and New York.

A. A. HEARD, G.P.A., Albany, N.Y.

Ticket Agents — Please Note

ILLINOIS CENTRAL RAILROAD — CENTRAL MISSISSIPPI VALLEY ROUTE

Where ILLINOIS CENTRAL RAILROAD COMPANY has through car service both Coach and Sleeper and Free Chair Cars.

Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California.

NEW ORLEANS ROUTE TO THE PACIFIC COAST.

Special low rates to Canadian Northwest and Yukon-Alaska Exhibition at Seattle, all summer, via St. Paul or Omaha.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Pass'g'r Agent.
305 Ellicott Square, Buffalo, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

THE CANADIAN BRONZE COMPANY, LTD.

Brass Wearing Parts for Locomotives.
Journal Bearings for Freight and Passenger Service.
BABBITTS. Miscellaneous Brass Castings for Railroads.

Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

The Parry Sound Lumber Co.
Limited
1315 Traders Bank Bldg., Toronto.
Manufacturers of
PINE, HEMLOCK, LUMBER, BRIDGE TIMBER, RAILWAY TIES, TELEGRAPH POLES, LATH, SHINGLES, BOX SHOOKS.

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS MACHINERY, address

THE ROBERTSON MACHINERY CO.
WELLAND, ONT. Limited

DUNER CAR CLOSET
ENAMELED IRON WET OR DRY CLOSET
DUNER CO. 116 SO. CLINTON ST., CHICAGO

Schools of the Sisters of the Church

(ANGLICAN)

36 Walmer Road, Toronto
330 Kent St., Ottawa

VISITORS: The Lord Bishop of Toronto and the Lord Bishop of Ottawa.

Boarding and Day School for Girls. Kindergarten, Primary, Secondary and Collegiate Departments. Preparation for Matriculation. Next School year will begin Thursday Sept. 9th. Apply to

Sister in Charge.

THE IMPERIAL GUARANTEE AND ACCIDENT INSURANCE CO.

46 King St. West, TORONTO

Capital Subscribed $1,000,000

ACCIDENT AND SICKNESS Insurance protects your income in case of disablement.

GUARANTEE BONDS protect you against loss from dishonest employees.

Write us if you need a Bond or want an Accident Policy.

RAILWAY AND STEAMSHIP PRINTING

STEEL, PEECH & TOZER

Limited,
SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada

Sole Agents:

James Hutton & Co., Montreal

FOR TICKET CASES AND COMMERCIAL FURNITURE

of all descriptions to stock or special design, apply to

The Canadian Office & School Furniture Co. Limited
Preston Ontario

than 300 hands are kept employed in any one year, the amount of subsidy is to be decreased in proportion, but the company may, in subsequent years, by employing more than that number, earn the portion of subsidy withheld. The city, also undertakes to construct, or to procure the construction, by the Government, of adequate breakwater protection.

Manitoba, Saskatchewan and Alberta

J. G. Hargrave and Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of $150,000 and office at Winnipeg, to carry on a general grocery, contracting and commission business, and in connection therewith to own and operate vessels of all kinds, and to carry passengers and freight and conduct a general transporation business.

The Moore Lumber Co. is building a steamboat at Icelandic River, which, it is stated, will be the largest steam vessel yet launched on Lake Winnipeg. It is expected to have it completed early in 1910, in time for the opening of the St. Andrews lock, when it will ply in the passenger service between Winnipeg and Lake Winnipeg points.

B.C. and Pacific Coast Marine.

The Victoria city council has given notice of application for a grant or lease of the foreshore on the inner harbor of Victoria harbor, at the termination of Discovery St., and has deposited plans as required by the statute.

The Sechelt Steamship Co. will, it is announced, inaugurate a steamship service between Vancouver and Ladysmith, using for the present two vessels of the company's fleet, and substituting, later, a larger and more modern vessel, negotiation for the purchase of which are reported to be proceeding in England.

Rogers' Bros.' steamboat Westham was launched at New Westminster recently. Her dimensions are: length, 95 ft.; beam, 22 ft.; draught, 7 ft., with a carrying capacity of 150 tons of freight. She has been built specially for the coasting freight trade, and is equipped with the steam engines taken from the steamboat Lapwing.

The Westminster Towing and Fish Co. has added a tug to its fleet. This vessel, which was launched at Lulu Island recently, has been named Wireless. Her dimensions are: length, 90 ft.; breadth, 18' 6"; depth, 9' 4". She is equipped with engine of 100 h.p., and when completed will be used on the Fraser River and the Pacific coast.

The contract for the material for the construction of a 1,000 ton floating pontoon drydock is reported to have been awarded to an English firm, and instructions have been received in Vancouver for the preparation of a site which the dock is to occupy there. The dock's dimensions are given as: length, 510 ft.; width, 70 ft.; over sills, 30 ft., with a lift capacity of 11,000 tons.

The question of the construction of a breakwater at English Bay was before the Point Grey council, Aug. 30, and was adjourned for further information as to what amount would be spent at the beginning, and for each succeeding year until completion. The syndicate, which is prepared to undertake construction, has applied to Government for a lease of the foreshore, and proposes to construct a breakwater at a cost of $1,500,000, work to be started within two years, and completed within seven years.

Mackenzie Bros. are reported to have purchased the s.s. Puri of Bombay, which they intend to place on the run between Vancouver and Seattle. She is a steel vessel, built at Dundee, Scotland, in 1895, her dimensions being: length, 260 ft.; breadth, 34 ft.; depth, 15 ft. 3 in.; tonnage, 1,330 gross, 643 register. She is equipped with triple expansion engines with cylinders 21", 33" and 52" diar., by 30" stroke, driving twin screws. She has a capacity for about 1,500 passengers and 600 tons of freight, with a speed of 17½ knots.

The power lifeboat for the Canadian life saving service, to take the place of the one which was wrecked last year at Bamfield Creek, has been completed and shipped to Bamfield Creek station, Vancouver Island. She is 26 ft. long overall, with beam 8 ft. 1½ ins., and is built of mahogany fastened with gunmetal and copper. She is diagonally planked on two layers with canvas between and is self baling and self righting with the crew lashed to the thwarts. There are eight water tight compartments below the deck, each compartment filled with copper cases, 82 in all. The boat is lug-rigged with foresail, mainsail and jib, with hollow masts, gun metal centre

Lake Grain Shipments, 1908 Crop.

The following statement, prepared by F. E. Gibbs, Grain Inspector, Fort William, Ont., shows the bushels o grain shipped from the different elevators at Fort William and Port Arthur, of the crop of 1908, Sept. 1, 1908, t Aug. 31, 1909, inclusive, with ports of destination. The last two figures in each column, after the period represent lbs.

	Wheat		Oats		Barley		Flax	
	Canadian Vessels	Foreign Vessels	Canadian Vessels	Foreign Vessels	Canadian Vessels	Foreign Vessels	Canadian Vessels	Foreign Vessels
Canadian Ports								
Collingwood	824,624.20		97,453.08					
Depot Harbor	1,497,966.00		315,096.30		36,165.43			
Midland	593,374.10		190,633.32					
Tiffin	7,528,188.40		1,783,512.31		224,381.20			
Meaford	494,630.50		66,046.26		67,838.42			
Owen Sound	896,997.00		1,401,949.06		73,180.37			
Goderich	5,636,005.10		2,079,840.05		30,859.14		274,860.34	
Point Edward	1,431,555.50		228,745.14		222,580.16		74,197.51	
Sault Ste. Marie			1,764.24					
Thorold	353,018.40							
Port Colborne	301,689.50							
Kingston	7,311,187.40		1,035,081.03		104,671.29		146,273.53	
Prescott	6,113.10						103,001.17	
Montreal	6,450,083.10		2,425,845.24		358,645.10		449,309.29	
Totals	33,295,434.30		9,625,969.33		1,418,323.19		1,047,743.16	
Foreign Ports								
Port Huron		1,609,724.20						
Chicago		122,793.50						
Erie		531,287.30						
Cleveland								155,899.05
Buffalo	1,401,052.50	12,429,593.30	328,147.32	2,346,902.08		539,665.34	192,936.09	198,832.15
Canadian Vessels	34,696,487.20	14,693,399.10	9,954,117.31	2,346,902.08	1,418,323.19	539,665.34	1,240,679.25	354,731.20
Foreign Vessels	14,693,390.10		2,346,902.08		539,665.34		354,731.20	
Crop, 1908	49,389,886.30		12,301,020.05		1,957,989.05		1,595,410.45	
" 1907	37,925,996.20		7,297,810.00		1,235,363.47		1,234,165.54	
" 1906	51,719,952.40		10,904,417.22		1,164,654.20		535,111.32	

In addition to the grain mentioned above, the following shipments of rye were made in Canadian vessels to Owen Sound, 2,567-36 bush.; to Point Edward, 430-20 bush.; to Montreal, 17-38 bush.; a total of 3,015-38 bush

The Purchasing Agents' Guide

To the Manufacturers of and Dealers in Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph Telephone and Contractors' Supplies, &c.

Aerated Waters
E L. Drewry ..... Winnipeg.

Air Brakes and Fittings
Allis-Chalmers-Bullock Ltd.....Montreal.
Canadian Westinghouse Co. Hamilton, Ont.

Ales
E. L. Drewry.. .....Winnipeg.

Anchors, Ground
Ground Anchor Co. .....Montreal.

Angle Bars
Hamilton Steel & Iron Co...Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.

Anti Rail Creepers
The Holden Co., Ltd.....Montreal.

Automobiles
Polson Iron Works, Ltd.....Toronto

Axes
Hamilton Steel & Iron Co..Hamilton, Ont.
James Smart Mfg. Co.....Brockville, Ont.

Axles
James Hutton & Co.....Montreal.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.

Beacons
International Marine Signal Co....Ottawa.

Bearings, Side
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co...Montreal.
Union Draft Gear Co. .....Chicago, Ill.

Blankets and Bedding
The Hudson Bay Co.....

Boilers
Babcock & Wilcox, Ltd.....Montreal.
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Boilers, Portable
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co, Ltd..Amherst, N.S.

Boilers, Stationary and Marine
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd..Amherst, N. S.
Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.
Boilers, Steam
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.
Boilers, Water Tube
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.
Bolsters
Dominion Car and Foundry Co..Montreal.
Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.
Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
Toronto Bolt and Forging Co.....Toronto.
Books
Engineering News Book Dept...New York.
Renouf Publishing Co.....Montreal.
Borers, Car Wheel
John Bertram & Sons Co.....Dundas, Ont.
Braces, Cross Arm
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
Brake Beams
Chicago Railway Equipment Co...Chicago.
Dominion Car and Founary Co..Montreal.
Brake Shoes
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.
The Holden Co., Ltd.....Montreal.
Brake Shoes, Electric Ry.
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Brake Shoes, Locomotive Driver
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.
Brass and Copper Cloth
The B. Greening Wire Co..Hamilton, Ont.
Bridge Numbers
Acton Burrows, Limited .....Toronto.
Bridges
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.
Buckets, Coal, Ore and Concrete
M. Beatty & Sons, Ltd. .....Welland, Ont.
Brown Hoisting Machinery Co. Cleveland.
Buildings, Steel
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.
Bumping Posts
The Holden Co., Ltd..... .....Montreal.
McCord & Co. .....Chicago, Ill.
Buoy Lighting
Safety Car Heat. & Light. Co..New York.
Buoys
International Marine Signal Co....Ottawa.
Cables Electric and Feeder
E. F. Phillips Electrical Works....Montreal.
The Wire and Cable Co.....Montreal.
Car Loaders, Box
Mussens, Ltd. .....Montreal.
Car Movers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Cars
American Car & Equipment Co....Chicago.
R. M. Burns & Co.....Chicago, Ill.
Canada Car Co., Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Dominion Car and Foundry Co....Montreal.
J. T. Gardner.....Chicago, Ill.
Hart-Otis Car Co., Ltd.....Montreal.
Hicks Locomotive and Car Works. Chicago.
Ottawa Car Co. Ltd.....Ottawa.
Preston Car and Coach Co., Ltd..Preston.
Rhodes, Curry & Co.....Amherst, N.S.
Silliker Car Co., Ltd.....Halifax, N.S.
Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
Standard Steel Works Co..Philadelphia, Pa.
Castings, Brass
Canadian Bronze Co.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.
Tallman Brass & Metal Co., Ltd.Hamilton.
Castings, Car
American Brake Shoe & Fdry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.
Castings, Iron
Allis-Chalmers-Bullock Ltd.....Montreal.
Canada Car Co., Ltd.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.
Castings, Iron and Steel
American Brake Shoe & F'dry Co.Mahwah.
Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.
Castings, Manganese Steel
Montreal Steel Works, Ltd.....Montreal.
Castings, Steel
Canada Iron Corporation, Ltd....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.
Chains
B. J. Coghlin & Co.....Montreal.
Closets, Car
Duner Co.....Chicago, Ill.
Coal
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
Compressors, Air
Allis-Chalmers-Bullock Ltd.....Montreal.
Canadian Rand Co.....Montreal.
Concrete Mixers and Rock Crushers
F. H. Hopkins & Co. .....Montreal.
Mussens Limited.....Montreal
Toronto Pressed Steel Co..... .Toronto
Contractors' Supplies
F. H. Hopkins & Co.....Montreal
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.
Conveyors, Coal and Ash
Babcock & Wilcox, Ltd.....Montreal.
Copying Presses
James Smart Mfg. Co.....Brockville, Ont.
Couplers, Car and Locomotive
Dominion Car and Foundry Co..Montreal.
McConway & Torley Co....Pittsburgh, Pa.
National Malleable Castings Co..Cleveland
Taylor & Arnold.....Montreal.
Cranes
Brown Hoisting Machinery Co..Cleveland.
Cranes, Electric
Babcock & Wilcox.....Montreal.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.
Cranes, Locomotive
American Hoist and Derrick Co..St. Paul.
Cranes, Wrecking
Mussens Limited.....Montreal.
Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
Curtains and Fixtures, Car
The Holden Co., Ltd.....Montreal.
Cuts
Acton Burrows, Limited.....Toronto.
Derailing Devices
Hayes Track Appliance Co..Geneva, N.Y.
Derricks
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Mussens Limited.....Montreal.
Dies
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Ditchers
M. Beatty & Sons.....Welland, Ont.
Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.
Doors, Steel Rolling
Mussens Limited.....Montreal.
Door Signs
Acton Burrows Limited.....Toronto.
Draft Gear
Farlow Draft Gear Co.....Baltimore, Md.
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.
Union Draft Gear Co. .....Chicago, Ill.
Waugh Draft Gear Co.....Chicago, Ill.
Draughtsmen's Supplies
John A. Hart & Co.....Winnipeg.
Dredges
M. Beatty & Sons.....Welland, Ont.
Drills, Air
Canadian Rand Co.....Montreal.
Dry Goods
The Hudson's Bay Co.....
Dump Cars (Contractors')
F. H. Hopkins & Co.....Montreal.
Toronto Pressed Steel Co.....Toronto.
Dump Cars, Hand
Meaford Wheelbarrow Co., Ltd..Meaford.
Dynamos
Northern Electric & Mfg. Co., Ld.Montreal.
Dynamo and Electric Castings
American Brake Shoe & F'dry Co.Mahwah.
Economizers
Babcock & Wilcox (Ltd.).....Montreal.
Electric Car Route Signs
Acton Burrows Limited.....Toronto.
Electric Apparatus
Allis-Chalmers-Bullock Ltd.....Montreal.
Northern Electric & Mfg. Co., Ld.Montreal.
Electric Light Plant
Allis-Chalmers-Bullock Ltd.....Montreal.
Elevators, Grain
John S. Metcalfe Co.....Chicago, Ill.
Enameled Iron Signs
Acton Burrows Limited.....Toronto.
Engines, Automatic
Robb Engineering Co., Ltd..Amherst, N.S.
Engines, Corliss
Robb Engineering Co., Ltd..Amherst, N.S.
Allis-Chalmers-Bullock Ltd.....Montreal.
Engines, Gas
Allis-Chalmers-Bullock Ltd.....Montreal.
Engines, Gasoline
Canadian Fairbanks Co., Ltd.....Montreal.
Ontario Wind Engine & Pump Co.Toronto.
Engines, Hoisting
Allis-Chalmers-Bullock Ltd.....Montreal.
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Robertson Mfg. Co. .....Welland, Ont.
Engines, Stationary and Marine
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.
Engines, Steam
Allis-Chalmers-Bullock Ltd.....Montreal.
Engines, Steam Steering, for Tugs
Sheriffs Mfg. Co.....Milwaukee, Wis.
Explosives
Standard Explosives Limited....Montreal.
Express Office Signs
Acton Burrows Limited.....Toronto.
Fencing
Owen Sound Wire Fence Co..Owen Sound.
Fire Brick
Mussens Limited.....Montreal.
Flags
The Hudson's Bay Co.....
Flour
The Hudson's Bay Co.....
Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co..Cleveland.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton.
Nova Scotia Steel & Coal Co., Ltd..
.....New Glasgow, N.S.
Standard Steel Works Co.Philadelphia, Pa.
Foundry Appliances
Goldschmidt Thermit Co.....Toronto.
Ontario Wind Engine & Pump Co., Ltd..
Frogs
Canadian Ramapo Iron Wks.Niagara Falls.
Furnaces, Corrugated
Continental Iron Works....Brooklyn, N.Y.
Fuse Batteries
Standard Explosives Limited....Montreal.
Fuse Detonators
Standard Explosives Limited....Montreal.
Fuses, Electric
Standard Explosives Limited....Montreal.
Gaskets
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Gates
Owen Sound Wire Fence Co..Owen Sound.
Gates, Crossing
General Railway Signal Co. Rochester, N.Y.
The N. L. Piper Ry. Supply Co..Toronto.
Gauges, Locomotive
Taylor & Arnold.....Montreal.
Generators, Electric
Northern Electric & Mfg. Co., Ld.Montreal.
Grates, Shaking
Babcock & Wilcox, Ltd.....Montreal.
Groceries
The Hudson's Bay Company.....
Guides and Outfitters
Otto Bros. ..... Field, B.C.
Hammers, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.
James Smart Mfg. Co....Brockville, Ont.
Handcars
Canadian Fairbanks Co., Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....".Montreal.
Mussens Limited.....'.....Montreal.
Rice Lewis & Son.....'.'Toronto.
Toronto Pressed Steel Co.....Toronto.
Hardware
The Hudson's Bay Co.....
Rice Lewis & Son..'.....Toronto.
Headlights
The N. L. Piper Ry. Supply Co..Toronto.
Pyle National Elec. Headlight Co..Chicago.
Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.
Heaters, Feedwater
Robb Engineering Co., Ltd..Amherst, N.S.
Heating, Car
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car Heating & L'ting Co.New York.
Hoists, Electric
American Hoist & Derrick Co....St. Paul.
Hoists (Pneumatic)
Taylor & Arnold.....Montreal.
Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co.Cuyahoga Falls.
Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.
Hydrants
Canadian Fairbanks Co., Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.
Illustrations
Acton Burrows Limited.....Toronto.
Inspections
R. W. Hunt & Co. .....Montreal
Insurance, Accident
Canadian Ry. Accident Ins. Co....Ottawa.
Imperial Guarantee & Ac. Ins. Co.Toronto.
Insurance, Boiler
Canadian Casualty & Boil. Ins. Co.Toronto.
Interlocking Plant and Signals
General Railway Signal Co. Rochester, N.Y.
Montreal Steel Works.....Montreal.
Saxby and Farmer, Ltd.....Montreal.
Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton.
Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton.
Nova Scotia Steel & Coal Co., Ltd..
.....New Glasgow, N.S.
Iron Signs
Acton Burrows Limited.....Toronto.
Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

board, and is also fitted with 10 oars. An auto-marine, six cylinder, four cycle gasolene motor of 35-40 h.p. is installed in the after end compartment, giving a speed of about 10 miles an hour, with 650 revs. Tests as to the stability, self-righting, sailing and speed were undertaken in the United States under the supervision of Lt.-Col. Anderson, Chief Engineer, Department of Marine.

Grain Elevator Notes.

The Pasqua Farmers' Elevator Co., Ltd., Pasqua, Sask., has been dissolved and the name removed from the register.

The name of Caron Farmers' Elevator Co. has been changed to the Caron Farmers' Elevator and Trading Co., with office at Caron, Sask.

The Bulyea Farmers' Elevator Co., Ltd., has been incorporated under the Northwest Territories Ordinance respecting companies, with office at Bulyea, Sask.

John Richardson & Sons' elevator at Wainwright, Alta., was completed towards the end of Sept., in readiness for the new crop. Its capacity is about 35,000 bush.

The Ogilvie Flour Mills Co., has erected 16 additional elevators during this year, bringing the total of country elevators operated by the company, in the prairie provinces, to 116.

The Taylor Milling and Elevator Co., has completed an addition to its elevator at Lethbridge, Alta., and is now building an elevator at Diamond City, of 55,000 bush. capacity. It is also reported to be considering the question of erecting one at Nanton.

Tenders were received during Sept. for the brick work on the power house of the C.P.R. elevator under construction at Victoria Harbor, Ont. The contractor will supply the labor only, all materials being supplied by the company. The elevator is being built by the John S. Metcalf Co.

The Norris Grain and Elevator Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $150,000, and office at Winnipeg, to carry on a general elevator and warehouse business. The provisional directors are J. S. Norris, Montreal; H. N. Baird, R. D. Stratton, Winnipeg; F. Heap, Selkirk, Man.

The North Star Grain Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $500,000 and office at Winnipeg, to deal in grain and to own and operate grain elevators, warehouses and other conveniences. The provisional directors are:—W. A. Anderson, H. R. Soot, J. A. Machray, F. J. Sharp, H. Dunk, Winnipeg.

The Montreal Harbor Commissioners' elevator was closed for all local grain, Sept. 2, and from that date, only grain for export was received there. It is reported that the question of building another elevator at Montreal, under the Commissioners' control, at a cost of $2,000,000, is to be brought under the Dominion Government's consideration.

The Globe Elevator Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $600,000, and office at Calgary, Alta., to acquire and operate country, terminal and all classes of elevators, storehouses, cleaning plants, etc. The provisional directors are R. B. Bedford, J. E. A. MacLeod, J. B. Roberts, J. W. Hugill, Calgary, Alta.

The Burrard Grain Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of $50,000, to carry on, in British Columbia, throughout Canada and elsewhere, the business of manufacturers, millers and warehousemen of flour and other grain products, and in connection therewith to own and operate elevators, wharves, warehouses, etc.

The Lyleton Grain Growers' Elevator Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of $15,000 and office at Lyleton, for the purpose of carrying on a general milling warehouse and elevator business. The provisional directors are:—A. M. Lyle, A. E. Venton, G. Campbell, R. A. Stinson, R. J. Tooke, J. Harkness, W. A. Sawyer and C. A. Chalmers, Lyleton.

At a meeting of the Dominion Millers' Association, at Toronto, Sept. 2, the following resolution was adopted and forwarded to the Dominion Government: "Whereas, the terminal elevators at Fort William and Port Arthur are under the control of persons engaged in the grain trade of Canada, and whereas such control enables them to manipulate the different grades of grain and tends to create dissatisfaction in the minds of shippers, millers and receivers of grain; therefore be it resolved that we respectfully request and urge that immediate action be taken on the recommendation of the Royal Grain Commission appointed by your Government for the investigation and betterment of these conditions, and the joint request of northwest farmers and the Dominion Millers' Association for effective control of these elevators."

Telegraph and Cable Matters.

The stringing of the Government lines from Athabasca Landing to Lesser Slave Lake, Alta., is proceeding rapidly. The right of way has been cleared and the poles erected, and it is expected that the work will be completed this fall.

G. E. Eccles, the wireless telegraph operator on board the s.s. Ohio, who died at his post, while signalling for assistance when the vessel was wrecked on the Pacific Coast recently, was buried at Almonte, Ont., Sept. 7.

The Newfoundland Legislature last session voted the following sums for telegraph service:—Marconi royalties, $2,500; for construction, $10,000; for St. Johns staff, $15,162; for operators outside St. Johns, $35,738; for contingencies, $15,000; and for shares of tolls Commercial Cable Co., $6,000.

The Grand Trunk Pacific telegraph line has been completed to Edmonton, Alta., and the construction is being continued westerly concurrently with the laying of steel for the railway. A telegraph office has been opened at Edmonton, and a special commercial wire is being used for business purposes, between Winnipeg and Edmonton.

So successful have been the experiments with the new Telefunken system of wireless transmission at the new 20-kilowatt station of the Austrian government at Pola on the Adriatic, that signals strong enough to be automatically printed on tape by the coherers were received at Norddeich on the North Sea, Copenhagen, and Berlin.

W. Marconi, is at present at Glace Bay, N.S., for the purpose of superintending the reconstruction of the wireless telegraph power station which was recently destroyed by fire. He is reported to have said that the new station would be equipped with the most powerful appliances for the despatch of messages across the ocean, and he hoped that the work would be completed by Jan. 1, 1910.

The U. S. press is complaining of the scarcity of telegraph operators, and states that in a very short time this will prove a very serious problem for the railways in Canada and the U. S. The telegraph branch of transportation has grown more than any other, and remarking on the installation of the telephone, to take the place of the telegraph for train dispatching, says: "The telephone on the railway is a very convenient means of verbal intercourse between officials, but for practicable and expeditious handling of a large volume of business, of which records must be kept, and in which errors must not occur, the telephone thus far has been a failure."

"How Telegraphs and Telephones Work," is the title of a volume just issued by Seeley & Co., 38 Great Russell St., London, E.C. The book is written by C. H. Gibson, author of several works dealing in a non-technical and popular way with electricity and its application to modern uses. He has succeeded in telling in simple language all about telegraphs and telephones in a way that will interest and instruct the general reader, as well as the operator who desires to know something about these inventions. There are added chapters on Wireless Telephony, one Concerning Lightning, and a short discussion of the Electron Theory. The volume is illustrated by five full page illustrations and

Among the Express Companies.

A. H. Irwin has been appointed agent Dominion Ex. Co., Lethbridge, Alta.

The Canadian Northern Ex. Co., has opened offices at Bonito and Durban, Man.

L. McBean has been appointed Agent Canadian Ex. Co., Port Huron, Mich., vice W. H. Timmonds transferred.

The Canadian Ex. Co., has opened offices at Avondale, N.S., Becancourt, Becquets, Fortierville, Gentilly, La Baie, St. Gregoire, Valois, Que., and Findley, Ont.

Express companies operating in the U. S., put into effect, Sept. 5, an order requiring that all cinematograph films be packed in heavy metal cases enclosed in wooden boxes bearing a warning against the storing of the package near a radiator, stove or other source of heat.

The Canadian Northern Ex. Co., which has extended its service over the Canadian Northern Quebec Ry., between Garneau Jct., and Quebec, as advised in our last issue, has opened offices at Cap Rouge, Dombourg, Portneuf, St. Augustine, St. Casimir, Prospere and St. Stanislas.

S. Coates, who was recently convicted of forging money orders of the Dominion Ex. Co., while in its employ, was sentenced to 3 years in the penitentiary, at Montreal, Sept. 3. He had previously been sentenced to a 5 year term, in Aug., on other similar charges. Presumably the sentences will run concurrently.

The Canadian Northern Ex. Co. has reopened its offices at Belleview, Grays, Hilton, Kelwood, Myrtle, Rounthwaite, Man., and Kenaston, Sask., has opened offices at Zephyr, Ont., and Bruno, Sask., and has closed its offices at Footes Bay, Royal Muskoka, Sparrow Lake, Ont., and Harris, Sask. The name of Monck Road, Ont., has been changed to Rathburn.

Hendrie and Co's stables at Front and Peter streets, Toronto, were partially destroyed by fire, Sept. 15. The cause is said to be lightning. The damage has been etimated at $10,000.

"Yes," said Clarence. "I proposed to her on hipboard while the steamer was going twenty knots an hour."

"What was her answer?"

"Well, it was brief, but it was—er—at the rate of about sixty 'nots' a minute."

They were on the St. Joe boat.

"Percy," asked Claribel, snuggling closer, "what's making that rasping, cracking noise?"

"It's the wireless telegraphic apparatus, dear," said Percy. "It's sparking, too."

Jacks
Canadian Fairbanks Co., Ltd.....Montreal.
H and E Lifting Jack Co..Waterville, Que.
F. H. Hopkins & Co, Ltd.....Montreal.
Montreal Steel Works, Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.
A. R. Williams Mchy. Co., Ltd....Toronto.

Japans
The Dougal Varnish Co. Ltd....Montreal.

Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.

Journal Boxes
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Journal Jacks
A. R. Williams Mchy. Co., Ltd....Toronto.

Lager Beer, &c.
E. L. Drewry.....Winnipeg.

Lagging and Covering, Locomotive
Taylor & Arnold.....Montreal.

Lamps, Arc
Northern Electric & Mfg. Co, Ltd.Montreal.

Lamps, Incandescent
Canadian Westinghouse Co..Hamilton, Ont.

Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.

Lamps, Switch
The N. L. Piper Ry. Supply Co..Toronto.

Lathes
John Bertram & Sons Co.....Dundas, Ont.

Laths
J. Harrison & Sons Co..Owen Sound, Ont.

Launches
Polson Iron Works, Ltd.....Toronto.

Lighting, Car
Canadian Gold Car H'g & L'g Co.Montreal
Safety Car H't'g & L't'g Co..New York.

Lights, Contractors' and Wrecking
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Locomotives (Compressed Air)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co...Kingston, Ont.
Montreal Locomotive W'ks (Ltd.)..Montreal.

Locomotives (Electric)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Locomotive W'ks (Ltd.).Montreal.

Locomotives (Logging)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.

Locomotives (Rack)
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co....Kingston, Ont.
Montreal Locomotive Works.....Montreal.

Locomotives (Steam)
American Car & Equip. Co....Chicago, Ill.
Burnham, Williams & Co. Philadelphia, Pa.
R. M. Burns & Co.....Chicago, Ill.
Canadian Fairbanks Co., Ltd....Montreal.
Canadian Locomotive Co....Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hicks Locomotive & Car Works..Chicago.
Montreal Locomotive W'ks. .....Montreal.
Vulcan Iron Works.....Wilkesbarre, Pa.

Lorries, Tracklaying
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.

Lubricators
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.

Lumber
Parry Sound Lumber Co.....Toronto.
J. Harrison & Sons Co., Owen Sound, Ont.

Machinery, Cement
Jas. W. Pyke & Co.....Montreal.

Machinery and Plant, Contractors'
American Hoist & Derrick Co....St. Paul.
M. Beatty & Sons.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
Canadian Fairbanks Co., Ltd.....Montreal.
J. T. Gardner.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Toronto Pressed Steel Co.....Toronto.

Machinery, Hoisting
American Hoist & Derrick Co....St. Paul.
Brown Hoisting Machinery Co..Cleveland.

Machinery, Marine
Sheriffs Mfg. Co.....Milwaukee, Wis.

Machinery, Tracklaying
F. H. Hopkins & Co.....Montreal.

Machinery, Wood and Iron Working
Canadian Fairbanks Co., Ltd.....Montreal.

Machines, Boring and Turning
John Bertram & Sons Co.....Dundas, Ont.

Machines, Drilling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Milling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Planing and Shaping
John Bertram & Sons Co.....Dundas, Ont.

Machines, Radial Drilling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Shaping
John Bertram & Sons Co.....Dundas, Ont.

Machines, Slotting
John Bertram & Sons Co.....Dundas, Ont.

Machine Tools
John Bertram & Sons Co.....Dundas, Ont.

Manhole Frames and Covers
American Brake Shoe & F'dry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.

Marine Repairs
Goldschmidt Thermit Co.....Toronto.

Marine Supplies
Rice Lewis & Son.....Toronto.

Metal, Anti-friction
W. Abbott.....Montreal.

Metal, Babbit
Tallman Brass & Metal Mfg. Co. Hamilton.

Metals
Goldschmidt Thermit Co.....Toronto.

Metal Work, Structural
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Montreal Locomotive W'ks (Ltd.).Montreal.
Jas. W. Pyke & Co.....Montreal.

Milepost Numbers
Acton Burrows Limited.....Toronto.

Motors
Canadian Fairbanks Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Motors, Electric
Allis-Chalmers-Bullock Ltd.....Montreal.
Northern Electric & Mfg. Co. Ld.Montreal.

Motor Generator Sets
Allis-Chalmers-Bullock Ltd.....Montreal.

Motors, Turntable
Taylor & Arnold.....Montreal.

Nickel
The Orford Copper Co.....New York.

Nickel for Nickel Steel
The Orford Copper Co.....New York.

Numbers
Acton Burrows Limited.....Toronto.

Nut Locks
Positive Lock Washer Co....Newark, N.J.

Nuts, Clevis
Cleveland City Forge & Iron Co..Cleveland.

Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Oakum
The Hudson's Bay Company.....

Office Fittings
Can. Office & Sch'l Furniture Co..Preston.

Office Signs
Acton Burrows Limited.....Toronto.

Oils
Galena Signal Oil Co..Franklin & Toronto.

Packing
The N. L. Piper Ry. Supply Co..Toronto.

Paints
Standard Paint & Varnish Co., Ltd. ....
..... Windsor, Ont.

Patterns
Hamilton Pattern Works....Hamilton, Ont.

Pile Drivers, Railway
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Pinch Bars
The N. L. Piper Ry. Supply Co..Toronto.

Pipe, Culvert (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Gas (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Sewer (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe Stocks
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Pipe, Water (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Planers
John Bertram & Sons Co.....Dundas, Ont.

Platforms, Steel
Standard Coupler Co.....New York City.

Ploughs, Contractors'
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Ploughs, Grading
Meaford Wheelbarrow Co., Ltd...Meaford.

Poles
J. Harrison & Sons Co., Owen Sound, Ont.

Porter
E. L. Drewry.....Winnipeg.

Posts
J. Harrison & Sons Co., Owen Sound, Ont.

Powder, Blasting
Standard Explosives Limited.....Montreal.

Printing
Southam Press.....Toronto.

Propeller Wheels
Sheriffs Mfg. Co.....Milwaukee, Wis.

Pumps
Canadian Fairbanks Co., Ltd.....Montreal.
S. F. Bowser & Co., Limited.....Toronto.
Ontario Wind Engine & Pump Co..Toronto.
James Smart Mfg. Co.....Brockville, Ont.

Pumps (Centrifu
M. Beatty & S .....Welland, Ont.

Rail Benders, Rol
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

BABCOCK & WILCOX
LIMITED

Patent Water-Tube Boilers
(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes = MONTREAL

BRANCH—TRADERS BANK BUILDING, TORONTO

The Purchasing Agents' Guide—Continued.

Rail Drilling Machines
A. B. Jardine & Co.....Hespeler, Ont.

Rails (new)
Dominion Iron & Steel Co....Sydney, N.S.
Drummond, McCall & Co. .....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co.....Montreal.

Rails (for relaying)
F. H. Hopkins & Co.....Montreal.
J. J. Gartshore.....Toronto.
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.

Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada....Montreal.
Williams Boltless Rail J'nt Mg. Co.Chicago.

Railway Supplies
Canadian Fairbanks Co., Ltd.....Montreal.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Rice Lewis & Son.....Toronto.

Ranges
Stearnes Steel Range Co.....Chicago, Ill.

Reamers
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Replacers, Car and Locomotive
Alexander Car Replacer Mfg. Co..Scranton.
The Holden Co., Ltd .....Montreal.
F. H. Hopkins & Co.....Montreal.

Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Rock Crushers
Allis-Chalmers-Bullock Ltd.....Montreal.

Roofing, Car
Drake & Wiers Co.....Cleveland, O.

Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Company.....

Ropes, Coal Haulage
The B. Greening Wire Co..Hamilton, Ont.

Ropes, Derrick
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.

Ropes, Switch
The B. Greening Wire Co..Hamilton, Ont.
F. H. Hopkins & Co.....Montreal.

Scales
Canadian Fairbanks Co., Ltd.....Montreal.

Scows, Dump and Deck
M. Beatty & Sons.....Welland, Ont.

Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Screw Plates
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Screws, Coach and Lag
Montreal Rolling Mills Co.....Montreal
Toronto Bolt and Forging Co.....Toronto.

Seats, Station
James Smart Mfg. Co.....Brockville, Ont.

Semaphore Arms
Acton Burrows Limited.....Toronto.

Semaphores
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer Ltd.....Montreal.

Shafting, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Shingles
J. Harrison & Sons Co..Owen Sound, Ont.

Ships
Polson Iron Works.....Toronto.

Shops
The Hudson's Bay Co.....

Signal House Numbers
Acton Burrows Limited.....Toronto.

Signals
General Railway Signal Co. Rochester, N.Y.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer, Limited.....Montreal.

Signals, Fog
International Marine Signal Co....Ottawa.

Signs
Acton Burrows Limited.....Toronto.

Skylights
A. Edgcumbe Rendle.....Montreal.

Slack Adjusters
Chicago Railway Equipment Co..Chicago.

Sledges
James Smart Mfg. Co.....Brockville, Ont.

Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.
Rhodes, Curry & Co.....Amherst, N.S.

Solder
Tallman Brass & Metal Mfg. Co. Hamilton.

Spikes, Railway, Ship or Pressed
Hamilton Steel & Iron Co., Ltd.Hamilton.
F. H. Hopkins & Co.....Montreal.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
Toronto Bolt and Forging Co.....Toronto.

Spreader Cars
F. H. Hopkins & Co.....Montreal.

Spring Dampeners
McCord & Co.....Chicago, Ill.

Springs
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Station Name Signs
Acton Burrows Limited.....Toronto.

Staybolt Bars, Charcoal Iron
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolt Iron
Taylor & Arnold.....Montreal.

Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.

Staybolts, Flexible
Flannery Bolt Co.....Pittsburg, Pa.

Staybolts, Locomotive
Falls Hollow Staybolt Co..Cuyahoga Falls.
Flannery Bolt Co.....Pittsburg, Pa.

Staybolt Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Steam Couplers
Safety Car H't'g & L't'g Co....New York.

Steam Hammers
John Bertram & Sons Co.....Dundas, Ont.

Steam Shovels
M. Beatty & Son.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Steamships
Polson Iron Works.....Toronto.

Steamship Signs
Acton Burrows Limited.....Toronto.

Steel
W. Abbott.....Montreal.
Hermann Boker & Sons.....Sheffield, Eng.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
Wm. Jessop & Sons.....Sheffield, Eng.

Steel, Fire Box
Taylor & Arnold.....Montreal.

Steel for Axes
Montreal Steel Works.....Montreal.

Steel for Saws
Montreal Steel Works.....Montreal.

Steel for Springs
James Hutton & Co.....Montreal.

Steel Shafting
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.

Steel, Speedicut High Speed
Montreal Steel Works.....Montreal.

Steel, Nickel, for Nickel
The Orford Copper Co.....New York.

Steel Plates
Jas. W. Pyke & Co.....Montreal.

Steel, Tool
W. Jessop & Sons.....Sheffield, Eng.
Montreal Steel Works.....Montreal.

Stokers, Mechanical
Babcock & Wilcox (Ltd.).....Montreal.

Stoves
James Smart Mfg. Co.....Brockville, Ont.

Superheaters
Babcock & Wilcox (Ltd.).....Montreal.

Switches
Canadian Ramapo Iron W's Ld.Niagara Fs.
Hayes Track Appliance Co....Geneva, N.Y.
Montreal Steel Works.....Montreal.

Switch Boxes
General Railway Signal Co. Rochester, N.Y.

Switch Stands
Canadian Ramapo Iron W's, Ld.Niagara Fs
Hayes Track Appliance Co....Geneva, N.Y.

Switch Targets
Acton Burrows Limited.....Toronto.

Tanks and Tank Fixtures
Ontario Wind Engine & Pump Co..Toronto.

Tanks, Oil
S. F. Bowser & Co., Limited.....Toronto.

Tapes, Measuring
Lufkin Rule Co.....Saginaw, Mich.

Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Telegraph and Telephone Apparatus
Northern Elec. & Mfg. Co., Ltd.Montreal.

Telegraph and Telephone Office Signs
Acton Burrows Limited.....Toronto.

Thermit
Goldschmidt Thermit Co.....Toronto

Ticket Cases
Can. Office & School Furniture Co.Preston.

Tie Plates
B. J. Coghlin & Co.....Montreal.
Hamilton Steel & Iron Co..Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
J. Harrison & Sons Co..Owen Sound, Ont.

Tie Plugs
J. Harrison & Sons Co..Owen Sound, Ont.

Ties
J. Harrison & Sons Co..Owen Sound, Ont.
Parry Sound Lumber Co.....Toronto.

Tires, Steel
James Hutton & Co.....Montreal
Jas. W. Pyke & Co.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.

Tools and Supplies
Canadian Fairbanks Co., Ltd.....Montreal.
James Smart Mfg. Co.....Brockville, Ont.
A. B. Jardine & Co.....Hespeler, Ont.

Tools, Track
John Bertram & Sons Co.....Dundas, Ont.
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Mussens Limited.....Montreal.

Tools, Pneumatic
The Holden Co., Ltd.....Montreal.

Tools, Cast Steel Track
American Brake Shoe & F'dry Co.Mahwah.

Track Equipment
Canadian Ramapo Iron W's Ld.Niagara Fs.

Tramway Equipment
J. J. Gartshore.....Toronto.

Transformers
Allis-Chalmers-Bullock Ltd.....Montreal.

Transmission Appliances
Canadian Fairbanks Co., Ltd.....Montreal.

Trolley Wheels
Tallman Brass & Metal Co., Ltd.Hamilton.

Trucks
James Smart Mfg. Co.....Brockville, Ont.

Trucks (Electric Car)
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Steel Works.....Montreal.

Trucks (Railroad and Warehouse)
Toronto Pressed Steel Co.....Toronto.

Trusses, Roof
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Tubes, Boiler
Jas. W. Pyke & Co.....Montreal.

Turbines, Steam
Allis-Chalmers-Bullock Ltd.....Montreal.

Turnbuckles
Cleveland City Forge & Iron Co.Cleveland.
Montreal Steel Works.....Montreal.

Turntables
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.

Typewriters
United Typewriter Co.....Toronto.

Valves, Brass Gate
Kerr Engine Co.....Walkerville, Ont.

Valves, Brass Globe
Kerr Engine Co.....Walkerville, Ont.

Valves, Iron and Brass
Canadian Fairbanks Co., Ltd.....Montreal.

Valves, Iron Gate
Kerr Engine Co.....Walkerville, Ont

Valves, Locomotive Pop
Taylor & Arnold.....Montreal

Varnishes
The Dougal Varnish Co., Ltd....Montreal.
Standard Paint & Varnish Co., Ltd. ....
..... Windsor, Ont.

Vessels
Polson Iron Works.....Toronto.

Washers
Montreal Rolling Mills Co.....Montreal.

Waste
B. J. Coghlin & Co.....Montreal.
N.L. Piper Railway Supply Co....Toronto.

Water Softeners
Babcock & Wilcox, Ltd.....Montreal.
L. M. Booth Co.....Chicago, Ill.

Welding
Goldschmidt Thermit Co.....Toronto.

Wheelbarrows
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Toronto Pressed Steel Co.....Toronto.

Wheels, Car
Canada Car Co., Limited.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry & Co.....Amherst, N.S.
Standard Steel Works Co..Philadelphia, Pa.

Wheels, Locomotive
Canada Iron Corporation, Ltd....Montreal.

Wheels, Rolled, solid forged
Standard Steel Works Co..Philadelphia, Pa.

Wheels, Steel tired
Standard Steel Works Co..Philadelphia, Pa.

Windmills
Ontario Wind Engine & Pump Co..Toronto.

Windows, Fireproof
A. Edgcumbe Rendle.....Montreal.

Wire and Wire Rope
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.
Mussens Limited.....Montreal.
The Wire and Cable Co.....Montreal.

Wire Cloth
The B. Greening Wire Co..Hamilton, Ont.

Wire, Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Electric
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Insulated Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire Rope Clips
American Hoist & Derrick Co.....St. Paul.

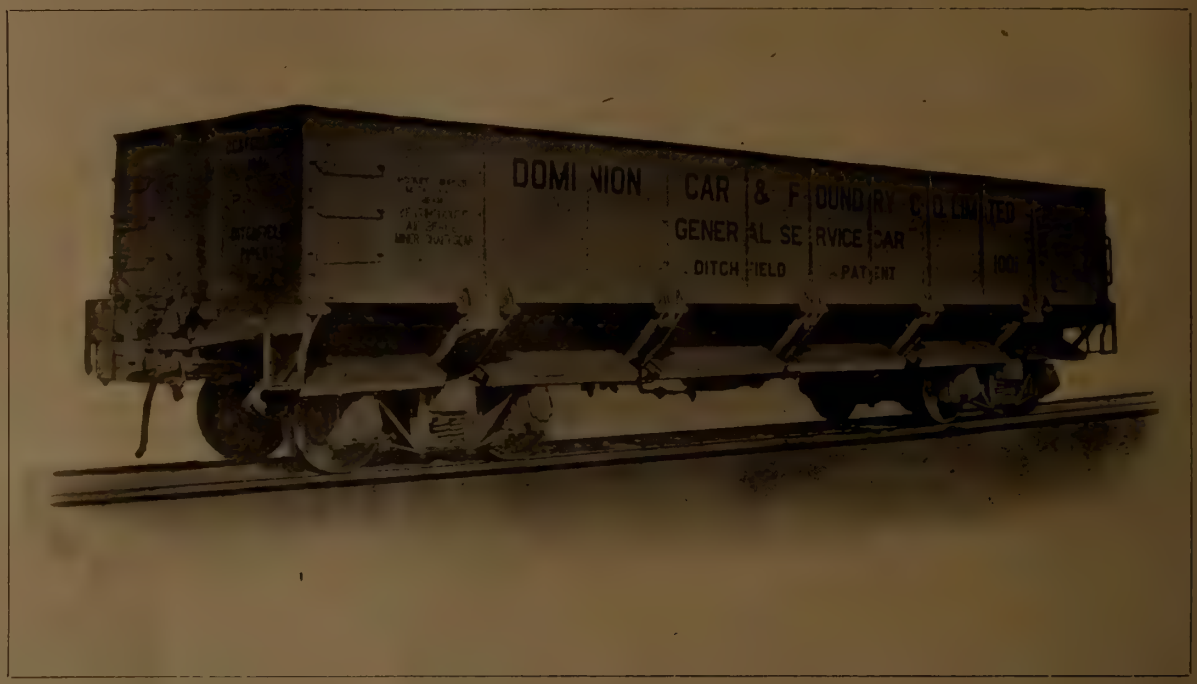
Wire, Telegraph and Telephone
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.

Wire, Transmission and Trolley
The Wire and Cable Co.....Montreal.

Wrenches, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.

Yachts
Polson Iron Works, Ltd.....Toronto.

DOMINION CAR & FOUNDRY CO.
LIMITED



FREIGHT CARS

(ALL-STEEL AND COMPOSITE)

CAR TRUCKS **STEEL UNDERFRAMES**

FORGINGS OF ALL KINDS

SIMPLEX

Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works---MONTREAL WEST

P. O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.

The Railway and Marine WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 223. New Series, No. 141. TORONTO, CANADA, NOVEMBER, 1909. For Subscription Rates, See Page 827.

WIRES AND CABLES

FOR TELEPHONE, TELEGRAPH, ELECTRIC RAILWAY AND POWER PURPOSES

THE WIRE AND CABLE CO., MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL.

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

LUFKIN MEASURING TAPES
MADE IN CANADA AND THE BEST IN THE WORLD
SEND FOR CATALOG.
THE LUFKIN RULE CO. OF CANADA, LTD. WINDSOR, ONT.

The Canadian Casualty and Boiler Insurance Company
Head Office - TORONTO
ACCIDENT, SICKNESS AND BOILER CONTRACTS
Full particulars on application

ACETYLENE HEADLIGHTS
PENETRATING, NOT BLINDING
ECONOMICAL
The Commercial Acetylene Co.
6 King Street West, Toronto

Enamelled Iron Signs
For Steam and Electric Railways, Express, Telegraph, Telephone and other Purposes.
ACTON BURROWS LIMITED
157 Bay Street, Toronto

FOR DRAUGHTING SUPPLIES AND INSTRUMENTS
JOHN A. HART COMPANY
WINNIPEG

STEARNES STEEL RANGE COMPANY
Our specialties are Dining, Private and Cafe Car Ranges and General Cooking Apparatus.
Fifth Ave. and Lake St., Chicago, Ill.

THE WAUGH DRAFT GEAR
FRICTION SPRING CUSHION
200,000 lbs.—600,000 lbs. Capacity
MADE IN CANADA
Send for Catalog and Particulars
Waugh Draft Gear Co., Chicago, Ill.

Additional safety and economy in
TRACK MAINTENANCE
has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen years' service, having a record of over 50,000 miles in use—the extent of which is evidence of their excellence.
THE RAIL JOINT CO. OF CANADA
See Page 804.

MUSSENS LIMITED
Railway, Mining and Contractors' Supplies
See Advt. Page 792.

THE OTTAWA CAR CO.
BUILDERS OF Limited
Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.
Office and Works: Slater St., OTTAWA

SIMPLICITY, EFFICIENCY AND CONVENIENCE OF OPERATION DISTINGUISH THE
BOOTH WATER SOFTENER
L. M. BOOTH COMPANY
Fisher Bldg. - - Chicago

WILLIAM ABBOTT
"Novo" High Speed Steel
"Intra" for Punches, Taps, etc.
334 St. James St., - Montreal

ARCTIC METAL
FOR COOL BEARINGS
TALLMAN Brass and Metal Co.
Hamilton Canada

THE HOLLENDEN
CLEVELAND
EUROPEAN PLAN
600 Rooms $1.50 to $5.00

The Dougall Varnish Co., Ltd.
Successors to McCASKILL, DOUGALL & COMPANY
MANUFACTURERS
Railway Varnishes, Japans and Enamels
MONTREAL.
Eight Medals Awarded.

WESTINGHOUSE
"AMM" Automatic Air Brakes

When buying new cars

insist upon their being equipped with Westinghouse "AMM" Automatic Brakes. A good car with an inferior brake is a poor investment. Safe, efficient operation demands a brake of absolute reliability. Such indispensable features as quick recharge, graduated release, quick service and high pressure in emergency are found only in Westinghouse "AMM" Automatic Air Brakes.

Described fully in Instruction Pamphlet T-5031

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO
439 Pender Street
VANCOUVER

For particulars address nearest office
HAMILTON
922-923 Union Bank Bldg.
WINNIPEG

232 St. James St.,
MONTREAL
158 Granville St.
HALIFAX

STREET RAILWAY MOTORS
AND CONTROLLERS

50-h.p. Motor

These motors are thoroughly reliable in every respect. The matter of commutation has received particular attention. They run practically sparkless in service and the flashing over point is unusually high.

Send for Bulletin 1053—Railway Motors and Controllers

Car Controller

ALLIS-CHALMERS-BULLOCK
LIMITED

Works, MONTREAL

Sales Offices, - MONTREAL, TORONTO, WINNIPEG, VANCOUVER

See Purchasing Agents' Guide on page 861 :: :: :: ::

See Alphabetical Index to Advertisements on page 827

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 223.
New Series, No 141.

TORONTO, CANADA, NOVEMBER, 1909.

For Subscription Rates, See page 827.

Locomotive Dispatching and Terminal Facilities.

By C. Kyle, General Master Mechanic, Eastern Lines C.P.R.

In preparing this paper I have, as far as possible, aimed to keep clear of the technical and theoretical side, and have rather inclined to the practical or every-day side of the question, having in mind an after discussion somewhat on the lines of the old time bunk-room chats. To my mind there is no department connected with railway operation that so much depends upon as that charged with the dispatching of locomotives. The roundhouse is the most important of all the departments, for no matter what figuring and calculating is done elsewhere or what business may be secured, if, from various causes, the roundhouse fails in prompt and reliable dispatching thus causing detentions, etc., the business will eventually fall off. The dispatching of locomotives embraces many features that may not be known to those not directly connected with this branch of railway operation. The successful and economical dispatching of locomotives depends, in a large measure, on good government, and organization which will bring about team work of the whole staff, and only those absolutely necessary to handle the business carried on should be considered as members of this team; any surplus help will only tend to diminish interest and lead to sloppy work.

In the best organized shops a general tendency will be noticeable towards tidiness both around the premises and with the equipment; the practice of making temporary repairs merely to tide a case over at these points will rarely, if ever, be resorted to. These particular shops appear to be able to handle the business without the necessity for doing work in such a manner as to invite failures; at all times the idea prevails that the efficiency of the road depends upon the condition of the power, which, if first-class, will greatly aid in train operation, and all the statistics being prepared on a basis of tons handled seems to appeal to all concerned; the question of aggressive departmental controversies has no place here, but where a general betterment can be effected, there is no hesitation, but rather a desire to assist, both by example and practice, the other departments, so that the general result on the particular district with which the shop is identified may be a cause for special mention; in this way the credit is shared by all.

In former days it was enough to turn a locomotive out for a trip with a supply of stores, fuel, etc., that to-day will take care of a machine of double the capacity; then the question of costs for repairs, fuel, lubrication, etc., was not gone into as thoroughly as at present, and it was considered the duty of an up-to-date shop to turn out a fine looking machine without regard to cost. A change in the state of affairs has been brought about by the handling of competitive business, making it imperative that the freight offered at present shall

P 194

F. M. SPAIDAL,
General Superintendent Canadian Northern Quebec Ry. and Quebec and Lake St. John Ry.

be handled with such dispatch as will ensure its delivery as contracted for, and the demands made on the machine, both in the matter of greatly-increased tonnage hauled and in the decrease in time allowed for so doing should be taken into consideration. To-day, careful record is kept of shop expenses, cost of locomotive repairs, fuel consumed, lubrication used, etc. This, along with the possibilities of engine failures and detentions, makes locomotive dispatching somewhat of a difficult problem. It may, therefore, not be considered out of place to look into a few points that may be considered as essential in modern locomotive dispatching; among these the question of terminal facilities that will permit of expeditious handling of locomotives, is I think, one of the most important, and generally speaking, does not receive the consideration it should. as with the close of navigation the railways are called upon to handle important business promptly in cold and stormy weather, and there should be no question about providing sufficient in-coming and out-going tracks equipped with coal and sand hoppers, ash-pits with proper ash-handling devices, and water cranes of such capacity as will care for the business without detention to locomotives to and from the shop. The turn-table should be looked upon as the key to the situation, and should be of such construction as will enable it to hold up against the weight of the heaviest locomotive in service; it should be preferably power driven. There should be one person specially appointed to take care of its inspection and oiling, and it should be his duty to know beyond doubt, that it is always in satisfactory condition.

The shop should be roomy, well ventilated, and heated, and special attention given to proper drainage from both the pits and floor, thus making it possible for the men to get about without the inconvenience of wet feet, etc., which affects the efficiency of the average man. There should be provision made for a suitable office for foreman. and an engineer's registering room; there should also be a well ventilated rest house for engine crews, equipped with sleeping and dining room accommodation, which will permit of the men getting a warm, substantial meal.

At the principal shops that are responsible for the upkeep of locomotives, there should be provided tracks of sufficient capacity to take care of locomotives out of service on account of waiting repairs, traffic conditions, etc., and also wheel tracks sufficient to take care of new and old wheels kept in stock. There should be both driving and truck wheel pits, and all pits should be provided outside with jacking planks or timbers. There should be appliances for loading and unloading wheels, suitable lorry tracks for trucking heavy materials, up-to-date boiler tester and hot water washing out plant, with pits specially allotted and constructed for this purpose, special care being given to bad water districts. There should be sufficient modern machinery to take care of the proper maintenance of tire work, driving boxes and wedges, pistons, valves, and motion and rod work, also a proper blacksmith and boilermakers' equipment; all obsolete tools originally used for repairs to the smaller power should either be disposed of or scrapped.

The roundhouse staff should be looked

LOCOMOTIVES FOR ALL CLASSES OF SERVICE

Consolidation Type Freight Locomotive, Built for Eastern British Columbia Railway.

Total weight of engine in working order, 186,310 pounds. Weight on driving wheels, 166,100 pounds. Diameter of driving wheels, 51 inches. Boiler pressure, 210 pounds. Cylinders, 20 x 28 inches. Maximum tractive power, 39.200 pounds.

ATLANTIC STEAM SHOVEL

Direct wire rope hoist with but one sheave, instead of chain hoist with from five to seven sheaves, reduces delays and loss of time due to breakdowns, increases the efficiency of the engines, and reduces repair bills as well as fuel consumption.

Finished, interchangeable spare parts always on hand at works.

MONTREAL LOCOMOTIVE WORKS, LIMITED

BANK OF OTTAWA BUILDING, MONTREAL, CANADA

upon as the bone and sinew of the concern; each one should be imbued with a feeling of loyalty to his foreman, and have such a sense of the chain of responsibility, from the call boy up that he will realize it is only by his individual efforts that the best results can be obtained. The foreman who gives thought and study to his business, and is thorough in system, straightforward, honest, and true in his dealings with his staff and other departments, excels; the most careful foreman is one who, while exercising close supervision, is possessed of tact and diplomacy, as no matter what the conditions are or how much expense has been gone into for equipment, etc., if the staff is not properly managed the result will be disappointing.

The importance of knowing costs promptly is an absolute necessity in successful locomotive dispatching this does not necessarily mean elaborate statements of figures, etc., but rather implies a systematic method of expending money, watching and knowing costs on lines that are applicable to any other business. To quote from H. H. Vaughan's presidential address at the recent Master Mechanics' convention: "In short, that without in any way reducing the interest we have in locomotive engineering, we take up in a far more business-like and serious way the financial problems connected with the operation of the loco. department, the form of organization that will give the best results, and the commercial aspect of work of the motive power official in conducting his department as though he were manager of a large business enterprise."

A foreman who can in a quiet way make it known to his staff just what a job is worth, and if necessary be prepared to demonstrate that he has gone into the question sufficiently to know his statements are correct, will enjoy the confidence and loyal support of all.

Investigations should be made into cases of damage and the cause ascertained if at all possible, so that all questions relating thereto may be answered promptly and recommendations outlined that will assist in reducing possible future cases to a minimum. It should be the ambition of those handling correspondence to feel that when a file of papers connected with such an investigation leaves their office, the investigation is complete as far as they are concerned.

The chargeman or leading hand should so figure on his work that only at a time when power can be best spared should heavy repairs be undertaken, at which time it is preferable to see that all that is possible is done, and done in such a manner that there shall be no necessity to hold the locomotive out of service at the first turn around point, to go over what had not been properly done in the first instance. The chargehand should be in the relation of a doctor with the locomotives as patients; he should know the particular ailment or tender spot of each locomotive and by encouraging engine crews to explain defects and talk over conditions, be in a position to decide just how long it would be wise to keep an engine in service without attention; this will greatly assist in the economical handling of repairs. He should make it apparent to his foreman that there need be no anxiety as to his ability to handle his position, or of the question as to whether he can carry the responsibility of work done under his supervision, by cultivating friendly relations with both loco. crews and shop staff; he will soon find them becoming so interested that they will of their own accord feel like sharing the responsibilities, thereby lightening the daily load.

The chargehand should consult with his foreman regularly as to his doings and how he figures to handle his work; he should feel it is his privilege to make recommendations that will, in his opinion, result in economy or a betterment of shop conditions. He should be prepared to give an intelligent and honest expression of opinion as to the cause of any failure, having in mind that it is his business to know, and if it is a case of either faulty workmanship or material the facts should be given without hesitation, making it clear that he is in all respects worthy of the position he has been selected to fill.

The machinist, boilermaker, blacksmith, and carpenter should be closely in touch with the chargeman or leading hand and should lose no opportunity of bringing to his notice conditions or defects that may have been observed which, in their opinion, might lead to failures. Since from this class of men intelligence and skill are looked for, each one should, when given a job, use thought as to how the work is to be performed with the best possible dispatch, always having in mind that a failure from inferior workmanship reflects on the shop and directly on himself, and also bearing in mind the fact that when vacancies occur for higher positions, selection is invariably made from among those who have been energetic, thoughtful and loyal in the general performance of their duty.

The engine hostler is a very important person in the roundhouse staff; he should be the diplomat of the concern, and being in daily contact with the locomotives and crews, must by meeting the men familiarize himself with the condition of their engines. He should know of any defects that would necessitate the blowing off of boiler, emptying of tank, changing of wheels, etc., and should in turn arrange to place the engine on the proper pit allotted for the work required, and incidentally advise the chargeman of his doings; he should know the individual peculiarity of the men, and give serious consideration to the importance of their getting all the rest possible, and by his many acts of common courtesy inspire such a confidence as would cause the foreman no concern regarding detentions from waiting engineers and firemen. Should a cause of discipline be under consideration, the hostler should be of such standing that he might be looked upon as a referee and be prepared to give a straightforward opinion if questioned by the foreman.

The apprentice of to-day may be looked upon as the mechanic of the future, and while it is true the different companies have taken a greater interest in the training of the boys, and as far as they can have made it possible for the boy to enjoy all the privileges necessary to qualify as a successful journeyman, it must also be borne in mind that time has brought about change in equipment, more efficient machines, systems and methods of handling repairs, so that the responsibility for the training of the boys from the shop standpoint has increased in proportion, and it is the duty of all fair-minded men to keep this before them, and so by their example make it apparent to the lad that his selection of the trade is a wise one. The cultivation of studious habits and perseverance, and generally of manly deportment, should be encouraged from the start; there should be a feeling grow up between man and boy that their interests are mutual. By exercising kindness and patience the man will soon see the fruits of his labor in the training of the boy, who will seek his advice and confide his little difficulties and secrets to him; this will be the time to discourage any inclination to coarseness or unmanly behavior and to impress on the boy to at all times endeavor to keep the dignity of the trade uppermost in his mind, so that when the time comes for the boy to start out for himself, he will be a mechanic reflecting credit on the shop that turned him out. A story occurs to me at this moment of a man who secured a position in an up-to-date shop, who on starting was given a piece of work that required accurate filing; the foreman noticed in passing by the new man that he was handling the file like the bow of a violin. On calling the man's attention to this, and intimating that work of that kind could not be permitted the man replied: "If I only had the file I served my time with, I could show you how to do a good job." The point I wish to bring out is that in the training of our boys we should endeavor to teach them the use of any file; or, in fact, of any tool or machine so thoroughly as will ensure getting everything possible out of it.

To the enginemen belong the task of conducting their respective duties in such a manner that by their individual and collective efforts, the district with which they are identified generally, and themselves individually, shall be prominent in favorable mention when comparisons are being made. The changes that have recently been made, and those that are constantly taking place in locomotive design, call for not a little thought and study on the part of engine men. The engineer of to-day should closely watch the new devices introduced, and only be satisfied after he has become familiar with the workings of the same. He should avail himself of every opportunity of being present when any discussion or demonstration is being made pertaining to his business, and should aim at becoming an authority on some particular feature of his business. This, along with a keen sense of economy, the exercising of care and intelligence when reporting repairs required, having in mind what it costs to perform work that might be done more economically, at a time for instance when the boiler is being washed and the like, and the exercise of thought and judgment in other ways, will result in considerable saving. The ideal engineer will be careful to see that no entry of repairs required is recorded over his signature that there is any doubt about; there are always ways and means for the proper method of locating defects, and until such defects are known the report should be withheld. When on the line there should be a desire to gain a reputation for good judgment in train handling in order that the superintendent and train dispatcher may be justified in making the statement that they have men on their districts who can do, and are doing, good work, for experience has shown that superintendents and those in charge are liberal to a fault in sounding the praises of enginemen rendering good service.

The economical use of fuel has always been, and I presume always will be, a subject of interest. There can be no question as to what can be accomplished when all concerned are fully alive to this question, and while the engine crew can, with careful practice, take advantage of each and every move made by each other in respect to this item for the most efficient working of the machine, I would beg leave to quote the following extract, bearing on this subject, from the report of the committee dealing with this at the Master Mechanics' Convention of June,

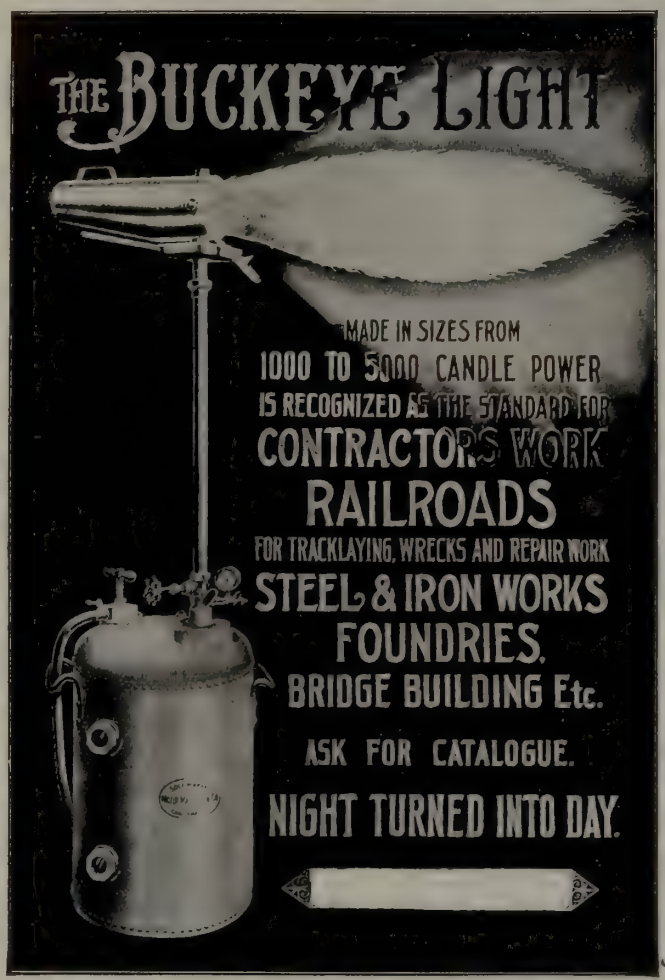
A PERSONAL MENTION.

The Managing Director of the Railway and Marine World left Toronto hurriedly, Oct. 15, to sail by the s.s. New York for Plymouth, en route to London, Eng., in response to a cablegram advising him of his second daughter's sudden, and apparently hopeless, illness there.

This mention will explain his present inability to attend to personal correspondence and other matters requiring his individual attention.

PORTABLE LIGHTS

Pay well when the days get short. Let us send you our illustrated catalogue.



BUCKEYE KEROSENE LIGHTS.
2,000 to 10,000 Candle Power. We carry in stock the popular sizes.

HOLLAND ACETYLENE LIGHTS.
For smaller work. In stock. Generate their own acetylene gas.

MUSSENS LIMITED

Head Office,
MONTREAL

Branches { ***Toronto, 73 Victoria St.***
Cobalt, Hunter Block
Winnipeg, 259-261 Stanley St.
Vancouver, 614 Hastings St., W.

1909: "Efficient handling of this involves the work of both the engineer and fireman, and to our minds constitutes one of the most, if not the most important element in fuel economy. The question of running an engine in order to get most economic results involves the work of both engineer and fireman, and is so important from that point of view, that we shall introduce this portion of the subject by making the following statement: An engine may be built of the very best material, and of the most approved design, mechanically perfect, with all the modern conveniences to assist in its perfect manipulation, and you place that engine in the hands of an incompetent engineman, and you have almost nullified the combined expert mechanical skill necessary to turn out the finished product; we think you will all agree it is most important that the finished machine should have skillful operation."

While the above is true, there is little accomplished unless those who have to do with the handling of orders, station work and the like, understand that fuel consumed when delays are taking place is wasteful, and that the responsibility rests on someone; this, along with fuel unnecessarily burned at terminals when the locomotive is in the hands of shop staff, tends to lessen the interest of enginemen, since they are responsible in all such cases for excessive fuel consumption, over which they have practically no control. No case of this kind should be allowed to pass unnoticed, for when enginemen are thus assured that interest is being taken elsewhere than in the engine cab, it will become an incentive for them to be on the alert and prompt in the discharge of their respective duties, and thus create the desire to establish a record for their district that will outclass all others on their system.

The fireman of to-day may be looked upon as the engineer of the future. He should have in mind his ideal of what constitutes a successful engineer. He is, of course reminded by the more extensive examinations he is called upon to write up, of the increasing importance of giving attention to his business, and to what will be expected of him as advancement takes place. By close attention he will hear the name of some particular person in his line being continually mentioned by the engineers as one who can be depended upon under all conditions to do a good job; requests from engineers on most important runs will be made to foremen for this class of man. A man of this kind becomes known, his opinion is valuable, and is sought by those in charge and also by his associates in cases of dispute; in cases of discussion and arguments pertaining to subjects for advancement in his line of business his remarks are listened to with interest, and by his example he discourages thoughtless expressions which are disloyal, and neither good for the employe nor the company. It should then be worth his while to locate this type of fireman, get in touch with him, and gain all the good points possible, always realizing he has to handle one of the greatest items of cost in the business of transportation. I will here again, with your permission, refer to the statement made by R. Quayle, at the recent Master Mechanics' convention, in which he says: "We will suppose the fuel is all right, the specifications are all right, the purchasing agent is all right, and the delivery on the ground is all right. I made this statement to 22 locomotive firemen within the last two weeks, that I would select 100 locomotive firemen on the C. & N. W., and I would guarantee that if I had every other man on the railway equally as good firemen as the 100 I could select, that I could save easily $500,000 a year in fuel."

The importance, therefore, of familiarizing himself with just what can be got from one scoopful of coal properly applied is something for serious consideration, and will eventually result in the fireman's ability, rather than his seniority, being the cause for his being selected for important runs or promotion. In going into the fuel question, I find I have gone a little outside of the terminal switch, but the importance attached to this particular item, and what it is possible to accomplish by constantly keeping before all concerned what this account means to a company, is the only excuse I have to offer.

I would also beg leave to touch on the importance for the necessity of friendly co-operation between the two departments responsible for the handling of terminal traffic. I feel satisfied that a hearty co-operation of the trainmaster and the locomotive foreman, at the terminal with which they are together identified, would make a freight blockade next to impossible, and this combination along with proper equipment, efficient help, and intelligent supervision, are, in my opinion, what may be considered as the essential factors required for successful locomotive dispatching.

The foregoing paper was read before the Canadian Railway Club recently.

Telephone Dispatching on the C.P.R.— Our September issue contained a paragraph stating that during August the equipment of several telephone circuits was completed on the C.P.R. system, among others one from White River to Fort William, Ont., 251 miles, and that the same had been placed in use for dispatching trains. A C.P.R. official at Fort William informed us that this was not quite correct, and stated that between White River and Fort William the dispatching was being carried on by telegraph, but that telephone wires had been strung, so that in case of an accident on the line, engineers or conductors could attach a telephone to the wires and get into touch with the dispatcher. We were officially advised Oct. 2 that the item referred to in our September issue was practically correct; that trains were being handled by telephone between White River and Pearl, the latter point being 215.2 miles west of White River and only 28.5 miles east of Fort William, and that the balance of the line to Fort William would be dispatched by telephone within a short time.

Railways Lands Patented. — Letters patent covering Dominion lands in Manitoba, Saskatchewan, Alberta and British Columbia, were issued during July, as follows:—

	Acres.
Canadian Northern Ry.	1,247.01
Canadian Pacific Ry. grants ..	161.00
	1,408.01

The board of conciliation appointed to enquire into points at issue between the Government Railways Managing Board and the Intercolonial Ry. roundhouse employes at Halifax, N.S., consists of Sir George Garneau, Chairman; J. H. Gilmour, Brockville, and A. C. R. Mosher, Halifax.

J. S. Dennis, Assistant to the Second Vice President C.P.R., speaking in reference to the Company's Bow River irrigation project, stated recently, that at the close of 1908, 1,150 miles of canals and ditches were completed, and during this year, 500 additional miles would be completed, making a total of 1,650 miles of waterways in the western section, and providing water for 350,000 acres. The surveys indicate that about the same amount of canals and ditches will be required for each of the other sections, so that when the scheme is fully completed, there will be about 5,000 miles of waterways, constructed at a total estimated cost of $9,000,000.

November Birthdays.

Many happy returns of the day to—

J. O. Apps, General Baggage Agent C.P.R., Montreal, born at Tara, Ont., Nov. 9, 1877.

A. B. Atwater, Assistant to Second Vice President and General Manager G.T.R., for lines west of Detroit and St. Clair Rivers, Detroit, Mich., born at Sheffield, Ohio, Nov., 1845.

W. F. Brougham, Local Right-of-Way and Lease Agent C.P.R., Vancouver, B.C., born in Westmoreland, Eng., Nov. 25, 1865.

G. B. Burchell, General Manager Maritime Coal, Ry. and Power Co., Joggins Mines, N.S., born at Sydney, N.S., Nov. 1, 1877.

M. J. Butler, C.M.G., Deputy Minister of Railways and Canals, Ottawa, born at Deseronto, Ont., Nov., 19, 1856.

J. R. Cameron, General Superintendent Canadian Northern Ry., Winnipeg, born at Truro, N.S., Nov. 5, 1865.

L. D. Chetham, City Ticket Agent C.P.R., and District Passenger Agent Esquimalt and Nanaimo Ry., Victoria, born at Matlock, Eng., Nov. 5, 1869.

F. H. Clendenning, Assistant General Freight Agent C.P.R., Pacific Division, Vancouver, B.C., born at Montreal, Nov. 9, 1881.

F. Conway, acting General Superintendent Kingston and Pembroke Ry., Kingston, Ont., born at Ernestown, Ont., Nov. 19, 1850.

C. W. Cooper, Assistant General Passenger Agent Canadian Northern Ry., Winnipeg, Man., born at Montreal, Que., Nov. 16, 1868.

W. L. Creighton, Advertising Agent Intercolonial Ry., Moncton, N.B., born at Derby, Eng., Nov. 9, 1871.

W. Cuthbert, Fuel and Tie Agent G.T.R., Montreal, born at Longueuil, Que., Nov. 9, 1856.

W. Downie, General Superintendent C.P.R. Atlantic Division, St. John, N.B., born at Rock Currie, Ireland, Nov. 12, 1850.

Jos. Dubrule, Jr., Manager Canadian Pacific Car and Passenger Transfer Co., Prescott, Ont., born at Spencerville, Ont., Nov. 14, 1872.

Grant Hall, Superintendent Motive Power, C.P.R. Western Lines, Winnipeg, born at Montreal, Nov., 1863.

C. R. Hosmer, director C.P.R., born at Coteau Landing, Que., Nov. 12, 1851.

J. McGillvray, Superintendent Inverness Ry. and Coal Co.'s lines, Inverness, N.S., born at Nairn, Scotland, Nov. 13, 1867.

T. E. Martin, Local Freight Agent, C.P.R., Quebec, Que., born at Beauharnois, Que., Nov. 23, 1852.

C. Murphy, General Superintendent Eastern Division C.P.R., Montreal, born at Prescott, Ont., Nov. 20, 1865.

F. Nicholls, Vice President Toronto Ry., director Canadian Northern Ry., born in England, Nov. 23, 1856.

H. P. Sharpe, General Agent Dominion Express Co., Toronto, born at Brockville, Ont., Nov. 24, 1864.

G. H. Shaw, Traffic Manager Canadian Northern Ry., Winnipeg, Man., born at Smith's Falls, Ont., Nov. 25, 1859.

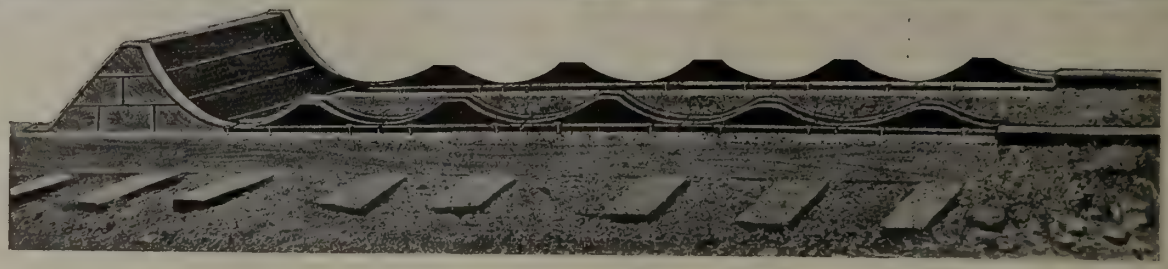
J. S. Sheppard, Contracting Freight Agent C.N.R., Winnipeg, born at Teeswater, Ont., Nov. 27, 1881.

F. M. Spaidal, General Superintendent Canadian Northern Quebec Ry., and Quebec and Lake St. John Ry., Quebec, born at Gananoque, Ont., Nov. 13, 1858.

J. Sparks, Assistant General Baggage Agent C.P.R. Western Lines, Winnipeg, Man., born in London, Eng., Nov. 25, 1874.

H. P. Timmerman, Industrial Commissioner C.P.R. Eastern Lines, Montreal, born at Odessa, Ont., Nov. 6, 1856.

H. E. Whittenberger, Superintendent Eastern Division G.T.R., Montreal, born at Peru, Ind., Nov. 9, 1864.



Saunders Corrugated Car Stopper

Stops cars without damage **Simple and easily installed**

Cost of maintenance very low

As shown in the illustration, this device is installed at the end of the track and is designed to take the place of the Rigid Bumping Post. It consists of ten heavy steel corrugated castings set securely on timbers and when in place is sixteen feet long. It is very serviceable and requires no special attention when installed.

LET US SEND YOU FULL PARTICULARS

One bad accident caused by cars hitting a Rigid Bumping Post while running at a high rate of speed will cost as much as it would to equip all the dangerous tracks in the average sized yard.

FOR SALE

SECOND HAND

Steam Shovel Plant

We have the following plant to dispose of immediately, subject to inspection and acceptance before shipment and subject to prior sale:

1 "Marion" Steam Shovel, Model 50, 2 cu. yd. dipper capacity, wt. 60 tons

20 "Kilbourne & Jacobs" Standard Double Dump Cars, 6 cu. yd. capacity, steel underframe, standard gauge

2 "Davenport" Saddle Tank Locomotives, cyls. 10 in. x 16 in. wt. 18 tons

The above plant was purchased new last May and is in perfect condition. Full particulars and prices upon request.

F·H·Hopkins & Co SUCCESSOR LATE JAMES COOPER Montreal

The Lethbridge Viaduct on the Canadian Pacific Railway

By J. E. Schwitzer, Assistant Chief Engineer, C.P.R. Western Lines.

The C.P.R. Crow's Nest Pass line branches off the main trans-continental road at Coleridge, 7.1 miles east of Medicine Hat, Alta., and parallels it through the mountains a hundred miles to the south, to give easy access from the east to the rich mining regions of Southern British Columbia.

The old line between Lethbridge Junction and MacLeod is 37 miles in length, the distance from Lethbridge, which is situated on a spur track, to Lethbridge Junction is 1.5 miles, the total distance from Lethbridge to MacLeod being 38.5 miles. The old line is constructed with curves as sharp as 7 degs. (819 ft. radius) and with a grade of actual 1% (52.8 ft. per mile), no compensation being allowed for curvature, so that in the estimates for new location the ruling gradient on this line was calculated to be equal to a virtual 1.2% grade (63.4 ft. per mile).

On the old line, which was constructed in 1897 and 1898, are the following wooden deck bridges:—

Bridge.	Length.	Height from ground to base of rail.
108.7	406 ft.	110 ft.
112.2	476	105
112.4	420	94
112.8	463	87
113.1	674	67
113.5	503	102
113.8	403	77
114	569	84
114.3	569	74
114.8	473	62
115.2	317	41
115.6	419	39
116	2933	65
117.5	707	117
119.6	449	73
120	567	117
120.2	313	53
121.1	629	113
131.8	755	24
132.5	16	9

A total of 20 bridges, with a total length of 12,063 ft., or 2.8 miles, 1,450 ft. of this length being Howe Truss spans, varying in length from 100 to 150 ft. In the majority of cases these bridges cross streams and ravines with very steep-cut banks, which, on account of the nature of the soil, require constant watching, especially in the spring and during high water. The worst of these crossings are those at St. Mary's and Belly Rivers. On account of the life of these bridges being very nearly expired, they would require, during the present year, heavy repairs, or practically rebuilding. The estimated cost of permanent bridges to replace these wooden bridges is $1,065,000. Owing to the necessity of rebuilding these bridges, and to the rapid increase of traffic, and the fact that the original charter for the Crow's Nest branch required the construction of a line to start from Lethbridge, it was therefore decided to have surveys made and ascertain if it were possible to secure a low-grade line with better alignment. With this object in view extensive surveys were made in 1904 and 1905, the line which was finally adopted giving a maximum virtual grade of fourth-tenths of 1% (21.12 ft. per mile) with a maximum curvature of 3 deg. (1910 ft. radius).

PORTION OF LETHBRIDGE VIADUCT, C.P.R. FROM THE NORTHEAST.

As already noted, the town of Lethbridge is on a spur track of the Crow's Nest Pass Ry., 1.5 miles long, which necessitates practically all trains running into Lethbridge and backing out, being a loss of 3 miles, which will be saved when the new line is placed in operation. The saving effected by the new location as compared with the old is as follows:—5.26 miles of line, 1735 deg. less curvature, 37 fewer curves, and 401.5 ft. less rise and fall, besides securing the 0.4% grade, as compared with a virtual 1.2% on the old line. These changes should so reduce operating expenses that the saving with an increase of 20% in traffic above what it was last year would pay an interest at the rate of 4% on an investment of $3,625,000, besides which it would cost to replace the old bridges with permanent structures, $1,065,000. The total capital expenditure which would therefore be justified would be $4,690,000, while the estimated cost of the change of the line is $2,048,700. On this new line there are only two bridges, both large viaducts, one over the Belly River at Lethbridge, 5,327.6 ft long, with a maximum height of 314 ft. from the bed of the river. This viaduct is the subject of this article. The second bridge, over the Old Man River, is 1,900 ft. long and 146 ft. in height from the bed of the river.

The east end of the viaduct is 3,800 ft. west of Lethbridge station, being somewhat west of the centre of the town. Lethbridge is the centre of a large irrigation tract and of an important coal-mining district, is a divisional point of the C.P.R. Crow's Nest branch and the Alberta Railway and Irrigation Co., and has a population of about 6,000. It is located in the province of Alberta, 759 miles west of Winnipeg, 2,174 miles west of Montreal, and is the centre of a rapidly developing territory.

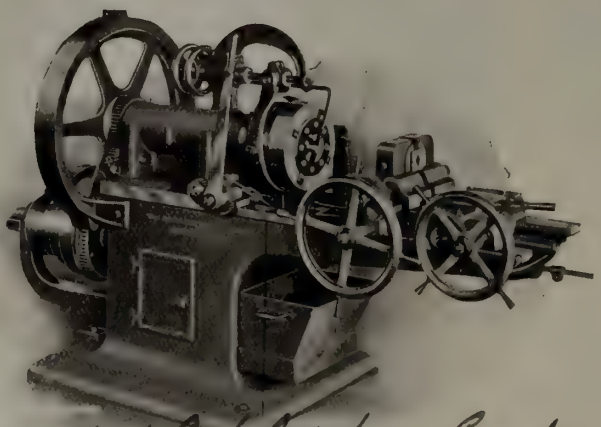
The site of the bridge is the best for a high-level crossing in the immediate vicinity of the town. The slopes are fairly uniform for a distance of 1,000 ft. from the prairie level, then drop more abruptly for 800 ft. to the flat, which is flooded in extreme high water, then runs on an approximate level for a distance of 1,800 ft. to the edge of the river, which is 300 ft. wide. On the west side of the river it rises rapidly to prairie level in a distance of 1,300 ft. On the east bank the soil is clay and gravel for about 6 ft. from the surface, then 50 ft. of hard clay, 12 ft. to 20 ft. of coarse gravel, and below this shale and coal. In the bed of the river there is about 20 ft. of gravel, then 20 ft. of coal-shale, below that 2 ft. of blue clay, then a hard shale for a distance of 16 to 18 ft., below which is hardpan and sandstone. The west side is of somewhat similar formation, but the bank has been eroded, causing it to cave in at several points, which makes it necessary to do extensive work in order to secure proper foundations for the bridge. The alignment of the bridge is a tangent throughout, there being a 1 deg. curve at the east approach of the bridge, and a 3 deg. curve at the west approach; the grade is 0.4% rising to the west for the whole length of the bridge. On the east side of the bridge there are some old mine workings which followed a vein of coal 7 ft. thick which was worked out in 1888 to 1890. This vein of coal was practically horizontal and level with the flat at the river, varying from 25 ft. at bent no. 23 to 150 ft. below the surface at the east end of the bridge.

The work of finally laying out the centre line and locating the position of the pedestals for the viaduct was commenced during the first week of Dec., 1907. The contract for the excavation and substructure of the bridge was awarded to J. Gunn and Sons, of Winnipeg, the work to be completed by March 1, 1908. The excavation work was started in Oct., 1907, and the concreting was commenced in Nov., 1907, and carried

PORTION OF LETHBRIDGE VIADUCT, C.P.R. FROM THE NORTHWEST.

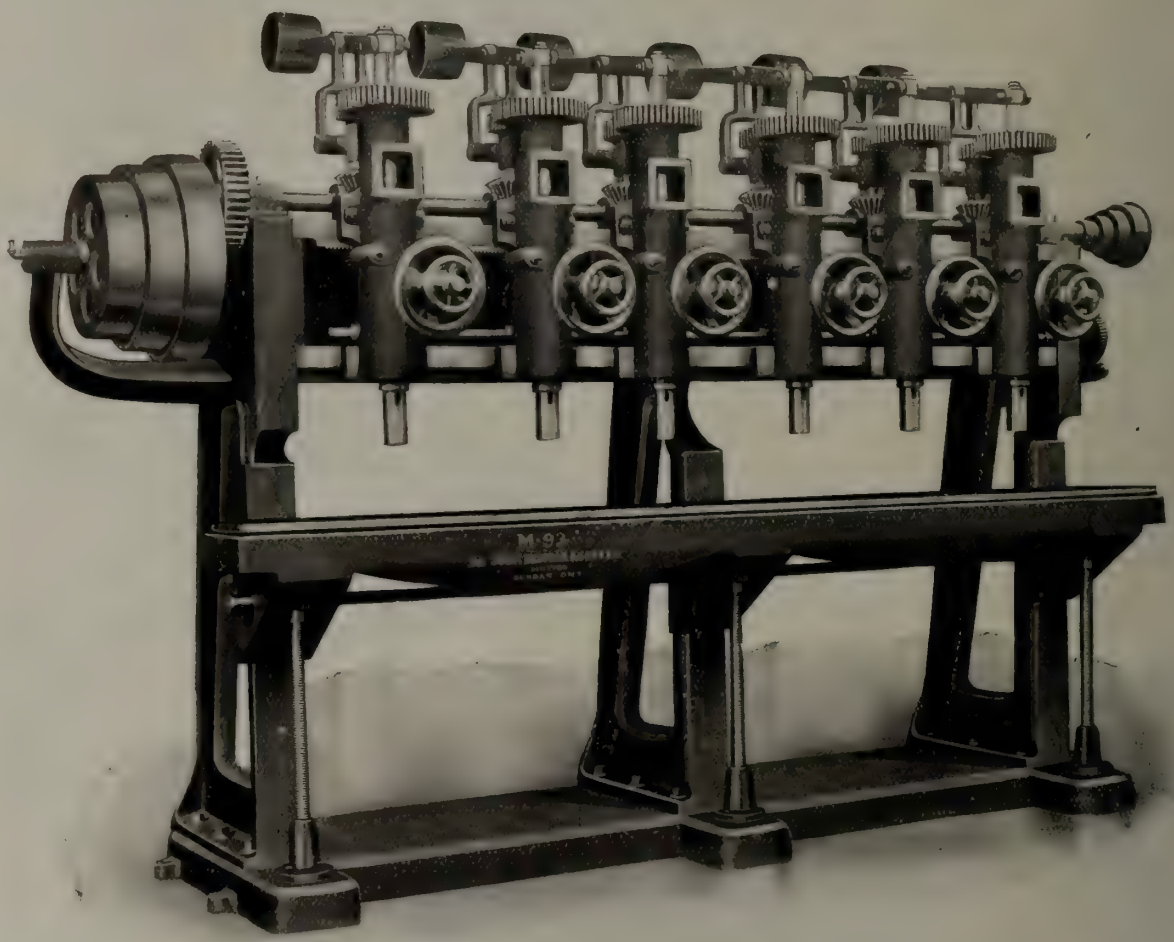
BERTRAM MACHINE TOOLS

Machine Tools of every description Hydraulic, Railway and Boiler Shop Machinery.



We install complete equipments for Machine Shops. Write for Photographs and Descriptions.

3-INCH ACME SINGLE BOLT CUTTER



BERTRAM SIX SPINDLE MULTIPLE DRILLING MACHINE

THE JOHN BERTRAM & SONS CO., LIMITED

DUNDAS, ONTARIO, CANADA

AGENTS—The Canadian Fairbanks Company Limited

OFFICES: Montreal Toronto Winnipeg Vancouver Calgary St. John

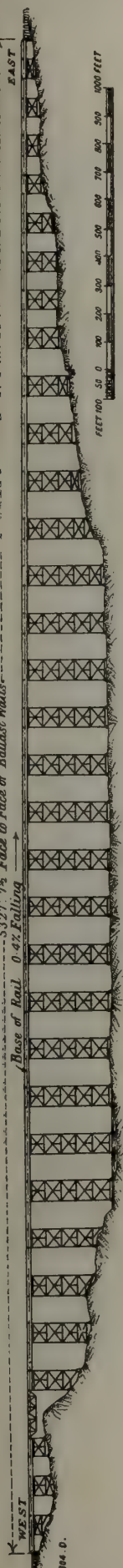


Fig. 1.

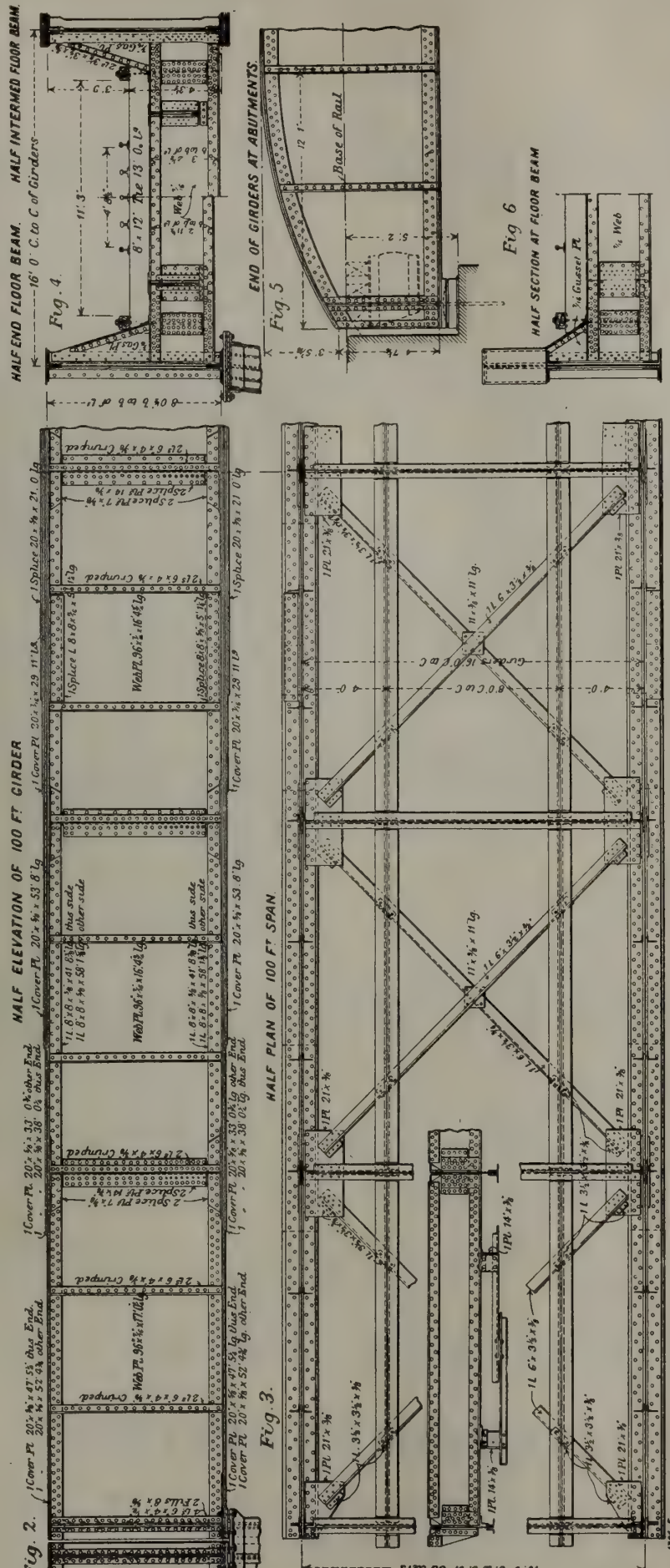

HALF END FLOOR BEAM. HALF INTERMED FLOOR BEAM.
16' 0" C. to C of Girders
Fig. 4.
END OF GIRDERS AT ABUTMENTS.
Base of Rail
Fig. 5
HALF SECTION AT FLOOR BEAM
Fig 6
HALF ELEVATION OF 100 FT. GIRDER
HALF PLAN OF 100 FT SPAN
16' 0" C. to C. of Girders

Fig. 2. Fig. 3.

on continuously, being completed in Feb., 1909. Before excavation was started borings were made at various points along the bridge site. In addition to this several test-pits were sunk and test-piles were driven. These several test-piles consisted of fir piles about 11 in. diameter, and were driven to a depth of 24 ft. to refusal, and were afterwards loaded with a 30-ton load and showed no settlement. In order to make absolutely sure of the foundations near pier 23, a shaft was sunk to the old mine workings. In the sinking of this shaft we met with a couple of fatalities by men going in and being overcome with the accumulation of gas. They went down to rescue a small boy who was playing in the shaft after being repeatedly warned not to go near the place.

Considerable difficulty was experienced with the river piers, as it was found necessary to go down through the gravel and shale, making it very difficult to get tight cofferdams. In June, 1908, before the excavation for these piers was completed, there was a flood, during which the water rose to a higher level than had ever been known at this point, being 1 ft. higher than previous extreme high water, which occurred in June, 1902. This high water completely submerged the cofferdams, carrying enough silt to fill them, besides which it carried away some of the contractors' plant, causing delay in the completion of the work. All the pedestals and foundations on the land were completed by Aug. 31, 1908.

For the foundations of the bridge various estimates were made in connection with the cost of timber piles with concrete pedestals and concrete piles, with the concrete pedestals on top. It was finally decided to adopt concrete piles and concrete pedestals, and a contract was let on this basis. All the land piers, with the exception of six, were built on concrete piles, the excavation for the same averaging 7 ft. deep, but in some cases running as deep as 18 ft. The length of the concrete piles varied from 12 to 20 ft. The greater part of the concrete for piers was mixed with a three-quarter-yard Smith mixer, and conveyed from the mixer to the piers in ordinary contractors' dump-cars. The general formation of the river-bed is gravel over hard shale, there being an average of 10 ft. of water, then 10 ft. of gravel. On account of the hard formation of the river-bed no piles were used, the excavation for the piers was made with clam-shell buckets before the caissons were placed. The caissons were made of 10 by 10-in. material, and were floated into place and sunk; sheet-piling made of three pieces 2 by 10 in. nailed together to form tongue and groove was driven outside caisson, a second row of sheet-piling being driven about 3 ft. outside the first to leave space for puddle. These caissons were pumped out with some difficulty, and the excavation finished with pick and

Galena-Signal Oil Company

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY

Galena Railway Safety Oil

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

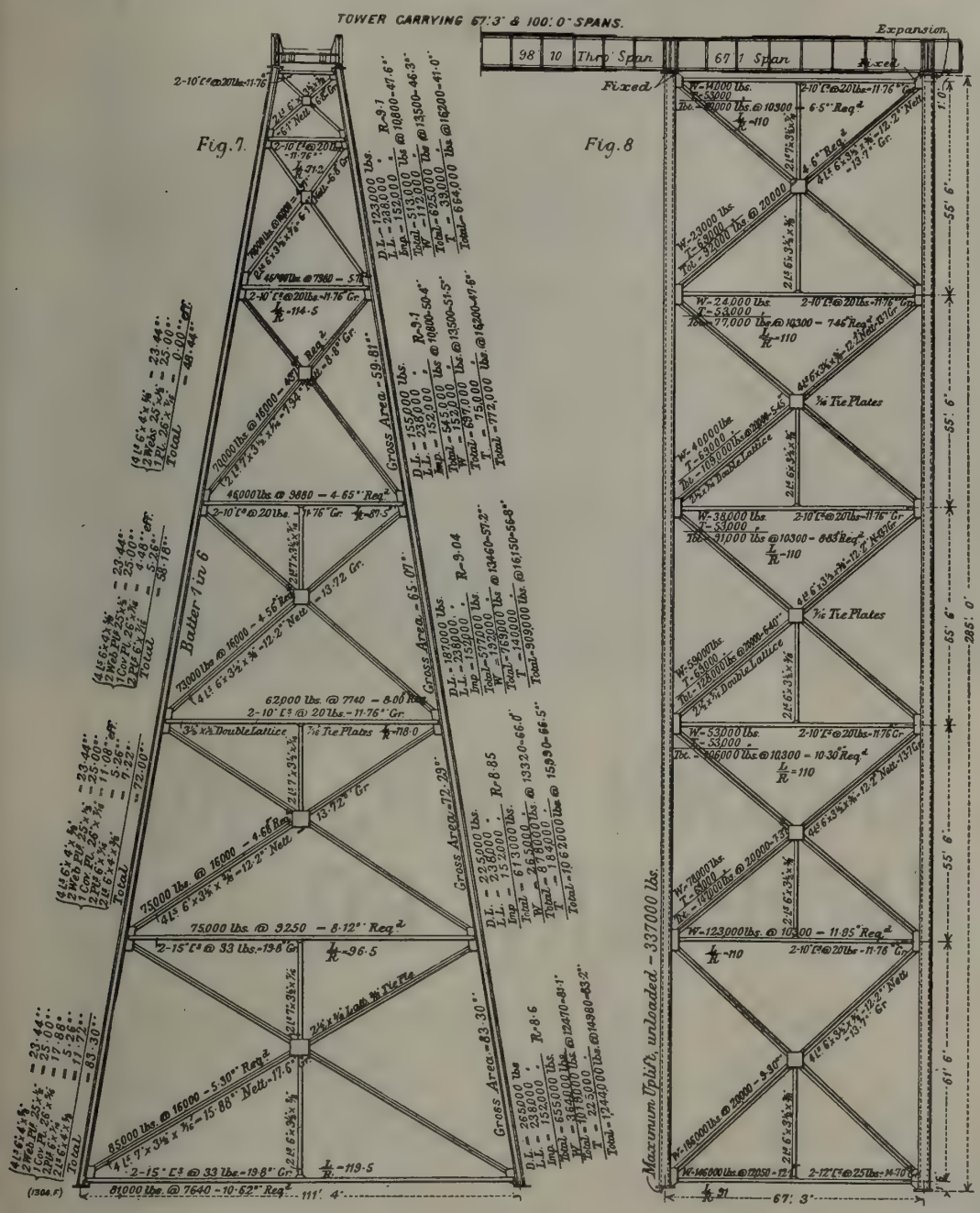
Please write to home office for further particulars.

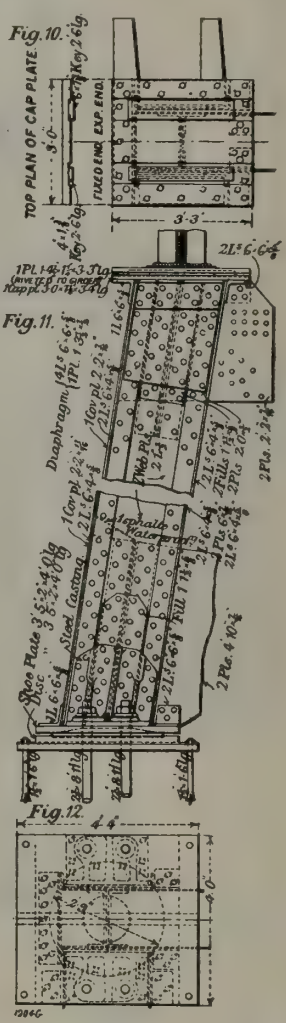
CHARLES MILLER,

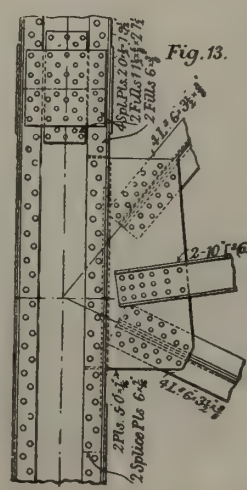
PRESIDENT

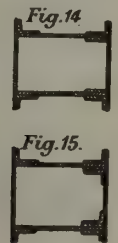
shovel, the material being raised by bucket and derrick. Three centrifugal pumps were required to keep the foundations dry, excavations were made to hard shale, and drillings made to a further depth of at least 20 ft. to make sure there was no change of formation. In three of the piers it was found that the pumps could not hold the water down long enough to erect the forms, and it was therefore necessary to have the bottoms carefully cleaned by divers before concrete was deposited; 4 ft. of concrete was placed in the bottom, the full size of the caisson, and allowed to set. The caisson was then pumped out and the balance of the pier finished as usual. On account of the steep side hill special pile-drivers had to be made for driving concrete piles. Owing to the nature of the west slope all foundations were carried down to such a depth that if the ground takes a natural slope, the foundations will be well below it, besides which the ground in the immediate vicinity of the piers was sloped. In addition to this, in order to keep water away from the west bank a reinforced concrete retaining wall has been built. This concrete wall is built strong enough to withstand the pressure of saturated quicksand. This was adopted altogether as a precautionary measure. In addition to this piles were driven up-stream from the piers on the flat to catch any drift-wood which might come down in the flood and lodge in the steel-work, and it is further intended that booms will be anchored up-stream in the river which will deflect any debris through the 100-ft. openings.

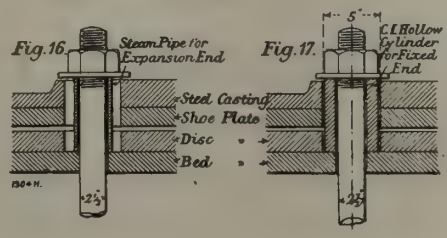
Numerous preliminary studies were made in connection with this structure, and the design finally decided upon consists of 44 plate girder spans 67 ft. 1 in. long, 22 plate girder spans 98 ft. 10 in. long, and one riveted deck lattice truss span 107 ft. long, carried on 33 rigidly braced riveted steel towers. The distance











WISCONSIN STEEL CO., South Chicago, Ill. Three fast plants.

THE BROWN HOISTING MACHINERY CO.

Engineers, designers and builders of hoisting machinery of all descriptions.
Write us stating your requirements and ask for catalogues.

Main Office and Works:

CLEVELAND, OHIO

Branch Offices:

PITTSBURG AND NEW YORK

centre to centre of towers in each column was made 67 ft. 3 in., and the distance centre to centre of columns in adjacent towers 100 ft. The tower spans were made 67 ft. long, in order to give longitudinal stiffness to the towers, and reduce stresses in the tower legs. A batter of 1 in 6 was given to the legs, which, with the spacing of the girders of the spans at 16-ft. centres, gives ample spread at the base of the towers to keep the uplift at the piers within a reasonable amount; 100-ft. intermediate spans between towers were decided on for that portion of the structure over 125 ft. high, these spans being the longest thought feasible to handle, from an erection standpoint, although theoretical economy would call for still longer intermediate spans. On account of the severe winds experienced in this region, and considering the great height of the structure, it was decided to use through plate girder spans instead of decks on this viaduct, so as to render it practically impossible for cars to leave the deck from derailment or wind, and give greater security to the viaduct, since a derailed car might fall, and knock out tower legs and bracing, on account of the great batter of the bents, and cause great delay to traffic. This type of span has since been adopted for a similar high viaduct in New Brunswick.

In order to take care of the uplift from wind the columns were securely anchored to piers by means of four 2½-in. diameter bolts built into the piers to such a depth as to engage a mass of masonry weighing 1½ times the uplift. Special steel castings were designed to secure the bases of these columns to the anchor-bolts, and between the shoe-plate and bed-plate the C.P.R. standard disc-bearing was used, so as to provide for proper bearing in the event of the masonry not being absolutely level. Contraction at the base of the towers was taken care of by fixing one corner and allowing the other three corners to slide on the bed-plates. This was arranged by making 5-in. holes in the steel casting, shoe and disc-plates. At the fixed corner a hollow cast-iron cylinder was placed around the bolt, filling up the hole. At the other three corners, where movement takes place, a piece of steam-pipe was placed around the bolts, having a length of about ⅛-in. greater than the distance from the top of the bed-plate to the top of the steel casting, so as to allow the

LETHBRIDGE VIADUCT, C.P.R.; RIVER BENTS.

LETHBRIDGE VIADUCT, C.P.R.; SHOWING METHOD OF TRESTLES RISING WEST BANK.

washer of the anchor-bolt to bear tight on this filler, which in turn, bears on the bed-plate, and allows sufficient slack between the underside of the washer-plate and the steel casting for the latter to move. Dry graphite was placed in the recess of the bed-plates in which the disc-plates rested, to act as a lubricant. Tongues were made on the bed-plates at two corners of the towers, and the fourth bed-plate was made without any tongue, with the idea of its moving in a diagonal direction.

At the western end of the bridge a high cut bank of hard clay had to be crossed, and although this bank was cut down to a slope of 1½ to 1, it was considered inadvisable to place pedestals on it, and it therefore became necessary to span this with a deck lattice truss span 167 feet long. The top chords of this span had to be built of special design in order to carry the heavy erection traveller, which will be referred to later on, and to give the effect of through plate-girders as viewed from the bridge floor; the bottom of these chords being at rail-level, while the top is flush with the top flanges of adjacent plate-girder spans.

As will be seen from the sheet of typical details, the columns are of very liberal dimensions, the bottom sections being composed of six angles, two web-plates 25 in. wide, one cover-plate 26 in. wide, in addition to two 6-in. plates placed in the inside of the columns. Longitudinal and transverse bracing is composed of angles laced together, the diagonal bracing being figured for tension only, and struts composed of channels placed back to back and latticed, are used to take compression stresses. Long struts are supported in the centre. The use of double triangular type of bracing (without the horizontal struts) was considered, but was not used because of the great length of compression diagonals.

Details are also shown of the bearing of the spans on column caps, consisting of steel keys set in slots in the cap of the column and riveted to the girder shoe. In the fixed end the key is a neat fit in the groove of the column cap, but in the expansion end the key is made narrow so as to provide clearance on either side for movement of key in the slot. The underside of these keys are bevelled at the edges to provide against their binding in the cap-plates. Detail is also shown of the shore end of the flanking spans which shows how the top flanges are curved.

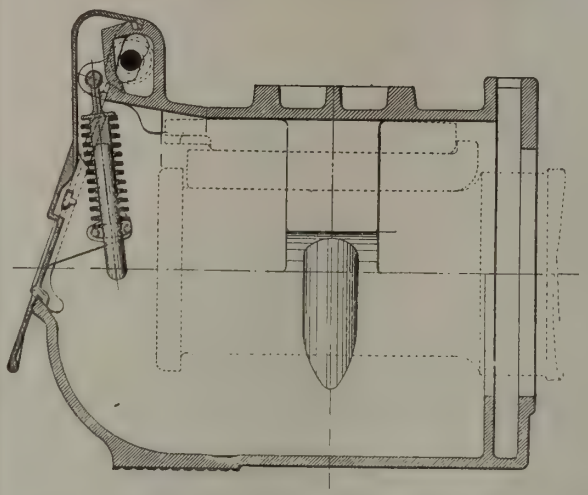
A material yard was located a short distance east of the eastern end of the bridge, over which was erected a travelling crane, consisting of a standard 125-ft. highway span, provided with end wheels, two of which at each end are connected up by gearing and shafting to standard two-drum hoisting-engine, thus providing for its travelling along the runway. Each end of the crane is provided with a 5-ton 42-ft boom derrick commanding the additional storage area of 40 ft. wide by the length of the runway for the storage of lighter class of material, the main area between the crane and the runways being utilized for the storage of girders and heavy columns. The length of crane runway is 240 ft., and the height 37½ ft. For lifting 100-ft. girders, which weigh about 30 tons each, two sets of three-sheave steel blocks rigged with ⅝-in line were provided, with a capacity of 17 tons each, connected up to a standard double-drum hoisting-engine. Turning of the 100-ft. girders end for end is provided for by hooks and beams arranged to swivel on the centre floor beam of a 125-ft. crane, such arrangement being desirable in the event of girders reaching the work wrong end first. For the purpose of transporting material from the storage yard to the front the contractor is provided with constant use of locomotive and ten flat cars. To facilitate the work of erection a regular programme for the loading of material was arranged. A pair of 100-ft. girders, with their accompanying floor-beams and stringers were loaded on two 80,000-lb. capacity 40-ft. long flat cars, the girders being loaded at a height to suit convenient picking up by the erection traveller. The 67-ft 1-in. girders, weighing about 30,000 lbs. each, were loaded in a similar manner. The columns were loaded on flat cars with corbels of convenient height for lifting off by the erection traveller.

The main traveller for the erection of this viaduct is a very ponderous machine, built entirely of steel, except for some minor parts, such as the engine-house and various platforms. (See page 803). It was designed with two principal trusses 207 ft. long, spaced 16 ft. apart centre to centre, to suit the spacing of the main girders of the viaduct spans. The cantilever portion of the trusses

LETHBRIDGE VIADUCT, C.P.R.; RETAINING WALL ALONG WEST BANK OF RIVER.

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



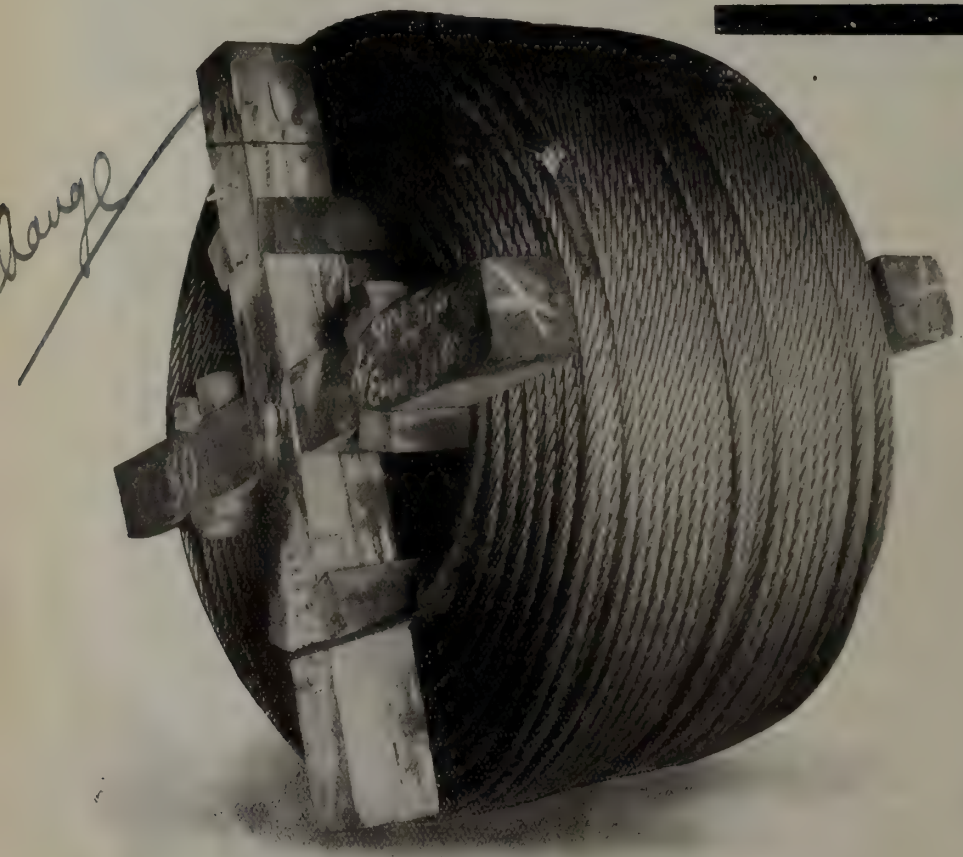
The Strongest, Lightest, Tightest Box Made

The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCORD Force Feed Lubricator

McCORD & COMPANY
Old Colony Building, Chicago

THE HOLDEN CO., Limited
302 St. James Street, Montreal



Wire Rope

We manufacture and carry a complete stock of wire rope suitable for all requirements.

Ballast Cables, Wrecking Ropes, Switch Ropes

WIRE ROPE FITTINGS OF ALL DESCRIPTIONS

The Dominion **WIRE ROPE** Co., Limited
MONTREAL

have a reach of 116 ft., the balancing portion of the trusses being 91 ft. long. The rear end of each balancing truss is carried on a truck with two 24-in. cast-steel wheels, and the forward end is supported on four similar wheels. The rear end of the traveller is counterweighted with 46 tons of steel rails, in addition to the weight of the engine-house, platforms, and hoisting machinery contained thereon. The traveller runs on 80-lb. rails on oak planking along the top flange of the girders, the rails and oak planking being bolted together in sections, so as to facilitate its placing and removal with each movement of the traveller. The weight of the traveller in working condition is 712,000 lbs. The clearance under the deck of the traveller was made sufficient to permit the running of flat cars loaded with girders under it. The strains of the traveller were carefully calculated, special attention being paid to the matter of wind stresses on account of the very high winds certain to occur during the time of erection, which was estimated to be one year. A stress sheet was made up on the expectation that it might be necessary to carry the entire weight of the bottom storey of the bent suspended from the end of the traveller, which would make a total load of 90,000 lbs. at the end of the traveller. This estimation was due to the expectation of assembling such bottom storey flat on the ground and then lifting it vertically into position on the piers. This method was later abandoned in favor of placing each item in the bent directly in its final position. To carry out this latter plan it was found desirable to suspend an assembling cage from the end of the traveller.

The erection traveller is hung with four trolleys hung on two trucks 8 ft. apart centre to centre, which trucks extend the whole length of the traveller arm and about two-thirds of the balancing arm. All the material is taken directly from flat cars run under the rear end of the traveller and handled by these trolleys, each one of which is provided with a 40-ton hydraulic jack of 18-in stroke, these jacks being used to lift the girders from the cars, as it was undesirable to set the traveller high enough to give head room for block and tackle for this purpose. Girders were run out on flat cars under the traveller, and when transferred to these trolleys they were pulled forward on to the cantilever-arm of the traveller until in a proper position for lowering into place. Lighter material, such as longitudinal bracing, was lowered direct to the ground by wire-rope tackles, and raised to position in the structure by special 85-ft. swinging booms of 5 tons capacity each, attached to the traveller. In erecting the bents the traveller was moved to position to bring the hoisting tackle at the end of the traveller directly over the centre line of the bent to be erected, the overhang of the traveller being sufficient to span the maximum space of 100 ft. made by the length of the intermediate girder span.

On completion of the lower storey of a bent supporting 100-ft. spans its top was braced back to previously-completed work by an erection strut, and similar struts were placed at each storey of the bent as it was erected, and when the bent was completed the 100-ft span was put in place, the traveller moved forward, and the remainder of the tower completed, and the tower-span put in place. All of the transverse connections and splices requiring to be field-bolted were rendered readily accessible to the workmen by means of a cage suspended from the end of the traveller. On this erection traveller were placed six hoisting-engines, and a system of telephones was installed to establish communication between the men engaged in erecting material and those in charge of the hoisting-engines. The riveting of this bridge was carried on as quickly as possible after the material was put in place, and a separate traveller was used for this purpose, moving along the same track as the erection traveller. The riveting traveller was built of timber, and high enough to permit of the passage of loaded flat cars beneath it. Riveting platforms were suspended on the sides from this traveller. All the riveting was done by pneumatic hammers. Compressed air of 100-lb. pressure was piped out on the bridge from an air-compressor plant placed on the ground near the Lethbridge abutment.

LETHBRIDGE VIADUCT, C.P.R.; VIEW FROM NORTHWEST, MAY 27, 1909.

LETHBRIDGE VIADUCT, C.P.R.; NEAR VIEW OF ERECTING TRESTLE.

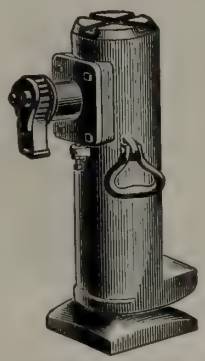
The raising of steel began about Aug. 15, 1908, and a good deal of time was lost during the winter months on account of extremely cold weather, and two weeks in Feb. on account of a strike of workmen. During March, 1909, bents 37-46 inclusive were completely erected, comprising a tonnage handled during that month of 2,300 tons and about 735 lineal feet of structure. A serious accident was averted because of the through-girder construction: a heavy derrick-car handling some heavy material was accidentally tipped over, but was restrained from falling by the through girders. The 167-ft. span over the west bank was erected in the usual manner by falsework. The last girder was placed June 22, 1909, the riveting being completed Aug. 9, 1909.

The quantities in the structure are approximately as follows:—dry excavation, 18,110 cubic yards; wet excavation, 4,870 cubic yards; concrete, 17,080 cubic yards; concrete piling, 1,676 piles; rip-rap, 339 cubic yards; steel, 12,200 tons. It required 645 cars to transport the steel actually used in the erection of the bridge to the bridge site. Contractor's plant amounted about 40 cars, tie and guard rail 53 cars, besides which there would be an additional number of cars for coal used on the work, which would make the total about 900 cars. It is estimated that in order to give the bridge two coats of paint about 7,600 gallons will be required.

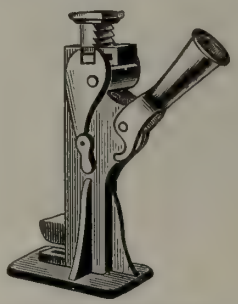
NORTON JACKS

Are Made in Canada and Save You Delay and Duty on American Made Jacks.

Sectional View


Foot Lift Jack

50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY


15 Ton Track Jack

Traversing Jack

Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

ADDITIONAL SAFETY AND ECONOMY IN

TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence.

HIGHEST AWARDS
Paris, 1900;
Buffalo, 1901; St. Louis, 1904

Continuous Joint

Over 50,000 miles in use

Weber Joint

Rolled from Best Quality Steel

Wolhaupter Joint

Catalogues at Agencies

Baltimore, Md. Boston, Mass. Chicago, Ill. Denver, Colo. Pittsburg, Pa.
San Francisco, Cal. Seattle, Wash. St. Paul, Minn. St. Louis, Mo. Troy, N.Y.
London, E. C., Eng. New York City.

THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES: BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, Frog and Switch, and Insulating Rail Joints, protected by Patents.

Throughout the work careful records were kept of all measurements, triangulations, and all other work, the notebooks being carefully indexed. In addition to this, weather records were kept, together with notes as to the wind, as on many occasions the wind was so strong that the men could not work on the erection of the bridge. In addition to this, records were kept showing progress of work. These were sent into the head office twice a month in order that a check might be kept.

During high water a new channel was formed about 300 ft. east of the old one, and considerable gravel was carried down and deposited in the vicinity of the bridge.

The bridge was designed by the C.P.R. bridge department at Montreal, while the field work was carried out under the direction of the Assistant Chief Engineer, Western Lines, Winnipeg.

The manufacture, designing of erection equipment, and erection of the steelwork were carried out in a most efficient manner by the Canadian Bridge Co. of Walkerville, Ont., contractors for superstructure. C. F. Prettie had direct charge for the bridge company in the field, and had a gang of about 100 men.

Locomotive Counterbalancing.

By H. H. Vaughan, Assistant to Vice President C.P.R.

The counterbalancing of locomotive engines is one of the few problems in connection with that apparently simple yet exceedingly complex machine which is capable of an exact theoretical determination. When the weights, locations, and movements of the various parts of an engine are known, it is possible to calculate accurately the forces which they cause at any speed of rotation, and apart from some practical considerations, such as the engine being constricted in its lateral movements by the wheels which support and guide it on the rails, and the fact that it is connected in a more or less imperfect way with a tender the movements which result from the action of these forces can also be exactly ascertained; this subject has consequently been very thoroughly treated by a number of writers, and I shall therefore endeavor to discuss, as shortly as possible, the theoretical principles which underlie it.

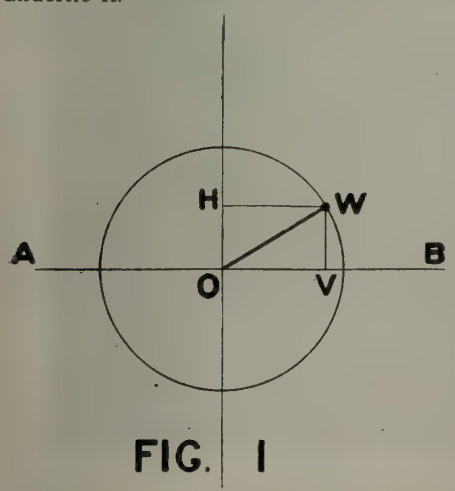


FIG. 1

The disturbing forces which necessitate the counterbalancing of any reciprocating engine are those required to start and stop the mass of the reciprocating parts at each end of the stroke; neglecting the disturbance caused by the obliquity of the connecting rod, which is unnecessary to consider in any existing type of locomotive, these forces are identical with that caused by a corresponding mass at the crank pin, with the exception that they have no vertical effect.

In fig. 1 let the weight W be rotating round the centre O, at a velocity of V feet per second; then what is known as the centrifugal force, which is really the force that is required to make W move in a curved line instead of in a straight line, as it would do if left to itself, acts along the line W O and equals $\frac{W\ V^2}{32.2r}$ when r is the radius in feet. This force W O can be resolved into two components W H and W V, the first acting entirely in a horizontal, and the other in a vertical direction; it will be seen that when W is on the vertical diameter W H is nothing, while W V equals W O, and when it is on the horizontal diameter W H equals W O while W V is nothing. Now, if the weight W moved backwards and forwards along the horizontal line A B in such a way that its position on that line was always vertically under or over the position of W when rotating uniformly around the centre O, the force necessary to accelerate or retard it is always W H, or, in other words, equals the horizontal component of the centrifugal force due to an equal weight rotating in a circle. This is what happens in the case of a weight such as a piston and crosshead actuated in a horizontal line by a connecting rod, as in fig. 2; here the distance of the weight P from the centre of the stroke corresponds with the horizontal distance of the crank pin C from the centre O and the force accelerating or retarding it is equal to C H when C O equals the centrifugal force which P would exert if moving on the path of C.

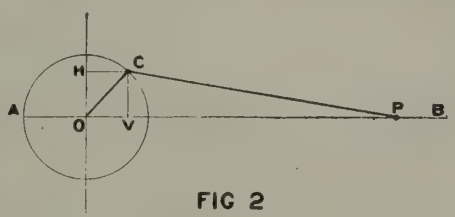


FIG 2

Since P in this case is moving entirely in a horizontal plane, it gives rise to no vertical forces whatever, and it is this fact that introduces all the difficulties in connection with balancing an engine; before, however, discussing that question, the connecting rod must be referred to. It is evident that this has at one end a circular, and at the other a reciprocating movement, while between the ends, the motion of any part is of intermediate nature; the result is the same as though part of its weight were concentrated at the crank pins and had a circular motion, while the remainder was concentrated at the crosshead and had a reciprocating motion.

In a paper read before the Northwest Railway Club, in 1893, I suggested that four-fifths of the weight of the back end should be taken at the crank pin, and the weight of the front end and one-fifth of the back end at the crosshead, figures that were obtained by calculations from two or three types of rod; this question was, however, treated in an exceedingly ingenious and scientific way in a paper read before the New York Railway Club, by R. A. Parke. He developed an accurate method for obtaining the exact division of weights for any rod, and his results showed for modern types of rod that five-sixths of the weight of the back end of the rod should be considered as concentrated at the crank pin with reasonable accuracy. I would refer anyone interested in this subject to his paper, as it is a most interesting example of the application of a really difficult mathematical analysis, by which an absolutely simple method is deduced for obtaining correct results. I consider however, for practical purposes, that five-sixths of the weight of the back end is sufficiently accurate, and that figure is used on the C.P.R. There is one more elementary statement to make, namely, that a weight of W pounds at a radius 2r has the same effect as a weight of 2W pounds at a radius r; this follows immediately from the value of the centrifugal force $\frac{M\ V^2}{32.2r}$ for with the same number of revolutions V is proportional to r, so that for equal forces Mr must be a constant. For simplicity, therefore, all balance weights will be assumed to be placed at the same distance from the centre as the crank pin.

With these facts in mind, let fig. 3 represent an ordinary engine, and let all the rotating weights be concentrated at the crank pin W, say 1000 lbs.; let the reciprocating weights be concentrated at the crosshead at P, say 1500 lbs. The rotating weight can be balanced by a weight of 1000 lbs. placed at C, diametrically opposite W on the other side of the centre; evidently, whatever be the position of the crank, the forces caused by the two weights are equal and opposite, and there is no resulting force to disturb the axle at O. When, however, attempting to balance the 1500 lbs. at P, by placing 1500 lbs. at C, the condition is entirely different; the horizontal forces caused by the movement of P are exactly equal and opposite to those caused by the 1500 lbs. at C, but as no vertical forces are caused by P's movement, the vertical forces caused by the movement of the 1500 lbs. at C are left entirely unbalanced, and the effect is the same as though a weight of 1500 lbs. at C were entirely unbalanced vertically. Whatever weight then is introduced at C to balance the horizontal forces caused by P, causes vertical forces equal in amount to the extent by which those due to P are reduced; there is no possible combination by which this can be avoided, except by using crank pins that are not at right angles to each other.

For instance, if there were a crank pin at C and a connecting rod as shown by the dotted line C L, then if the weights at L and P were in substantially the same plane and equal, they would practically balance each other, as is the case with four-cylinder engines, which can be almost perfectly balanced without introducing any vertical forces, while three-cylinder engines can be balanced longitudinally but are, with respect to nosing, almost in the same class as two-cylinder engines. The latter are the engines now under consideration, and in their case the question of counterbalancing is a compromise. If P is left unbalanced the engine is said to be badly balanced, if P is completely balanced

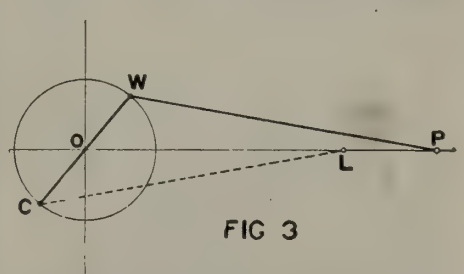


FIG 3

the engine is said to be well balanced, but vertical forces are introduced which certainly may be injurious to track or bridges.

The extent of the force due to any unbalanced weight may be calculated at any speed, but is usually taken at 40 times the weight when the speed in miles per hour is equal to the diameter of drivers in inches; it really varies with the stroke, and the exact figures are 38.5 for a 24" stroke, 41.7 for a 26", and 44.9 for a 28"; taking 40 for an approxi-

SILLIKER CAR COMPANY, LIMITED, HALIFAX, N. S., CANADA

STREET RAILWAY CARS

HEAVY FORGINGS AND CASTINGS

RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

MONTREAL STEEL WORKS, LIMITED, P.O. BOX 2369 MONTREAL

MANUFACTURERS OF

Steel Castings
(Acid Open Hearth System)

Switches and Track Work
for Steam and Electric Roads

Springs
of all kinds.

Manganese Steel Castings
for wearing Parts, insuring Great Hardness and Durability

Interlocking Plants

Trucks for Electric Cars

MANGANESE STEEL TRACK WORK

AGENTS FOR CANADA FOR

THOS. FIRTH & SONS, LIMITED
Sheffield, England
"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc.
A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO.
Barrow-in-Furness, England
Quotations for Tee Rails, Fish Plates, etc., promptly furnished.
Catalogues sent on application.

mate figure, 500 lbs. at C above that required to balance the rotating weights, or as it is termed, "as overbalance," means a force of 20,000 lbs. acting upwards and downwards at each revolution, and while this seems a high figure, it is occasionally found. The speed of 69 miles per hour is high for a 69" wheel, but it represents a possible condition, and it must be remembered that while the factor of 40 is not reached until that speed for that size of wheel, that it increases with the square of the speed, so that it is not advisable to consider a lower speed. Evidently, then, it is desirable to keep the overbalance as small as possible, and yet on the other hand the reciprocating parts must be partially balanced for the comfort of the men and the various rules of the counterbalancing have really indicated the nature of the compromise.

The rule most commonly used in America has been that recommended by the committee on the subject at the M.M. convention in 1882, in which two-thirds of the reciprocating parts are balanced; this compromise has, on the whole, given very satisfactory results, and constituted a great advance on one of the methods given as an answer to the inquiry made by the committee, which was "to figure a little and then guess at it." The two-thirds rule, however, is not necessarily satisfactory; it proves so in the majority of cases, because the relations between the weight on drivers, weight of engine, and reciprocating parts do not vary greatly in engines of ordinary types but the first great advance was made when G. R. Henderson, in a report made to the Norfolk and Western Ry., in 1895, pointed out that the allowable weight of unbalanced reciprocating parts was a factor of the weight of the engine. Assuming only, that the maximum speed is proportional to the diameter of the drivers, and that it is desired to construct engines that will be reasonably comfortable for the men at that speed; in other words, that will vibrate to the same amount, then evidently the disturbing forces, or the weights of the unbalanced parts, may vary in direct proportion to the weight of the engine. Mr. Henderson showed that engines in which $\frac{1}{400}$ of the weight of the engine was unbalanced rode satisfactorily, and that $\frac{1}{360}$ can be left unbalanced without objectionable vibration; we have then in this rule a scientific method of determining the weight of reciprocating parts that may be left unbalanced and yet allow the engine to ride reasonably well, which is applicable to engines of widely varying types; for instance, if two engines were of the same weight, but one had reciprocating parts weighing twice as much as those on the other, this rule would allow the same weight to remain unbalanced; in other words, both engines would ride equally well, whereas with the old two-thirds rule one engine would have twice as much unbalanced weight as the other.

So far as the action of the engine is concerned, there is, I consider, no criticism possible that can be made of this rule; in other words, an engine balanced by it is certain to ride satisfactorily, but in balancing an engine there is another and very important aspect of the matter which it ignores, namely, the effect of the overbalance on the track. This side of the question has often been referred to, and its effect discussed in a general way, but so far as I am aware, locomotive builders have never really established any rule limiting its amount, although they have recommended balanced compound engines for the utilization of the weight of the tender, which I shall refer to later. On the other hand, no maintenance of way engineer has, I believe, defined the limit of overbalance which he considers permissible although he will cheerfully advocate none being used; neither is he able, except in extreme cases, to show any definite evidence of damage from this cause. Taking, however, the maximum speed before referred to, an overbalance of 500 lbs. in a wheel carrying 20,000 lbs. causes the pressure between that wheel and the rail to vary from 40,000 lbs. when the overbalance is down to nothing when it is up, and any greater overbalance would tend to lift the wheel from the rail.

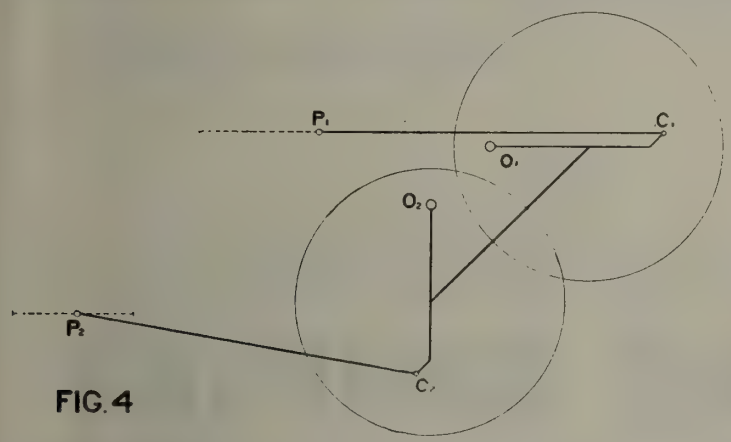


FIG. 4

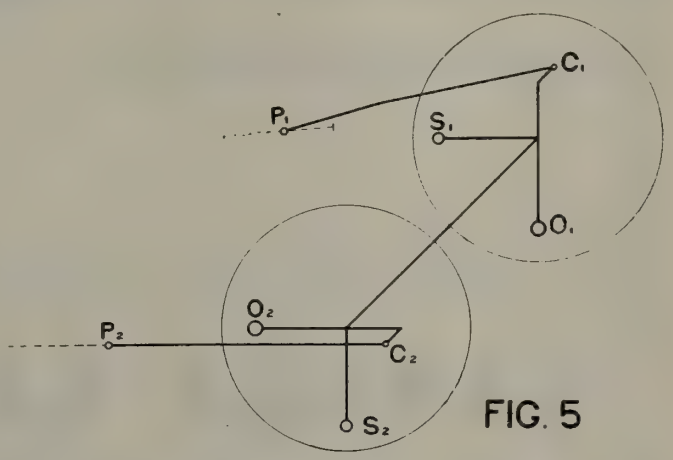


FIG. 5

Testing plant experiments show that when the calculated effect of the overbalance exceeds the weight on the wheel that it does actually leave the rail, and that there is a definite blow when it strikes again. I have analyzed this action, and have shown that this blow may, in extreme cases, be severe and sufficient to account for the damage that is occasionally met with; on the other hand, I do not believe that any case of repeated bending of rails has occurred in which the vertical effect of the overbalance did not considerably exceed the weight on the wheel. It is, however, only reasonable to acknowledge that a wheel that presses alternately nothing, and 40,000 lbs. on the rail, is going to affect the track more than one which presses down continuously with 20,000 lbs. It will damage more defective rails, cause more injury to tracks, and may, in weather when the rail is unevenly supported, be the cause of rail breakages. From the track point of view, therefore, the less the overbalance the better, and the problem of the locomotive engineer is to determine to what extent it can possibly be reduced. To discuss this I must refer more in detail to the action of the unbalanced weights on the engine.

In fig. 4 let P_1, P_2, be the right and left cross heads respectively, C_1, C_2, the crank pins, and O_1, O_2, the overbalances; as C_2 and O_2 are in the middle of the stroke they have no horizontal effect, and there is a longitudinal force equal to P_1—O_1 tending to drive the right side of the engine backward; as P_2 comes to the end of its backward stroke there is a similar force tending to draw the left side of the engine backward, and at that time the effect of P_1 and O_1 is nothing. This action is repeated at the other end of the stroke, so that the action of the unbalanced weight is to drive the engine backwards and forwards as a whole, and also to cause the ends of it to vibrate transversely; or, as it is usually called, "make it nose."

There are then two distinct actions of the unbalanced weight in an engine, which I will call the longitudinal and transverse movements; the latter you will agree, I believe, is not generally very noticeable, but on small 8-wheel engines it is objectionable when running at a high rate of speed. Some years ago, when working on this subject, I noticed, as I dare say you have, that on the longer heavier engines, the nosing from unbalanced weights was not noticeable, in a paper before the Northwest Railway Club, in 1896, I advocated a rule in which the unbalanced weight was increased in proportion to the length of the engine as well as to its weight. This rule was defective, as it increased the longitudinal vibrations on a long engine as compared to a shorter one of equal weight, and as the longitudinal vibrations are those which render an engine rough riding, it could not, and no rule could increase the unbalanced weight beyond a certain amount without being objectionable. It is true that engines balanced by it rode satisfactorily, but that was because it started with a short engine with $\frac{1}{400}$ of the weight unbalanced, and on the longest engines it was applied to did not increase the unbalanced weight beyond $\frac{1}{360}$ which is an amount that does not, as a rule, lead to criticism by the men.

Although this rule was not of much practical value, it recognized one point, namely, that the nosing motion was not as important as the longitudinal, and when investigating the counterbalancing of some engines on the C.P.R., in which the counterbalances were offset so as to increase the longitudinal, and decrease the nosing movement it occurred to me that by allowing an increase in the nosing movement, a decrease in the amount of overbalance could be obtained without increasing the longitudinal movements. This can be done by means of off-set counterbalance weights, but as they have a serious objection, the same result can be obtained by means of supplementary counterbalance weights placed at right angles to the cranks. This arrangement is shown on fig. 5, S_1, S_2, indicating the supplementary counterbalances and the

Pintsch Light Steam Heat

Most brilliant illumination made possible by the Pintsch System using perfected Mantle Lamps and Safety Axle Driven Dynamo Electric System a product of sixteen years experience and now operating successfully on leading roads

The Safety Car Heating and Lighting Co.
2 RECTOR ST., NEW YORK.

Car Heating Systems guaranteed to meet all conditons of service. Controllable Direct Steam, Hot Water or Thermo Jet System where pressure not desired. Steam tight couplers, traps, trainpipe valves and other appliances.

CHICAGO. BOSTON. ST. LOUIS. ATLANTA. PHILADELPHIA. MONTREAL. BERKELEY, CAL.

CANADA CAR COMPANY

MONTREAL, QUE. **LIMITED**

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS CASTINGS FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS:
BOX 2286, MONTREAL

Works: TURCOT

arrows the direction of the forces. Neglecting the difference in the distances, centre to centre of the balance weights and the pistons, which it is not necessary to consider here, it will be seen that the forces at O_2 and S_1 both tend to drive the engine forwards as against that of P_2 driving it backwards; in place of a force P_2—O_2 driving it backward as in fig. 4, the force is, therefore, reduced to P_2—(O_2+S_1) on the other hand, the force P_2—O_2 still tends to throw the front of the engine to the right, and it is assisted by S_1. The net result therefore is, an engine that is balanced longitudinally as an engine would be with an overbalance O_2+S_1 and balanced transversely as though its overbalance were O_2—S_1. To put this into figures, suppose the engine weighs 160,000 lbs., and the reciprocating parts weigh 1300 lbs. a side; the permissible unbalanced weight at $\frac{1}{400}$ of the weight is 400 lbs., leaving 900 lbs. to be balanced, or 300 lbs. per wheel, if the engine has six drivers; if the weight per wheel is 20,000 lbs., this overbalance is 1.5% of the weight on the wheel, and the variation in pressure at the maximum speed is 12,000 lbs. or 60%.

This would not be an unusual case in fact it would be an ordinarily well-balanced engine. Now, if we place a supplementary balance weight of 100 lbs. on the opposite wheel, and reduce the overbalance to 200 lbs., this 200 lbs., and the 100 lbs. from the other wheel, make up the 300 lbs. to balance the engine longitudinally, but for transverse balance the 100 lbs. has to be deducted from the 200 lbs. overbalance, so that only 100 lbs. is balanced in each wheel, or 300 lbs. altogether. Taking 300 from 1300 leaves 1000 lbs. unbalanced transversely, or $\frac{1}{160}$ of the weight, and we, therefore, have an engine that longitudinally has $\frac{1}{400}$ of its weight unbalanced, but transversely $\frac{1}{160}$ unbalanced. The overbalance has been reduced from 300 to 200, but the reduction in the effect on the track is not quite as great as this; the greatest effect of S_2 and O_2 is not when O_2 is vertical, but it equals $\sqrt{(O_2^2+S_2^2)}$ or, for the two weights in question 222 lbs., a reduction of 78 lbs., or 3120 lbs. at the maximum speed.

I am not entirely prepared to say how far this system can be carried, but from the experiments so far, it would appear that an engine having $\frac{1}{400}$ of its weight unbalanced longitudinally, and entirely unbalanced transversely, is entirely satisfactory as far as its riding qualities are concerned. This would mean that the supplementary balance was equal to the overbalance, and in that case the effect on the track would be 71% of that of an ordinary overbalance giving the same longitudinal effect, and this reduction can be accomplished without detriment to the ordinary qualities of the engine, or without introducing any objectionable troubles. It is true that the nosing must be prevented by the pressure on the hubs of the wheels but against this, it must be remembered, that when balance weights are distributed amongst three or four wheels that the effect of the overbalance on the boxes of all except the main wheels is just the same as it is on the track, and that the steadying effect on the engine is obtained at the expense of wear in the boxes. The wheel base on an engine is so long, compared to the distance from the centre of the engine to the centre of the cylinder, that a very small pressure on the hub is able to overcome a nosing motion much better than a balance weight, and probably with less wear.

We are not, however, leaving engines entirely unbalanced transversely except as an experiment, but are leaving from $\frac{1}{100}$ to $\frac{1}{150}$ of the weight unbalanced transversely, and $\frac{1}{400}$ unbalanced longitudinally with extremely satisfactory results; one passenger engine has been entirely balanced longitudinally and entirely unbalanced transversely. It is reported to be a perfect riding engine, and its balance is exactly the same as a 3-cylinder engine having two outside cranks each at right angles to the inside crank, and otherwise unbalanced, so that it has been shown that an engine of this kind would be entirely satisfactory as far as the balancing is concerned. We are, however, using the system of balancing to reduce the action of the overbalance on the rail, and have adopted a rule to balance the engine so that the overbalance in any one wheel shall not, if possible, exceed 1% of the weight on that wheel and is limited to 1¼%. The latter figure causes a variation of 50% of the weight on the wheel at the maximum speed, and while I have, of course, no accurate information to show that this is the proper limit, it is so much better than on many existing engines, that I feel that it is a sound limit to work to, and we are certain that under no conditions can any hammer blow occur from wheels balanced in this way. So far, no engine has been met with in which it is not possible, by using supplementary balances, to obtain satisfactory results without increasing the overbalance above this amount.

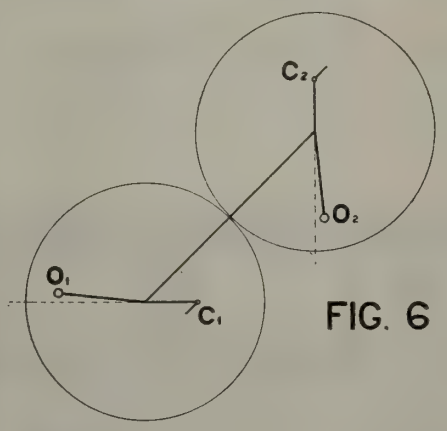


FIG. 6

There are also one or two practical advantages in the system of allowing a greater unbalanced weight transversely. It is possible to properly counterbalance consolidations as the supplementary weights can be placed in the wheels at right angles to the crank, thus overcoming the difficulty experienced of not being able to get sufficient balance opposite the crank without an excessive overbalance in the leaders and trailers. It makes the adjustment of the balance very easy. It is only necessary to cast the main balances 75 or 100 lbs. light, and then place 75, 100, or 125 lbs. in the supplementary balance, as is necessary to keep the longitudinal unbalanced weight down to $\frac{1}{400}$ of the weight of the engine. Extreme accuracy is entirely unnecessary, any engine that has less than $\frac{1}{400}$ unbalanced longitudinally will ride well, and apparently, the transverse balancing is very unimportant. The weights should be checked up to see that the effect of the overbalance and supplementary balance is less than 1¼% of the weight on the wheel, but this is fairly well known from corresponding engines and in the types so far gone into, there has been no case where this figure had to be exceeded. These advantages are, of course, incidental, the chief interest is, I consider, the fact that an engine may be unbalanced transversely to a far greater extent than longitudinally without causing its riding qualities to be objectionable, consequently, the overbalance can be reduced, and its effect on the track maintained within reasonable limits.

I have referred to the utilization of the weight of the tender. This has been done on the Prussian State Railways by coupling the engine with tender so firmly that the weight of the tender assisted in absorbing the longitudinal vibrations. If this could be done the factor of $\frac{1}{400}$ could of course be applied to the total weight of the engine and tender, and I understand that engines have run with the reciprocating parts entirely unbalanced with satisfactory results. We have always found here that when less than $\frac{1}{360}$ was unbalanced, trouble has developed in keeping up the connection between engine and tender, and lost motion has occurred very quickly. I feel that, with our heavy reciprocating parts and hard service, this method is hardly practicable, and it does not afford any hope of being able to avoid some system of balancing for two-cylinder engines.

Before closing, I wish to refer to off-set counterbalances, as it is obvious that the combination of main and supplementary balances I have described is the same as an off-set balance weight; the trouble with the latter is that it cannot be weighed, and must be calculated. Some very serious errors have been introduced by depending on weighing it, especially where it is off-set, to reduce the nosing movement; in fig. 6 let C_1, C_2, be the crank pins, O_1, O_2, the counterbalances (not only the overbalances); when weights are placed on the crank pins at C_1 they do not show the weight of the overbalance at O_1, as in the case with an ordinary balance opposite the crank; suppose the crank pin radius be 12" and the counterbalance O_2 is set 4" off the centre line; evidently the weight at C_1 acting at 12" is helped by that at O_2 acting at 4", and the mistake has been made of thinking this weighed the counterbalance at O_1; it does not begin to. O_1 in addition to balancing the weights at C_1 is balancing the entire weight of the crank pin and hub, and a numerical example will show what happens. Suppose O_1 is also 12" from the centre, and that the weight of the crank pin and hub at C_1 is 500 lbs., and that the counterbalance desired is 400 lbs. Neglecting the fact that O_1 is not quite 12" from the vertical line, it would require 900 lbs. at O_1 to give a counterbalance of 400 lbs. in addition to balancing the weight of the hub; this 900 lbs. would also act at O_2 at a distance of 4" from the centre line, and consequently the weight required at C_1 to balance would be $\frac{900\times12-900\times4}{12}$ or 600 lbs., of which 500 lbs. is supplied by the crank pins and hub, leaving only 100 lbs. actually necessary to balance an overbalance of 400 lbs. Evidently this might easily be very misleading, and the difficulty is that, from the weight on the crank pin the actual overbalance cannot be calculated except by estimating the weight of the crank pin and hub, and knowing the exact off-set of the centre of gravity of the counterbalance. For this reason the arrangement of counterbalance weights directly opposite the pin is far better as they can accurately be weighed and the supplementary balances of known weight afterwards added.

The case of Dunsmuir v. Dunsmuir was recently brought before a judge in chambers at Victoria, when an order was made nominating Mrs. Henry Croft as plaintiff in place of the late Mrs. Dunsmuir. The action is concerned with the Dunsmuir estate, of which the Esquimalt and Nanaimo Ry., and the Wellington collieries formed a part.

Inside Pump Type

Quick Action Hydraulic Jacks

Joyce-Cridland Hydraulic Jacks have a speeding device whereby they can be run quickly up to load, where the speeding device automatically cuts out, leaving only the power pump in action This device adds no extra pump or complicated parts to the jack. These jacks are so built that they may be used in any position and the filling liquid will not escape. The outside pump type has a short barrel, adapting it for use in cramped quarters.

Full description and explanation of the working parts of the Joyce-Cridland Hydraulic Jacks are given in Bulletin 33.

Outside Pump Type

A. R. Williams Machinery Co., Limited

Toronto, Winnipeg and Vancouver. WILLIAMS & WILSON, Montreal

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.

MONADNOCK, CHICAGO

C.P.R. Annual Meeting.

The 28th annual meeting of shareholders was held in Montreal, Oct. 6, Sir Wm. C. Van Horne, Chairman of the Board, presiding. The President, Sir Thos. G. Shaughnessy, in moving the adoption of the report for the year ended June 30, which was published in our Oct. issue, said:

The gross receipts for the year were quite as large as we had reason to expect, but the working expenses were abnormally heavy, due in part, as explained in the annual report, to the additional mileage included in the traffic returns, and in a greater measure to other conditions that could not well be controlled. However, with the abundant crops harvested in almost every section of the territory served by your lines, and the certainty of a very large westbound merchandise traffic, there is reason to anticipate a substantial increase in the total earnings for the current year as well as an improvement in the ratio of working expenses.

In the Annual Report reference is made to the company's land affairs, but more particularly to the success that has attended the irrigation project in the territory east of Calgary. I am sure that the outcome of this great undertaking is a source of satisfaction to the shareholders, as it is to the directors. In this connection you may be interested in knowing that the cash in hand resulting from the sale of lands and townsites has now reached the considerable sum of $14,000,000, and that the deferred payments exceed $18,000,000.

Accompanied by several of the directors I have reeently travelled over a considerable portion of the company's lines in Canada and of the subsidiary lines in the U. S., and the information that we gathered, not only as to the physical condition of the properties but as to the progress of settlement and the enlargement of agricultural and business development of every description, was most gratifying. The area of the wheat growing belt served by your lines in Western Canada is steadily increasing and interior elevators for handling grain are now to be found in districts where a few years ago the best informed never expected to see grain produced. The valleys of the Columbia and Kootenay Rivers and the lands tributary to the Okanagan and other lakes in British Columbia are rapidly being converted into orchards, the lumber interests of the mainland and Vancouver Island are becoming of vast importance, and every city and town west of Fort William bears the mark of progress and prosperity. In the commercial and manufacturing centres of Eastern Canada all of this is being reflected in a most pronounced way, as indicated by the business activity and the growth of population in practically all the cities and towns reached by your lines in Ontario, Quebec and the lower provinces. Beyond doubt we are justified in declaring that the agricultural and general business interests of Canada are in splendid shape, and that the outlook for the Company is at this time more reassuring and more promising than ever before.

"The traffic prospects of the Minneapolis, St. Paul & Sault Ste. Marie Ry. are also very satisfactory. Having secured access to Chicago and Milwaukee by the lease of the Wisconsin Central Ry., the Soo Line, in conjunction with this company, has become an important factor in the transcontinental business between these points and the Pacific Coast.

"The sanction of the Governor in Council having been obtained, the shareholders at the special general meeting held a year ago took the necessary action to provide for an increase of the ordinary capital of the company from $150,000,000 to $200,000,000, and the directors were clothed with authority to issue the additional $50,000,000, in such amounts and on such terms, from time to time, according to the requirements of the company, as they might determine. Thus far the directors have not thought it necessary to deal with the subject, but the same conditions that bring enhanced revenue also compel constant and important expenditures for locomotives and cars, for the acquisition or enlargement of terminal grounds and buildings, and more siding accommodation, not only at the important centres but at hundreds of other places on the system, and for desirable additions and improvements of almost every description on different sections of the railway throughout the country. Anticipating these future general requirements, and to meet them as they arise, the directors think it prudent at this time to make provision for the necessary funds by offering to the holders of the ordinary capital stock a portion of the unissued shares. It is proposed that the issue shall be in the proportion of 20% of the shares registered in the name of each individual holder in the books of the company in London, New York and Montreal, on Nov. 15, and the issue price will be 125, or at a premium of 25% over the face value of the shares. The usual practice of having payments made in instalments at intervals of about 60 days will be allowed, and interest at the rate of 6% per annum will be allowed on such payments. After the requisite formal action has been taken by the board, a circular letter dealing with the subject in greater detail will be prepared and mailed to the shareholders."

The resolution was seconded by R. B. Angus, and the report was adopted unanimously.

The following resolutions were also adopted:—That the indenture of lease from the Orford Mountain Ry. to this company, of which a draft is submitted, endorsed by the Secretary for the purpose of identification, be sanctioned and approved, which indenture, among other things, demises to this company for 999 years, the Orford Mountain Ry. as constructed from Eastman to Windsor Mills, together with the branches heretofore constructed, having a total length of about 58½ miles, and all other railways or branches hereafter constructed by that company, and their appurtenances, at an annual rental of a sum equal to the interest payable on all bonds carrying interest at a rate not exceeding 4% per annum, payable half-yearly, which the lessor may issue at the request of this company expressed in writing under its corporate seal, the payment of such interest being guaranteed by this company and the aggregate of all such bonds outstanding not to exceed at any time the rate of $15,000 per mile of railway, then either constructed or under contract to be constructed. And further, the President and Secretary be authorized to execute the said indenture on behalf and under the corporate seal of this company, with verbal changes if any, as they may deem proper,, not altering the substance as above described.

That by-law 94 prohibiting spitting in passenger stations, waiting rooms, or other premises of the company, passed by the directors June 14, and reading as follows be approved:

"Spitting in passenger stations, waiting rooms, closets or other premises of the company, and in passenger cars, or on platforms, except in receptacles provided for the purpose, is prohibited. Every person violating the provisions of this by-law, in addition to any other liability he may incur, will be liable to a fine not exceeding $40 for each violation, such penalty to be imposed and collected in the manner prescribed by the Railway Act. Where such violation is attended with damage or annoyance to the public, the company may summarily interfere, using reasonable force if necessary, to prevent such violation or to enforce observance of the provisions of this by-law without incurring any penalty by reason thereof."

That by-law 95 relating to tariffs of the telegraph tolls to be charged by the company passed by the directors Oct. 6, amending by-law 93, and reading as follows be approved:

"That J. Kent, Manager of the Company's Telegraphs be authorized to prepare and issue tariffs of the telegraph tolls to be charged by the company as provided for by the Railway Act as amended by 7-8 Edward VII., chap. 61, being "An Act to amend the Railway Act with respect to Telegraphs and Telephones and the jurisdiction of the Board of Railway Commissioners," and any further amendments of such Railway Act, for all telegraph traffic of the company upon that portion of its railway upon which the telegraph tolls clause of the Act applies, and upon other railways owned or operated by the company."

The retiring directors, D. McNicoll, C. R. Hosmer, Hon. R. Mackay and Hon. J. Dunsmuir, were re-elected for a further term of four years.

At a meeting of directors held immediately after the shareholders' meeting, the following officers were re-elected for the current year:—Chairman of the Board, Sir Wm. C. Van Horne; President, Sir Thos. G. Shaughnessy; Vice President, D. McNicoll; Executive Committee, R. B. Angus, D. McNicoll, E. B. Osler, M.P., Sir Thos. G. Shaughnessy, Lord Strathcona, Sir Wm. C. Van Horne.

G.T.R. Betterments, Construction, Etc.

Bonaventure Terminals.—Reports are again in circulation that plans are in preparation for the reconstruction of the terminals at Bonaventure, Montreal.

Turcot Yards.—Work has been started on the enlargement of the freight yards at Turcot, Que. At present they have a capacity of 4,000 cars, but the company has a site sufficiently large to increase the capacity to 15,000 cars. In view of the present extension, the Montreal Park and Island Ry. Lachine line will be moved 600 ft. towards the Canada Car Co.'s works.

St. Lambert Freight Yards.—Plans are being prepared for the enlargement of the terminals at St. Lambert, Que., for which the company has acquired over 100 acres in the vicinity. No time has been fixed for the starting of the work, but it is expected that everything will be in readiness next year.

The Midland Line.—A survey party started work at Cobourg, Ont., Oct. 1, on surveys in connection with the improvements proposed on the Midland section of the company's line. It is understood that the work will involve the straightening of the line in the town and the erection of a new station.

Bridgeburg Bridge.—The company is carrying out some work on its bridge across the Niagara River, connecting Bridgeburg, Ont., with Buffalo, N.Y. For this some false work has been erected. On the part of New York State it is claimed that the false work interferes with Erie canal navigation, and steps are being taken to prevent the work from proceeding. The company has secured a temporary injunction to prevent interference.

Brantford Improvements.—A conference has been held at Brantford, Ont., between city officials and the G.T.R., with reference to the carrying out of a number of improvements on the railway property there. A number of matters were discussed, and it was arranged that a further conference would be held. (Oct., pg. 721.)

The Hamilton Steel & Iron Co.

HAMILTON, CANADA LIMITED

PIG IRON

RR. AXLES **ANGLE BARS**
TRACK SPIKES **TIE PLATES**

Marine and Railroad
FORGINGS
In Rough, Rough Turned or Smooth Finished

BAR IRON **BAR STEEL**
Plain, Cold Twisted or Deformed

STEEL BARS
For
CONCRETE REINFORCEMENT

"AMERICAN"
Locomotive Cranes

With or without Magnet for Storekeeper's yard.

Built for discriminating buyers.

Photographs of machines in operation furnished on application.

We also manufacure the "AMERICAN" Railroad Ditcher.

AMERICAN HOIST & DERRICK CO.

ST. PAUL, U.S.A.

CHICAGO NEW YORK PITTSBURG NEW ORLEANS

American Association G.P. and T.A.

In our last issue we were only able to refer briefly to this Association's meeting at Toledo, and to summarize some of the suggestions made by the retiring President, G. T. Bell, A.P.T.M., Grand Trunk Ry. Mr. Bell said:—"At our convention seven years ago, following the report of a committee, the enlargement of the Association's usefulness, a resolution was introduced by me and adopted requesting the American Association of General Baggage Agents, American Association of Travelling Passenger Agents, International Association of Ticket Agents, and similar passenger organizations each to appoint an official representative to appear before this Association yearly and deliver a short address reviewing the work of his organization and presenting suggestions for the betterment of the passenger service. Many interesting and helpful addresses have since been given and are published in our proceedings. Out of the same resolution has grown valuable addresses from the passenger branch of the Association of American Railway Accounting Officers. Between that association and ours there should always be the closest co-operation, which, I believe, can be made mutually and increasingly beneficial. It is my earnest hope and belief that the joint committee of these two associations will be able shortly to recommend a new system of interline ticketing that will immensely reduce the number of forms now considered necessary, and at the same time greatly simplify the work of the ticket sellers. If coupled with this important improvement, a joint committee from this association, the ticket agents associations, and the transportation section of the American Railway Association, would consider and report upon a plan for securing and retaining by suitable encouragement, especially at leading stations where the ticket business requires the exclusive attention of one or more ticket sellers, the most efficient and experienced men, it would tend to a general betterment of the service, be creditable to the transportation lines, and appreciated by the public. If left to the initiative of individual lines or territorial passenger associations, reforms in these two directions will be slow and uncertain compared with results likely to follow the well matured recommendations of strong joint committees representing all transportation lines and all interested branches of the passenger service. As a basis for further consideration of these subjects there is much of value in the carefully stated ideas from the International Association of Ticket Agents which appear in the proceedings of our New Orleans Convention, October, 1903, and are renewed in report from the same association in the proceedings of our Old Point Comfort Convention, October, 1904, and which are endorsed and extended in the address from the same Association, also from the Canadian Ticket Agents Association, at our Atlantic City Convention, October, 1906, and on other occasions.

"In closing my term as President I venture to urge upon the new officers of our association earnest attention to these subjects. Our efforts should ever be to advance through our association progressive ideas designed to improve the passenger service of our three countries. Do not rest upon the laurels of the past—press forward towards new victories. Never permit the germ of sectional or territorial ideas to undermine the broad and strong foundation upon which we have built so long and so well."

W. Bunton, G.T.R. ticket agent, Peterborough, Ontario, who represented the Canadian Ticket Agents Association at the convention, was given a very hearty reception. He said:—

"There are some things which need not be said, but which, from consideration of courtesy, must be said. In Peterboro, where I come from, a gentleman of the Hebrew persuasion, conducted two clothing stores. He had occasion to take a business trip, leaving his son in charge of his interests. One night one of the stores was destroyed by fire; the son wired the father these words:—'Store burnt last night, come home at once.' While the operator was counting the number of words of the message, he suggested that the son should add, for the father's information, which store was destroyed. 'Oh, there's no need of that—he'll know." It went without saying that there was no misunderstanding as to where the fire occurred. It also goes without saying that I am proud and honored with the position I find myself in to-day—received with cordiality and kindness by a distinguished gathering of the foremost representatives of the tremendous transportation interests of this continent. I take this as a high compliment because, aside from the special interests involved in this great gathering, I am a foreigner and a stranger—at least I felt that I was a few minutes ago, but I don't feel that way now—the kindness of my reception seems to me like adoption into the family. I am not surprised at that, for we Canadians know from the past, the broad-minded, liberal, fraternal spirit that moves the American Association of General Passenger and Ticket Agents. You have shown this spirit by honoring Canada in holding your annual convention in Toronto last year. This liberal spirit is further exhibited in your choice of President, G. T. Bell, who you all know from reputation. From both personal and business knowledge, I can confidently say that if he makes as great a success in the capacity of President as he has done as General Passenger and Ticket Agent, and now Assistant Passenger Traffic Manager of the G.T.R., your association made no mistake in the choice of a presiding officer.

I only wish I could speak as confidently of the choice of a representative to your association, made by the Canadian Ticket Agents Association, with which I am honored. Whatever question there may be of the business ability and mental capacity of your humble servant, to fittingly represent the Dominion, you will, perhaps, be inclined to admit that in the matter of physical proportions, I am a worthy representative of the largest country on the western hemisphere. For you all know that Canada is a big country. In the matter of territorial area it is larger than the United States. If Canada could be lifted and planted on the top of Europe it would blot out two-thirds of its area and squelch about 200 millions of population. While Canada bulks big in territory, it has a comparatively small population, but if you will permit me to say so, what it lacks in numbers it makes up in quality, pluck and enterprise. "Little frozen Canada," as some of our Yankee cousins playfully call it, has in the way of enterprise, achieved a record, which for its numerical strength is, perhaps, without a parallel in human history. Before Canada had a population of 5,000,000 it had expended $100,000,000 in building canals and opening waterways and another $100,000,000 in building railways, that is, the Government had laid out $200,000,000 in providing the highest essential of advanced civilization—transportation—$40 for every man, woman and child of our population. And we are still at it. Sir Wilfrid Laurier, Premier of Canada, who by the way, is a great admirer of your country and people, said in his campaign addresses last election that the 19th century belonged to the United States and the 20th century belongs to Canada—that is while the United States in the 19th century made its tremendous strides in growth, Canada would do the same in the 20th century. Not that the United States would stand still—by no means—but having practically reached the limit of expansion it would devote its energies to concentrating, solidifying and strengthening the fruits of its progress, while Canada will play the role of conquering and peopling its boundless vacant places and developing its equally inexhaustible natural resources.

Transportation is the key that unlocks the treasure house of national wealth. In this both the great countries of the North American continent are interested. The annual trade exchange between Canada and the U.S. amounts to between $400,000,000 and $500,000,000 yearly, and it is bound to increase. Canada has, perhaps, the largest per capita trade of any country in the world. Our total trade, incoming and outgoing, is over $100 per head of population, while that of the U.S. is about $30 per head. This discrepancy is not mentioned by way of disparagement—it is simply explained. The U.S. has far greater population and a lesser extent of undeveloped resources, easily converted into trade material. We have a great wealth of natural resources and a small but energetic population alive alike to its opportunities and responsibilities. There seems to be no end of our resources. From the apple orchards of the Annapolis Valley, down by the Atlantic, to the peach belt of the Niagara district, from there to the fruit farms of the Okanagan Valley beside the Pacific ocean, and from there to the golden drift of the Klondike, every square mile of the three million odd square miles of Canada contains resources that invite and will richly repay commercial and industrial exploitation. Less than a dozen years ago, the lands in the Cobalt district, now one of the greatest, if not the greatest silver producing camps in the world, would not sell for a dollar a square mile—to-day some of this territory is worth a dollar a square inch—and the same general conditions in other forms applies to your own Alaska. What a tremendous work is cut out for the iron horse and his steel speed-way, our railway lines and systems!

In the matter of transportation the interests of the two countries are largely common. Our railway systems so overlap, interlace, and dovetail one into the other, as to constitute international systems defying boundary lines. The Canadian Pacific is eating its way into United States territory at different points. A great U.S. railway system, controlled by the way by another Canadian, J. J. Hill, is nosing its way into the Canadian west, and another great Canadian transcontinental, the Grand Trunk Pacific, is throwing out its trade tentacles. The G.T.P proposes building a spur south from the main line to Emerson on the Red River, the forerunner of an extension to the twin cities, St. Paul and Minneapolis or other points. These conditions indicate the mutual nature of the interests of railways and the wisdom of co-operation for mutual self interest and protection. There is room for infinite expansion. In the matter of U.S. and Canadian railways there are no main lines—they are all, to a great extent, feeders to each other. While they are rivals, they cannot live, to the highest advantage, without each other.

The U.S., having reached the limit of home expansion in the 19th century, did not fold its hands in idleness. With the restless spirit of Yankee enterprise you sighed for more worlds to conquer and you found them in Cuba, in the Phillipines, in Hawaii and in Canada. The American invasion of to-day is a big episode in history, like the Israelites, taking possession of the Promised Land. A generation ago Canada lent you a million or so of the very flowers of Canadians, to

RAILROAD SUPPLIES

THE CANADIAN FAIRBANKS CO. LTD.

Montreal Toronto St. John, N.B.
Winnipeg Calgary Vancouver

HAND CARS
MOTOR CARS
PUSH CARS
VELOCIPEDE CARS
TRACK JACKS
RAIL DRILLS
RAIL BENDERS
PORTABLE RAIL SAWS
WRECKING FROGS
ENGINE REPLACERS
CATTLE GUARDS
CAR MOVERS
TRACK TOOLS, ETC.

NOVA SCOTIA STEEL AND COAL CO. LIMITED

MANUFACTURERS OF

Railway and Electric Car Axles, Angle Bars and Tie Plates, Railway Spikes

Tee Rails 12, 18, and 28 lb. per yard

ALL SIZES BAR STEEL FOR CAR-BUILDERS' USE. Spring, Machinery, Tire, Angles, and Merchant Bar Steel. Heavy Forgings of all Descriptions.

SCOTIA PIG IRON Also Miners and Shippers of the Famous Old Mines "SYDNEY" **COAL**

High in Carbon—Low in Ash. The best Steam Coal for Locomotive, Steamship, and Stationary Boilers.

Works at
NEW GLASGOW AND SYDNEY MINES, NOVA SCOTIA.

Collieries at
SYDNEY MINES

FOR PRICES AND OTHER PARTICULARS APPLY TO

Head Office: NEW GLASGOW, N. S.

help to make your country great, and they have done their work and made their mark in every realm of activity—in your senatorial chambers and legislative halls, in your colleges, in your laboratories, in your factories and workshops; and now you are paying us back; you are sending the cream of your western farmers to seize upon the Canadian west. In doing this, you are not only honorably paying a debt, but you are making a gilt edged investment. These good Yankee farmers will help to build up a new empire in the west, and help to develope the gold mine that never peters out, the golden wheat field. This year the Canadian west has reaped 120,000,000 bushels of wheat with only a tenth part of our wheat land gashed by the plough. When we reflect what the present means and foresee what the future holds, we can see the boundless international travel and traffic possibilities. You want no. 1 hard wheat for the mills of Minneapolis and elsewhere, and we shall want your manufactured and other products, and they will come and go, for no line of custom houses can dam the tide of trade, nor any tariff tinkers build a wall that a mogul engine will not flatten.

The railway men of both countries have an interest in taking advantage of these conditions and friendly co-operation (and good-will and friendliness are the cue), and the right spirit is abroad. Your association has hung out friendly signals, by holding your annual meeting last year in Canada. You elected as your president a Canadian (and he is a specimen brick), and you have in other ways practically recognized the obligations arising from a common interest. To show international amity the Canadian Ticket Agents Association has held several of its annual meetings in the U.S. for the promotion of good fellowship and the creation of an esprit de corps, as between the traffic officials of the two countries. This has more than a sentimental interest; it has a real, a substantial and tangible value, represented by facilitated and increased business. And the cordial reception that has been tendered me today, as the delegate of the Canadian Ticket Agents Association, is another proof of the freemasonry of railroading. The more we get together the more we see and know of each other and of the systems over which we route passengers to be handled by the lines under your jurisdiction, the better it will be for all of us and for the vast and closely interrelated interests we represent.

This brings me to a sore, or at least a tender spot in the hearts of the Ticket Agents Association. In our business capacity we can do everything, but one thing. We can send thousands of travellers over your systems, but we can't send ourselves except on the same degrading terms that apply to the common every day public. In the past ticket agents have been given complimentary transportation on your roads. A law—I won't call it any names (only think them)—cut off our commissions, and at present only bona fide ticket agents who make an exclusive business of selling tickets are favored with transportation. Now, a large proportion of ticket agents (and many of them our best) conduct ticket agencies in connection with some other suitable business—this does not make them any worse workers for the railways—the acquisition of railway knowledge which free transportation helps to give is in the interest of the railways themselves. The agent who can give the customer the best information stands to do the best business. The agent who speaks from personal knowledge of what he is talking about will pull in the most and best business, for the public, like the man from Missouri, "want to be shown." A ticket agent who keeps in personal and intimate touch with traffic conditions and changes is the best man for the business. Free transportation is the best possible means to this, and the legislation I have referred to shuts out many of the best ticket agents, men who, in connection with an honorably connected commercial business, have worked themselves high in the confidence of the public, and who can easily, and with advantage, use that confidence in connection with a ticket agency. With all the extensions you railway gentlemen are making, you might include the extension of free transportation to the now contraband class of our ticket agents. It won't cost the railroads much to carry us—our good company should be enough compensation—and we won't take up much room (with my native modesty, I speak for others and not for myself). It won't hurt the railway companies and will be a great benefit to us—on the same principle of the big hulking Cornish miner, who, on being chaffed for allowing his little wife to thrash him, philosophically answered "It pleases she and it don't hurt Oi."

In conclusion I wish to repeat my acknowledgments of the courtesy of your kind reception, of your patience in listening to my remarks, and to re-assert that the railway interests and the general national interests of both countries are very largely in common. We live under different flags, and though these two flags differ in color-blending and blazonry, they are woven of the same sterling fibre, constitutional liberty and free institutions, they stand for the same principles of enterprise, progress, and the rights of humanity. Although we owe and own different allegiance, we all spring from the same stock, the same blood flows in our veins, and common interests and common ambitions should make us allies and coworkers in all things separate in name, but united in aim. Both in the railway world and in national activities these two countries pulling together will make a team that cannot be beaten—fit to "make the grade" on a double track line, that will carry humanity on this continent to the highest destination of human achievement."

Great Northern Ry. Lines in Canada

Winnipeg Terminals.—It is understood that the Hill interests have recently made offers for the purchase of the amusement park, known as Happyland, to add to the properties already acquired for terminal purposes in Winnipeg. The price offered was said to be insufficient, but the matter has not yet been finally disposed of.

Midland Ry. of Manitoba.—The Manitoba Legislature has passed an act amending sec. 3 of the company's act of incorporation by striking out a number of words defining the route from Winnipeg to Brandon and westerly, and inserting the following words:—"In a generally westerly direction to the city of Brandon, thence in a generally westerly direction." Power was also given to transfer its constructed lines, together with all its franchises and rights to another company. (See Manitoba Great Northern Ry.

Manitoba Great Northern Ry.—The Manitoba Legislature has incorporated a company with this title for the purpose of acquiring the Midland Ry. of Manitoba, together with all its rights and franchises, subject to the approval of the Lieut.-Governor in Council. The capital is fixed at $50,000, and it has power to issue bonds to the amount of $20,000 a mile. The provisional directors are : L. W. Hill, R. I. Farringdon, J. Fisher, C. P. Wilson and J. F. Fisher. Notice has been given that all formalities having been complied with, the M.G.N. Ry. has taken over the lines of the Midland Ry. of Manitoba, and has become possessed of all its rights, franchises, and other property. The lines taken over are two in number, namely, one from Gretna, on the International boundary, to Portage la Prairie, and the second from Morden southeasterly to the International boundary. A press report from Morden, Oct. 6, says that one of the first works to be undertaken will be the extention of the Morden line. The proposition under consideration is to extend the line in a northwesterly direction, passing two miles to the east of Miami and about four miles west of Rosebank, then, to near Rathwell, probably touching Carberry.

Saskatchewan.—Surveys are being made for a line running easterly from Regina, to connect with the Brandon, Saskatchewan and Hudson Bay Ry. at Brandon, Man., and also for a line from Regina to the International boundary to connect with one of the G.N.R. branch lines running northerly from near Minot, N.D. It is stated that construction will be started on these two lines by the end of the year.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—Preliminary surveys have been completed for the tunnel route for this line in the vicinity of Princeton, B.C. The new route diverges from the old at Otter Flat, following the Tulameen River to the mouth of Eagle Creek,thence along the creek for about a mile, where the tunnel begins and extends for eight miles to the Coquihalla. The tunnel will have a gradient of about 1%. The old route was a circuitous one via the Otter valley and the Coldwater and necessitated a 2% gradient. The tunnel route will reduce the distance between Princeton and Vancouver from 154 to 124 miles. It is estimated that the tunnel will take about five years to construct. While it is under construction a temporary line will be built to meet the pressing need of early connection with the coast. J. H. Kennedy is Chief Engineer of the line.

Nothing yet has been decided with reference to the projected terminals in Vancouver. Plans have been prepared for the erection of a new station at New Westminster, B.C. It will be located immediately to the east of the present station. The building will be two stories high. accommodation being provided on the ground floor for the company's business, while the second floor will comprise agent's quarters. Work will be started immediately. (Oct., pg. 713.)

The Governor in council has confirmed the act passed last session by the Ontario Legislature amending the Ontario Railway Act. 1906, in so far as the statute purports to prohibit or regulate work, business or labor within the legislative authority of the province on Sundays.

The three men who were recently found guilty at Montreal of obtaining money from various Canadian transportation companies by means of claims for bogus accidents, were sentenced to five years, two and a half years, and one year at hard labor, respectively, in St. Vincent de Paul penitentiary.

In the case of Robinson v. C.N.R. at Winnipeg, recently, judgment was delivered in favor of the plaintiffs, who claimed damages for loss suffered by the lack of spur track facilities. The amount of damage sustained is to be enquired into. The spur was laid to plaintiffs' premises by the Northern Pacific Ry., in 1888, and was removed by the C.N.R. in 1904, after the company had leased the N.P.R. lines. The plaintiffs had later petitioned the Board of Railway Commissioners in the matter, and had obtained an order for the restoration of the tracks, the company maintaining that it would be inconvenient to continue such facilities.

POLSON IRON WORKS

LIMITED

TORONTO, CANADA

Steel Shipbuilders, Engineers and Boilermakers

Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers. . . . .

OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO

N. CURRY, President
N. A. RHODES, Vice-President

CAPITAL $1,000,000

J. M. CURRY, Sec.-Treas.

RHODES, CURRY COMPANY, LIMITED

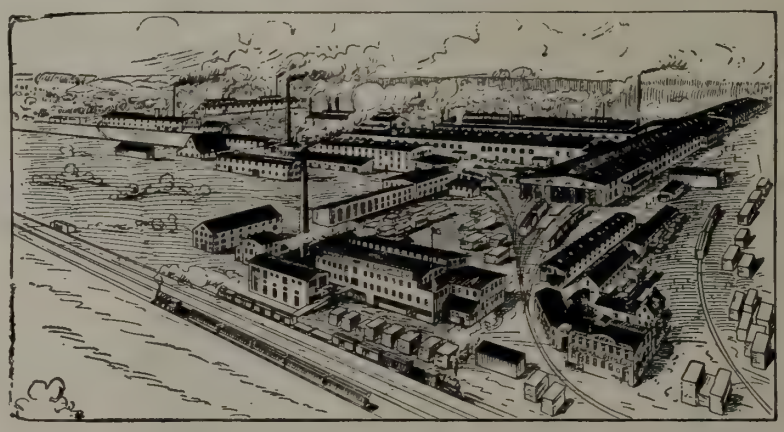
AMHERST, NOVA SCOTIA

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels



Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this.

The dates given of orders, immediately following the numbers, are those on which the hearing took place and not those on which the orders were issued. In many cases orders are not issued for a considerable time after the date assigned to them.

8112. Sept. 16.—Authorizing Volcanic Oil & Gas Co. to place wires across P.M.R. in Tilbury East and Romney tps., Ont.

8113. Sept. 15.—Authorizing Saskatchewan Government Telephones to place wires across C.N.R. between secs. 21 and 28, tp. 33, r. 4, west 3rd mer.

8114. Sept. 16.—Authorizing Govan Rural Telephone Co. to place wires across C.P.R. at Valley St., Govan, Sask.

8115. Sept. 15.—Authorizing C.P.R. to construct spur for the Lake Megantic Pulp Wood Co., near McLeod's, Compton county, Que.

8116. Sept. 21.—Authorizing C.P.R. to construct branch line on alley west of Caron Ave., Windsor, Ont.

8117. Sept. 21.—Authorizing C.P.R. to construct bridge 69.8, Moose Jaw section.

8118. Sept. 17.—Authorizing C.P.R. to construct bridge 42.15, Schreiber section, Lake Superior Division.

8119. Sept. 21.—Approving location and plans of C.N.R. stations, Ottawa-Hawkesbury and Gearneau-Quebec Divisions.

8120. Sept. 14.—Dismissing application of G.T.R. for permission to construct spur to Noxon Co.'s premises, near Ingersoll, Ont.

8121. Sept. 21.—Approving location of C.N.R. from mileage 10 to 15, up Fraser River from Yale, B.C.

8122. Sept. 21.—Authorizing Ontario Power Co. to place its transmission line across N. St. C. & T. Ry. between lots 17 and 30, Thorold tp., Ontario.

8123. Sept. 21.—Approving revised location of G.T.P.R. from s.e. ¼ sec. 14 to s.w. ¼ sec. 23, tp. 14, range 27, west 1st mer., Shoal Lake District, Man.

8124 to 8127. Sept. 21.—Authorizing Saskatchewan Government Telephones to place wires across C.P.R. at four points.

8128. Sept. 21.—Authorizing Town of Weyburn, Sask., to lay water main under C.P.R. at Third St.

8129 to 8131. Sept. 21.—Authorizing B.C. Telephone Co. to place wires across Van., Vic. & Eastern Ry at three points in B.C.

8132, 8133. Sept. 21.—Authorizing Bell Telephone Co. to place wires across C.P.R. at West Brome, Que., and across G.T.R. at Clinton, Ont.

8134. Sept 21.—Authorizing Canadian Machine Telephone Co to cross G.T.R. at Mount Pleasant flag station, Ont.

8135. Sept. 21.—Authorizing Volcanic Oil & Gas Co. to place wires across M.C.R. at lot 9, North Middle road, and lot 9, South Middle road, Ont.

8136. Sept. 17.—Authorizing Town of Milton, Ont., to lay water main under C.P.R. at Court St.

8137. Sept. 14.—Directing that in operation of railway lines where snowfall is such as to require running of snowplows or flangers, the company may remove planks from farm crossings; provided that no such planks shall be removed unless necessary, and shall be replaced by the company in the spring, or as soon as snow is off the ground.

8138. Sept. 21.—Authorizing C.N.Q.R. to open for traffic the portion of its line from its connection with the Quebec & Lake St. John Ry. in Quebec City to Garneau Jct., 78.76 miles.

8139. Sept. 15.—Refusing Toronto Railway Co. leave to appeal order 7813, July 3, authorizing City of Toronto to construct bridge across its tracks at Queen St. East.

8140. Sept. 14.—Authorizing Nipissing Central Ry. to construct its railway across Temiskaming & Northern Ontario Ry. by an overhead crossing, in town site of Argentite, Ont.

8141. Sept. 22.—Authorizing Macdonald municipality to place wires across C.N.R. near Sanford, Man.

8142. Sept. 14.—Ordering the G.T.R. to clean station at Seguin Falls station Ont., to provide proper station seats and lamps and to construct platforms, etc.

8143. Sept. 22.—Directing that time for completion of work in connection with bridge carrying St. Catharines St., Montreal, over C.P.R. tracks be extended until May 1, 1910.

8144. Sept. 21.—Authorizing G.T.P.R. to operate trains across Winnipeg Elec. St. Ry. at Pembina highway, Winnipeg, without being brought to a stop.

8145. Sept. 14.—Ordering all railways subject to the Board's jurisdiction to equip, before April 1, 1910, their freight vans with coupler-operating levers, and the cupolas of cabooses with air-gauges and air-controlling valves.

8146. Sept. 22.—Recommending to Governor in council for sanction agreement between Canadian Collieries Limited, and United Coal Fields of British Columbia, re sale and transfer of franchise, powers, railway, and undertakings.

8147. Sept. 22.—Approving location plan of C.P.R. station at Mowbray, Man.

8148. Sept. 22.—Authorizing C.P.R. to open for traffic portion of line from Bolton to Bolton Jct., Ont.

8149. Sept. 21.—Directing C.N.R. to construct certain highways in Fort William, Ont.

8150. Sept. 22.—Authorizing Listowel Municipality Electric Light System to place wires across G.T.R.

8151. Sept. 22.—Authorizing C.P.R. to construct spur in Kildonan, Man.

8152. Sept. 22.—Authorizing C.P.R. to construct spur for Empire Elevator Co. Fort William, Ont.

8153. Sept. 22.—Approving plan of iron bridge to be constructed by G.T.R. to replace present bridge near Ailsa Craig, Ont.

8154. Sept. 22.—Authorizing the C.P.R. to construct spur for J. Brodie & Son, mileage 3.79 from Staynerville Jct., Que.

8155, 8156. Sept. 22.—Authorizing Listowel Municipality Electric Light System to place wires across G.T.R. at Mill St.

8157. Sept. 23.—Authorizing Walford Rural Telephone Co. to place its wires across C.P.R. at Irish Creek, Ont.

8158. Sept. 23.—Authorizing Bell Telephone Co. to place wires across M.C.R. near Bridgeburg, Ont.

8159. Sept. 21.—Dismissing application of C.P.R. for leave to cross the G.T.R. with its tracks in Ingersoll, Ont.

8160. Sept. 22.—Dismissing application of C.P.R. to cross the G.T.R. with its track at mileage 5.03 in Oxford county, Ont.

8161. Sept. 24.—Approving location and plans of C.P.R. station at Belle Plain Sask.

8162. Sept. 24.—Authorizing G.T.R. to construct spur to Schultz Bros'. premises, Brantford, Ont.

8163. Sept. 24.—Authorizing C.P.R. to construct spur for Redcliffe Realty Co., Redcliffe, Alta.

8164. Sept. 24.—Approving location of G.T.P.R. from Prince Rupert easterly, mileage 150 to 180.74, Coast District, B.C.

8165. Sept. 23.—Authorizing Bell Telephone Co., to place wires across G.T.R. at Howick Jct., Que., and M.C.R. ½ mile west of Charing Cross station, Ont.

8167 to 8171. Sept. 23.—Authorizing Manitoba Government Telephone System to place wires across C.N.R. and C.P.R. at various points.

8172. Sept. 24.—Authorizing the City of Toronto to lay high level intercepting sewer on Don Esplanade, across G.T.R.

8173. Sept. 24.—Authorizing the town of Walkerville, Ont., to lay sewer under G.T.R.

8174. Sept. 25.—Authorizing C.P.R. to construct a line connecting its Pembina branch with G.T.P.R. main line in Winnipeg.

8175. Sept. 24.—Amending order 8087, Sept. 15, authorizing the Mount McKay and Kakabeka Falls Ry. to cross C.N.R. at Yonge St., Fort William, Ont.

8176. Sept. 24.—Authorizing C.N.R. to cross C.P.R., Wetaskiwin branch, at Camrose, Alta.

8177. Sept. 20.—Approving rearrangement of C.P.R. tracks between bents 2, 3, 4 and 5, and elevation and clearances of overhead footbridge at Brown St., West Fort William, Ont.

8178, 8179. Sept. 25.—Authorizing Manitoba Government Telephone System to place wires across C.N.R. at Glenfrosa siding, and at Third St., Belmont.

8180. Sept. 25.—Authorising C.P.R. to construct spurs for Speitz Fur Co. and Hanover Cement Co., Hanover, Ont.

8181. Sept. 25.—Authorising G.T.R. to construct branch and three spurs therefrom to Asbestos Mfg. Co.'s premises, Lachine, Que.

8182. Sept. 25.—Authorising C.P.R. to construct spur for Sydney Brick Co., Sydney, Man.

8183. Sept. 25.—Authorising the C.P.R. to construct branch line in Calgary, Alta.

8184. Sept. 25—Approving Supplement 2 to Canadian Freight Classification 14.

8185. Sept. 25—Authorising C.P.R. to construct trestle bridge at mileage 63.5, Moose Jaw branch, Sask.

8186. Sept. 25—Authorising G.T.R. to construct spur for Sanderson-Harold Co., Paris Jct. station, Ont.

8187. Sept. 25.—Authorising G.T.R. to construct spur for Bechtells Ltd., Waterloo, Ont.

8188. Sept. 25.—Authorising C.P.R. to construct spur for Charbonneau, Leroux & Forget, St. Vincent de Paul Parish, Que.

8189. Sept. 25.—Authorizing C.P.R. to construct spur to Asquith ballast pit on its Pheasant Hills branch, Sask.

8190. Sept. 25.—Authorizing G.T.P.R. to operate its trains across C.P.R. Pembina branch at Oak Point Jct., near Winnipeg.

8191. Sept. 25.—Authorizing C.P.R. to construct branch line in parish town of Lachine, Que.

8192. Sept. 29.—Authorizing C.N.Q.R. to place wires and tracks under Bell Telephone Co.'s wires at Charlesbourg Road, Quebec county, Que.

8193 to 8195. Sept 25.—Authorizing Hydro-Electric Power Commission of Ontario to place wires across G.T.R. at three points.

8196. Sept. 27.—Authorizing C.P.R. to open for traffic the Kenora section of its double track from Busteed, mileage 16.0 to Deception, mileage 18.8, Ont.

8197. Sept. 23.—Approving location of C.N.Q.R., Hedleyville Jct. to the Montmorency River, Quebec county, mileage 0 to 7.62.

8198. Sept. 27.—Authorizing G.T.P.R. to operate trains over Pembina highway crossing, Winnipeg, without being brought to a stop.

8199. Sept. 27.—Authorizing Brantford Gas Co. to lay main under G.T.R. at Colborne St., Brantford, Ont.

8200. Sept. 27.—Authorizing Macdonald municipality to place wires across C.N.R. near Brunkild station, Man.

8201. Sept. 28.—Authorizing Northern Colonization Ry. to construct its line across highways between mileage 10 from Nomining, and Rapid le l'Orignal, Que.

8202 to 8204. Sept. 25.—Authorizing Hydro-Electric Power Commission of Ontario to cross G.T.R. at three points.

8205. Sept. 28.—Authorizing C.P.R. to construct branch line across several streets in Regina, Sask.

8206. Sept. 28.—Authorizing C.N.Q.R.

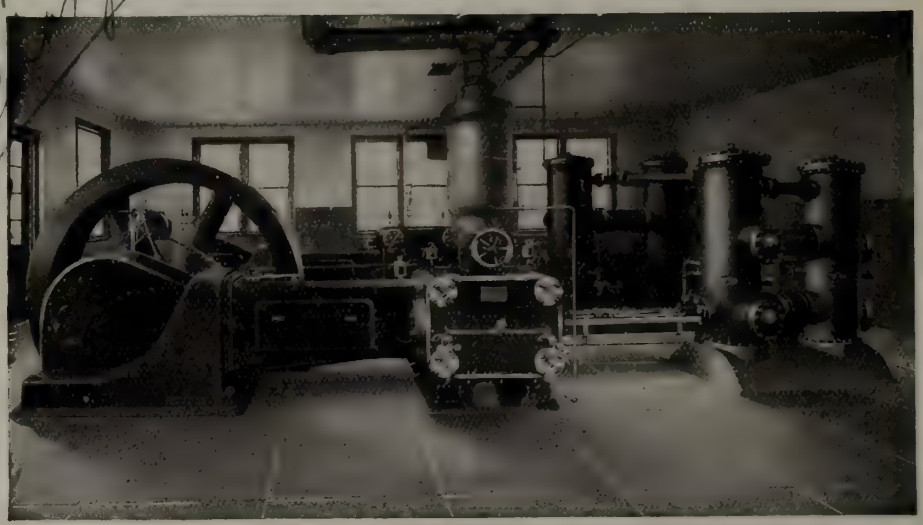
MAKERS OF
BOLTS OF ALL KINDS

NUTS

RIVETS

TORONTO BOLT AND FORGING CO. LIMITED
TORONTO, CANADA.

Robb Power Plants



ENGINES

Corliss, Slide Valve
Horizontal, Vertical

BOILERS

Return Tubular
Water Tube
internally Fired
Portable

ROBB ENGINEERING CO., LIMITED, AMHERST, N.S.

DISTRICT OFFICES:
709 Power Building, MONTREAL, Watson Jack, Manager.
Traders Bank Building, TORONTO, Wm. McKay, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.
Calgary Block, Calgary, J. F. Porter, Manager.

to reconstruct western trestle approach of Ottawa River bridge, near Hawkesbury, Ont.

8207. Sept. 27.—Dismissing application of Canadian Freight Association for order rescinding order Oct. 10, 1904, fixing rates on fruit, in carloads from Eastern Canada to Winnipeg, Portage la Prairie, and Brandon, Man.

8208. Sept. 14.—Approving plan, profile, and book of reference of Montreal Park & Island Ry., and authorizing deviation of its line from lot 142, to lot 1698, Montreal parish, Que.

8209. Sept. 28.—Authorizing Saskatchewan Government Telephone System to place wires across G.T.P.R. between secs. 32 and 33, tp. 35, r. 4, west 3rd mer.

8210, 8211. Sept. 28.—Authorizing Bell Telephone Co. to place wires across C.N.Q.R. at St. Canute, Que., and ½ mile north of Duncan station, Ont.

8212. Sept. 28.—Authorizing City of Medicine Hat, Alta., to lay water mains under C.P.R. at River St., and at East Road allowance.

8213. Sept. 28.—Authorizing Sarnia Gas and Electric Light Co. to lay mains under G.T.R. at South Christina St., Sarnia, Ont.

8214. Sept. 28.—Authorizing C.P.R. to construct spur for Joliette Sand and Gravel Co., St. Felix de Valois parish, Que.

8215. Sept. 29.—Authorizing the St. James Church vestry, Berthier, Que., to lay sewer under C.P.R.

8216. Sept. 29.—Authorizing Mount McKay and Kakabeka Falls Ry. to cross C.N.R. at Montreal St., Fort William, Ont.

8217. Sept. 30.—Approving the revised location of C.P.R. from McKay Ave. to Victoria Ave., Edmonton, Alta.

8218. Oct. 1.—Authorizing Manitoba Government Telephone System to place wires across C.P.R. at Neepawa.

8219. Sept. 29.—Authorizing C.P.R. to construct spur along lane in blocks 10 and 16, and across 24th St., Saskatoon, Sask.

8220. Sept. 29.—Authorizing C.P.R. to construct bridge 6.7, on its Cascade section, B.C.

8221. Sept. 30.—Authorizing C.P.R. to open for traffic the portion of its double track from St. Lazare to Dalhousie Mills, Smith's Falls section.

8222. Sept. 30.—Authorizing C.P.R. and G.T.R. to operate their trains across interlocker at Brampton, Ont.

8223. Sept. 29.—Authorizing City of Toronto to lay sewer under C.P.R. on Howland Ave.

8224. Sept. 29.—Authorizing Pipestone municipality to place wires across C.P.R. near Ewart, Man.

8225. Sept. 30.—Authorizing City of Winnipeg to construct, for the purpose of patrol road, suitable crossings where its transmission power lines cross C.P.R.

8226. Oct. 1.—Authorizing West Canadian Colleries, Ltd., to construct an overhead crossing over C.P.R. at Bellevue, Alta.

8227. Sept. 29.—Authorizing Arthabaska Water & Power Co., Quebec, to lay water pipe under G.T.R. near Nicolet River bridge, Victoriaville, Que.

8228. Oct. 5.—Approving location of Montreal & Southern Counties Ry. from St. Denis St., St. Lambert, to Chambly road, Longueuil, Que.

8229. Oct. 5.—Authorizing Montreal & Southern Counties Ry. to place power wires across G.T.R. at six points in its Point St. Charles yards, Que.

8230. Oct. 5.—Authorizing Ontario Pipe Line Co. to lay gas pipe under T.H. & B.R., Victoria Ave. South, Hamilton, Ont.

8231. Oct. 6.—Approving location of G.T.P.R. through Fort William, Ont., subject to the condition that the railway shall do as little damage as possible, and shall make full compensation to persons interested for damage by it sustained by reason of the location of the railway along any street.

8232. Oct. 6.—Approving location of G.T.P.R., Prince Rupert easterly, mileage 180.74 to mileage 235.675, coast district, B.C.

8233. Oct. 4.—Authorizing C.P.R. to use bridges 65.1, 84.4, and 106.1 on its Pacific Division between Kamloops and North Bend, B.C.

8234. Oct. 5.—Approving revised location of G.T.P.R. station grounds, Yorkton branch, from sec. 4, tp. 24, r. 5, to sec. 6, tp. 25, r. 4, west of the 2nd mer., mileage 11 to 18, Assiniboia district, Sask.

8235. Oct. 6.—Recommending to the Governor in council for sanction, by-law passed by M. C. Rd. directors in New York, Sept. 22, 1909.

8236. Oct. 5.—Authorizing C.P.R. to open for traffic that portion of the Port Moody diversion of the Cascade section of its line from mileage 113.76 to 115.68, B.C.

8237. Oct. 5.—Authorizing C.P.R. to construct railway across Main St., Shoal Lake, Man.

8238. Oct. 5.—Temporarily approving tariff of tolls which the Bell Telephone Co. shall be authorized to charge, and agreement between the company and eight other companies located in Ontario.

8239. Sept. 25.—Authorizing C.N.R. to cross G.T.P.R. near Riley, Alta.

8240. Oct. 4.—Authorizing C.P.R. to use bridges on its Central Division, Broadview section, Man.

8241. Oct. 4.—Authorizing C.P.R. to use four bridges on its Shuswap section, Pacific Division, between Revelstoke and Kamloops, B.C.

8242. Oct. 7.—Authorizing C.P.R. to construct railway across 13 highways, on its Sudbury-Kleinburg branch, Ont.

8243. Oct. 7.—Approving location of C.N.R. from mileage 72 to 88, up North Thompson River, from Kamloops, B.C.

8244. Oct. 5.—Authorizing C.P.R. to construct spur for Winnipeg Oil Co., Saskatoon, Sask.

8245. Oct. 5.—Authorizing C.P.R. to construct industrial spur in Blocks 4 and 6 across 26th St., Saskatoon, Sask.

8246. Oct. 5.—Authorizing C.P.R. to construct spur to Kamloops Mines, Ltd., property, on Lot 43, Yale district, B.C.

8247. Oct. 5.—Authorizing G.T.R. to construct iron bridge to replace present structure at farm crossing, at mile post 11.68, 17th district of its line west of St. Catharines, Ont.

8248. Oct. 2.—Authorizing C.P.R. to construct siding to Moore & Co.'s premises, Toronto.

8249. Oct. 7.—Approving C.P.R. station location and detail plans at Redvers, Sask.

8250 to 8252. Oct. 5.—Authorizing city of Peterboro, Ont., to lay water main under G.T.R. at Murray St., McDonnell St. and Ware St.

8253. Oct. 5.—Authorizing city of Hamilton, Ont., to lay water pipe under G.T.R. on Young St.

8254. Oct. 5.—Authorizing city of Winnipeg to lay sewer under C.P.R. where it intersects crossing between Talbot and Carter Sts.

8255, 8256. Oct. 5.—Authorizing Manitoba Government Telephones to erect wires across C.P.R. 3½ miles s.w. Hartney station and 2½ miles south of Selkirk.

8257. Oct. 12.—Authorizing C.N.Q.R. to erect telegraph wires under G.N.W. Telegraph Co.'s wires near Cap Sante, Que.

8258. Oct. 8.—Authorizing C.P.R. to construct bridge 75.1 on its Moose Jaw Northwest branch, Sask.

8259. Oct. 5.—Authorizing the Miniota rural municipality to erect wires across C.P.R. at r.c. one mile west of Arrow River station, Man.

8260. Oct. 5.—Authorizing Harwich tp. council, Ont., to construct drain under Lake Erie & Detroit River Ry.

8261 to 8264. Oct. 5.—Authorizing Bell Telephone Co. to erect wires across M.C. Rd. and P.M. Rd., Highgate, Ont., Montreal Terminal Ry. at Bout de l'Isle Park, Que., and G.T.R. at Irondale and Hamilton, Ont., and at Notre Dame St., St. Henri, Montreal.

8265. Oct. 5.—Authorizing Norfolk County Telephone Co. to erect wires across G.T.R. at lots 5 and 6, 14th con., Townsend tp., Ont.

8266. Oct. 5.—Authorizing Dominion Natural Gas Co. to lay main under G.T.R., Talbot Road, Wyndham tp., Ont.

8267. Oct. 4.—Authorizing Kaministikwia Power Co. to erect wires across C.N.R. at Edward St., West Fort William, Ont.

8268. Oct. 4.—Authorizing C.P.R. to construct branch line for Kaufman Lumber Co. at mileage 39.1, on its Sudbury-Kleinburg branch, Ont.

8269. Oct. 7.—Authorizing C.N.Q.R. to maintain its tracks and telegraph wires under G.N.W. and C.P.R. telegraph wires at C.P.R. crossing, Lachevrotiere, Que.

8270. Oct. 7.—Authorizing Man. Government Telephones to erect wires across C.P.R. on Nairn Ave. and Eaton St., Elmwood, Winnipeg.

8271. Oct. 6.—Authorizing Saskatchewan Government Telephone System to erect wires across C.N.R. near Craik.

8272. Oct. 6.—Authorizing United Gas Co. to lay pipe under G.T.R. at Forks Road, 1st range from the river, Moulton tp., Ont.

8273 to 8279. Oct. 7.—Authorizing Bell Telephone to erect wires across P.M. Rd., M.C. Rd., C.P.R. and G.T.R. at various points in Ontario.

8280 to 8285. Oct. 6.—Authorizing the Hydro-Electric Power Commission of Ontario to erect wires across G.T.R. at six points.

8286. Oct. 6.—Authorizing city of Winnipeg to erect transmission lines with telegraph and telephone wires across C.P.R. at lot 82, Kildonan parish.

8287. Oct. 11.—Authorizing C.P.R. to use bridges on its Prince Albert branch, Central Division, Regina, Saskatoon and North Saskatchewan.

8288. Oct. 8.—Approving G.T.P.R. by-law no. 7 authorizing certain officials to prepare and issue tariffs of tolls to be charged for passenger traffic over its lines.

8289 to 8292. Oct. 8.—Authorizing city of Calgary, Alta., to erect power wires across C.P.R. at 17th Avenue E., 14th Street W., 15th Street E. and 11th Street E.

8293. Oct. 8.—Authorizing C.P.R. to construct a bridge of the St. Maurice Valley Ry. over C.N.Q.R. at Grand Mere, Que.

8294 to 8296. Oct. 8.—Authorizing C.P.R. to construct bridges 59.3, 56.7 and 65.0 on its Moose Jaw Northwest branch, Sask.

8297 to 8299. Oct. 8.—Authorizing Bell Telephone Co. to erect wires across M.C. Rd. near Cornell station, Ont.; G.T.R. near Paris Jct., Ont., and C.N.Q.R., lot 222E., Hochelaga county, Que.

8300 to 8302. Oct. 8.—Authorizing Consolidated Telephone Co. to erect wires across C.P.R. near Erin and Hillsburg, Ont.

8303. Oct. 8.—Authorizing Manitoba Government Telephones to erect wires across C.P.R. 1½ miles south of Altona station.

8304 to 8308. Oct. 8.—Authorizing Wroxeter Rural Telephone Co. to erect wires across C.P.R. in Howick and Turnberry tps., Ont.

8309, 8310. Oct. 8.—Authorizing Clinton municipality, Ont., to lay water main under G.T.R. at Matilda St.

8311, 8312. Oct. 8.—Authorizing F. J. Weidenhammer, Hawkesville, Ont., to erect wires across C.P.R. west and southwest of Wallenstein station, Ont.

8313. Oct. 12.—Authorizing C.N.Q.R. to reconstruct trestle approaches of its

THE

NEW HOTEL BREVOORT CHICAGO

The Twentieth Century Hotel **Absolutely Fireproof**

Centrally located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG, PROPRIETORS

ARTHUR M. GRANT, MANAGER

MOOSE OPEN SEASON

QUEBEC, - - September 1st to December 31st
NEW BRUNSWICK, - " 15th to November 30th
NOVA SCOTIA, - - " 16th to November 16th

WRITE FOR FREE PAMPHLET, DESCRIBING TERRITORY, GAME LAWS, &C., TO

General Passenger Department
INTERCOLONIAL RAILWAY
MONCTON, N. B.

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING, 232 ST. JAMES STREET, **MONTREAL**

bridge over the St. Maurice River, near Grand Mere, Que.

8314. Oct. 12.—Authorizing G.T.P.R. to construct railway across certain highways in West Saskatchewan.

8315. Oct. 6.—Authorizing St. Maurice Valley Ry. to cross C.N.Q.R. at Grand Mere, Que.

8316. Oct. 13.—Approving location of C.N.O.R. through Goulburn and Marlborough tps., Carleton county, mileage 17 to 29.

8317. Oct. 13.—Authorizing C.N.O.R. to connect its Udney-Orillia line with Georgian Bay & Seaboard Ry. at Atherley Jct., Ont.

8318, 8319. Oct. 13.—Authorizing the city of Montreal to lay water main under C.N.Q.R., Nicolet St. and Valois St.

8320. Oct. 12.—Authorizing Consumers' Gas Co., Toronto, to lay main under C.P.R., St. Clair Ave.

8321. Oct. 13.—Authorizing C.N.Q.R. to maintain its tracks and telegraph wires under Bell Telephone Co.'s wires, Cap Rouge, Que.

8322. Oct. 12.—Authorizing city of Peterboro, Ont., to lay water main under C.P.R., Burnham St.

8323 to 8325. Oct. 13.—Authorizing the Saskatchewan Government to cross with wires C.N.R. at one point and C.P.R. at two points.

8326 to 8328. Oct. 13.—Authorizing Miniota rural municipality to erect wires across C.N.R. at three points in Manitoba.

8329. Oct. 13.—Authorizing Canadian Machine Telephone Co. to erect wires across G.T.R., Mount Vernon, Ont.

8330. Oct. 13.—Authorizing Manitoba Government Telephones to erect wires across C.N.R. at p.c. near Argue station.

8331. Oct. 12.—Authorizing town of Walkerville, Ont., to lay sewer under Lake Erie & Detroit River Ry., Argyle Ave.

8332. Oct. 13.—Authorizing Manitoba & Saskatchewan Coal Co. to erect wires across C.P.R. at Bienfait, Sask.

8333. Oct. 11.—Authorizing G.T.R. to cross with its second track the United Counties Ry. at St. Hyacinthe Jct., Que.

8334. Oct. 5.—Ordering that certain streets at St. Henri, Montreal, be protected by watchmen, appointed by the G.T.R.

8335. Oct. 5.—Authorizing C.N.O.R. to construct its line across p.c. on lot 26, con. 1, Gloucester tp., Carleton county, Ont.

8336. Oct. 5.—Dismissing application of C.N.O.R. to connect its tracks with the Manitoulin & North Shore Ry. in Sudbury, Ont.

8337. Oct. 8.—Rescinding order 7343, June 23, by substituting for clause 2 of first part the following clause: "That on cheese shipped from points west of Montreal on separate rail bills of lading to Montreal, and which arrived at Montreal before the close of the St. Lawrence navigation season then current, the railway companies absorb the Montreal wharfage and port warden's fees, provided the said cheese is exported from the port of Montreal not later than May 31 of the following St. Lawrence navigation season, the said absorption to continue . . . etc."

8338. Oct. 15.—Authorizing G.T.R. to construct certain branch lines in Toronto, extending from its Don yards, east of Trinity St., across River Don and along Cherry St. and certain other properties belonging to the city, to the National Iron Works' premises.

8339. Oct. 14.—Approving deviation in location of portion of the Edmonton & Slave Lake Ry. through tps. 56 to 60, r. 25, w. 4th mer., mileage 21.39 to 46.68, Alta.

8340. Oct. 14.—Authorizing National Transcontinental Ry. Commissioners to carry railway at grade across highway near mile 3, from the north abutment of the Quebec bridge.

8341. Oct. 14.—Authorizing city of Calgary, Alta., to erect wires used for Calgary Electric Ry. operation across C.P.R. spur line at 2nd Street E.

8342. Oct. 15.—Approving location of G.T.P.R from mileage 229 to 289, Cariboo district, B.C.

8343. Oct. 15.—Authorizing city of Peterboro, Ont., to lay water main under G.T.R. Lindsay branch, Park St.

8344. Oct. 14.—Authorizing Georgetown village, Ont., to lay water main under G.T.R. spur.

8345, 8346. Oct. 14.—Authorizing Citizens Telephone Co. to erect wires across C.P.R. at first crossing south of Bromo, and second crossing west of West Shefford, Que.

8347. Oct. 14.—Authorizing Sterling Gas Co. to lay pipe under G.T.R. between lots 20 and 21, con. 1, Humberstone tp., Ont.

8348. Oct. 14.—Authorizing United Fuel Supply Co. to lay pipe under G.T.R. on lot 8, front con. of Raleigh tp., Ont.

8349. Oct. 14.—Authorizing Bell Telephone Co. to erect wires across N. St. C. & T. Ry. at p.c. Welland Ave. and Francis St., St. Catharines, Ont.

8350. Oct. 14.—Authorizing Citizens Telephone Co. to erect wires across C.P.R. first crossing west of West Shefford, Que.

8351. Oct. 9.—Authorizing C.P.R. to construct branch line across and along Hardisty St., Fort William, Ont.

8352. Oct. 9.—Authorizing C.P.R. to cross Port Arthur and Fort William Electric St. Ry. at Syndicate Ave. and connect with the Fort William Terminal Ry. and Bridge Co., Fort William, Ont.

8353. Oct. 14.—Authorizing city of Wetaskiwin, Alta., to lay water and sewerage pipes under C.P.R., Pearce St.

8354. Oct. 15.—Authorizing Volcanic Oil & Gas Co. to erect wires under C.P.R. at Walker Rd., Sandwich East tp., Ont.

Railway Commissioners' Sundry Orders.

Summaries of other orders are given on another page under "Orders by Railway Commissioners":—

BRANDON, SASKATCHEWAN & HUDSON BAY RY.

8111. Sept. 15.—In the matter of the Brandon, Saskatchewan & Hudson Bay Ry. sections known as the Boissevain and Minto sections, and as to increase of staff of sectionmen, upon hearing counsel for the company, the report of the Board's Inspector, and its Chief Engineer's recommendation, it is ordered that the Brandon, Saskatchewan & Hudson Bay Ry. Co. be directed to employ forthwith two men and a foreman on each of the sections known as the Boissevain and Minto sections of its line, and that, in case it be found that the said number is not sufficient to keep the road in safe and proper state of repair, the company employs such additional men as may be necessary for the purpose.

PLANKING AT CROSSINGS.

8137. Sept. 14.—In the matter of the practice of certain railway companies of removing the planking at highway and farm crossings during winter months, and in the matter of secs. 2, 30, 235 and 253 of the Railway Act, upon the report and recommendation of the Chief Engineer of the Board, it is ordered: 1. That in the operation of railway lines where the snowfall is such as to require the running of snowplows or flangers, the company may remove the planks from farm crossings, provided that no such planks shall be removed unless necessary, and shall be replaced by the company in the spring, or as soon as the snow is off the ground.

2. That where it is necessary to operate snowplows or flangers over highway crossings upon railway lines, companies may remove one plank next to the inside of each rail, the same to be replaced in the spring or as soon as the snow is off the ground.

3. That order 6255, Feb. 10, 1909, be rescinded.

EQUIPMENT OF RAILWAY CARS.

8145. Sept. 14.—In the matter of the equipment by railway companies of freight vans with coupler-operating levers and of the cupolas of cabooses with air-gauges and air-controlling valves, upon the report and recommendation of an Inspector of the Board, and upon the hearing of counsel for the G.T.R., C.P.R., N.Y.C. Rd., M.C.R., and Boston & Maine Ry. companies, and what was alleged, it is ordered that railway companies subject to the legislative authority of the Parliament of Canada, operating railways by steam power, each equip, before April 1, 1910, its freight vans with coupler-operating levers, and the cupolas of its cabooses with air-gauges and air-controlling valves; and it is further ordered that every such railway company be liable to a penalty not exceeding $25 for every failure to comply with the foregoing regulations within the time for their coming into force and thereafter.

A Railway to Hudson Bay.

A party of engineers started from Pas Mission, Sask., Oct. 18, for the purpose of locating a line from that point to some point on Hudson Bay. The party is in charge of W. J. Clifford, and is working on behalf of the Dominion Government. It is expected that other parties will be sent out later. The work will be prosecuted throughout the winter, this season being more favorable for survey work in that region than the summer.

The question of the location of the terminals on Hudson Bay is still under consideration by the engineering staff. A statement was made by one of the staff in Winnipeg, Oct. 8, that Fort Nelson and not Fort Churchill would be chosen as the terminus. The distance is 71 miles less than to Fort Churchill, while the cost is estimated at $3,000,000 less. The C.N.R. has a branch connecting with The Pas, and this place is also the objective of other projected lines, notably the G.T.P.R. and G.N.R.

A press report states that the Dominion Government will authorize the starting of work on the construction of the line from The Pas at an early date, and that it will be started this fall. This is hardly likely as the full report of the preliminary surveys has not yet been considered. This report is ready for presentation to Parliament. The Minister of Railways, speaking at Athens, Ont., recently, stated that while it had not yet been decided that the railway would be constructed by the Government, it would certainly be constructed. Before deciding on the terminal, he added, it would probably be necessary to approach the harbors from the outside, and make a careful investigation of their approaches, the depth of water available, the season of open water, and the relative cost of developing a harbor of sufficient capacity to accommodate modern vessels. (Sept., pg. 641.)

During Aug., 11 employes were killed, and 22 injured, in the course of their work on Canadian railways. Of the fatalities, four were due to being run over, three to derailments, and one each to being caught between cars, to a fall, to drowning and to sunstroke, while, of the other accidents, five were due to falls, four each to derailments and to falling material, three to being run over, two to an explosion of powder, and one each to tools, to being caught between cars, to a collision, and to an assault in the railway yards by tramps.

DOMINION IRON & STEEL CO.

LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1910. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICES AND WORKS: **SYDNEY, CAPE BRETON, CANADA**

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for Sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

Canadian Gold Car Heating & Lighting Co. Ltd.

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished. Improved System of Acetylene Car Lighting.

Send for Circular of our New Combination Pressure and Vapor Car Heating System

Largest Manufacturers in the World of Car Heating Apparatus

Canadian Ticket Agents' Association.

The 23rd annual meeting was held at Statler's Hotel, Buffalo, N.Y., Oct. 5. Before the business session the members and the ladies accompanying them assembled in one of the hotel meeting rooms, H. Parry, General Agent Passenger Department New York Central Rd., the Chairman-Secretary of the Buffalo local committees, presiding. Mayor Adams welcomed the Association to the city, President R. J. Craig, ticket agent C.P.R., Cobourg, Ont., responding. The business meeting was then proceeded with, President Craig in the chair. After routine proceedings, Secretary de la Hooke presented his report, showing 190 members in good standing against 184 in 1908. The new members outnumbered the withdrawals; nine of the 16 retirements were owing to men moving or giving up agencies and one to death, leaving only six to be accounted for. The financial condition shows signs of improvement. The year's receipts were $415, which with $95.41 balance brought forward and a credit of $69.76 from the Detroit meeting totals $580.17. The expenses were $456.35, leaving a balance of $123.82. Death was unusually busy among the members during the year, Lt. Col. Piche, of Joliette; A. H. Baird, of Paris; and N. Lusher, of Montreal, having passed away. Col. Piche and Mr. Baird were very regular in their attendance at the annual meetings, Mr. Lusher occasionally. The first named was elected First Vice President last year. The report said: "The deceased were so well known to you that it is not necessary to eulogise, beyond saying that they were esteemed as good men and true and they will be much missed at our gatherings. J. N. Bastedo, of the Sante Fe Rd., passed away in February. Though not a member, he rarely missed a meeting. He was much respected, was always cheerful and ever ready to help an agent out of a difficulty. I thing it was Mark Twain who said: 'A man should so live that when he dies even the undertaker will be sorry.' I quite believe that those whose loss we now regret lived such lives. Let us endeavor to do likewise."

W. Bunton, G.T.R. ticket agent, Peterboro, Ont., made a verbal report on his attendance at the American Association of General Passenger and Ticket Agents' meeting at Toledo in September, and expressed his appreciation of the cordial welcome accorded him. He wished it were possible for more of the C.T.A.A. members to attend the A. A. of G. P. and T. A.'s meetings. He had strongly urged the restoration of commission to agents and had pointed out that some of the best ticket agents were those who were engaged in other business. By building up successful businesses in their respective communities they had secured the confidence of their fellow citizens and were in a splendid position to make first-class ticket agents and secure a good volume of business. He urged that Canadian ticket agents should be furnished with transportation on U.S. railways whenever they required it, and he hoped that notwithstanding the existing U.S. laws some way would be found of granting this privilege. He believed that such transportation would be available and also that commissions would be restored. The retiring President of the A. A. of G. P. & T. A. A., G. T. Bell, had expressed himself very strongly in favor of the granting of transportation. Mr. Bunton was accorded a hearty vote of thanks.

President Craig having made a brief address. W. McElroy, C.P.R. Ticket Agent, Peterboro, Ont., gave an interesting talk on "A trip around the world," starting from Peterboro and travelling westward by the C.P.R. to Vancouver, thence by the C.P.R. Empress steamships to Japan and China, or by the Canadian Australian line to Honolulu, Fiji, Brisbane, and thence to Sydney. Passengers by either of these routes would meet again at Colombo, Ceylon. Thence the Mediterranean route would be taken to Naples, and the rail route via Antwerp to London.

In the discussion which followed it was decided that at the next meeting Mr. McNamara, of Walkerton, read a paper on a round the world trip without going outside British territory.

Considerable discussion took place in regard to making the business features of the annual meetings more prominent. It was decided that the executive prepare a list of questions to be discussed and also arrange for the reading of papers on matters of common interest.

It was decided to ask the American Association of General Passenger and Ticket Agents and the Travelling Passenger Agents Association to send delegates to the C.T.A.A. annual meetings in future.

Correspondence was read in reference to the resolution adopted by the Association last year urging that supplements to tariffs be restricted. G. T. Bell, A.P.T.M., Grand Trunk Ry., wrote: "I feel sure that all of the lines desire to limit the number of supplements and we will see what can be done to avoid the necessity of having more than two or three supplements to any one passenger tariff, which, unless the circumstances are very exceptional, is entirely reasonable."

W. Stitt, G.P.A., Canadian Pacific Ry., wrote:—"We can appreciate the difficulties under which agents suffer through the large number that are issued. We try to avoid the issuance of too many as much as possible, but it is difficult to control them. Some tariffs will take weeks to prepare and their cost will mean between $300 and $400. Slight changes take place which have to be given effect to, and were we to issue new tariffs and confine them to issuance of two or three supplements an army of clerks would be required and the cost, as you can estimate from the figures I have given, would be enormous."

G. H. Webster, Secretary Eastern Canadian Passenger Association, wrote:—"As the tariffs of the lines in the E.C.P.A. are re-issued the lines are working to the idea of not having more than one supplement to the new tariffs in effect at any one time."

W. Phillips, G.P.A., Canadian Northern Ry., wrote:—"The resolution suggesting that supplements to passenger tariffs be restricted to two or three is one that I consider should be acted upon, knowing as I do the difficulties encountered by agents in keeping tariffs in proper shape, owing to the numerous supplements issued."

President Bohreer, of the Travelling Passenger Agents Association, said it would give them great pleasure to send a delegate to the C.T.A.A. meetings, and he hoped the latter association would reciprocate. A resolution to this effect was adopted.

A resolution expressing regret at the absence of G. J. Alexander, G.T.R. ticket agent, Richmond, Que., owing to an attack of typhoid, was adopted.

Officers were elected as follows:—President, J. P. Hanley, G.T.R., Kingston, Ont.: 1st Vice President, S. A. Morris, C.P.R., Rodney, Ont.: 2nd Vice President, J. L. Thomson, P.E.I.R., Charlottetown, P.E.I.; 3rd Vice President, A. Philps, G.T.R., Huntingdon, Que.; Secretary-Treasurer, E. de la Hooke, G.T.R., London, Ont.: Auditor, F. M. Hawley, G.T.R., Cobourg, Ont.: Executive Committee, W. Bunton, G.T.R., Peterboro, Ont.; C. E. Horning, G.T.R., Toronto; W. Jackson, C.P.R., Clinton, Ont.; W. McIlroy, Peterboro, Ont. M. McNamara, Walkerton, Ont.

A number of votes of thanks were passed, including the railway companies which furnished transportation, the local committees, etc.

A committee of Buffalo transportation officials made splendid arrangements for the entertainment of the members and their wives. The social programme included on Oct. 5 in the morning a ladies' shopping trip under escort of committee, in the afternoon a steamboat trip on the Niagara River around Grand Island for ladies and others not attending the business meeting, in the evening a theatre party of ladies under escort of committee. The Association's Dutch lunch held in the evening was most enjoyable, embracing among other details an excellent musical programme. On Oct. 6 the party went in the morning by special train to East Aurora, N.Y., where a very interesting time was spent visiting the various Roycroft shops. Mrs. Elbert Hubbard spoke a few words of welcome at the Roycroft Inn, where a most charming luncheon was served. F. W. Churchill, C.P.R., Collingwood, Ont., responded for the Association. On returning to Buffalo in the afternoon the party was taken on an automobile tour of the city, and in the evening enjoyed a theatre party. On Oct. 7 a trip was made by electric car over the Niagara Belt Line, through the Niagara Gorge and Victoria Park, and after lunching at the Clifton Hotel, the party dispersed.

About 75 members and 55 ladies were in attendance.

T. Thauburn, C.P.R., Brampton, Ont., distributed to everyone in attendance some beautiful cut flowers from the Brampton nurseries.

The Association presented H. Parry, G.A.P.D., New York Central Rd., and B. P. Fraser, D.P.A., Pennsylvania Rd., with cut glass decanters, and G. B. Wyllie, T.P.A., Illinois Central Rd., and W. B. Wheeler, G.A.P.D., Lehigh Valley Rd., with silk umbrellas in acknowledgment of their services on the local committees.

Trade and Supply Notes

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

The British Boards of Trade and Admiralty have officially endorsed the low pressure automatic acetylene gas buoy system, manufactured by the International Marine Signal Co., Ottawa, and which has already been adopted by the Canadian Government.

O. F. Bannard, President National Trust Co., who has been selected as the Republican candidate as Mayor for New York City, is Chairman of the Board of Directors of the Herring-Hall-Marvin Safe Co., which is about to erect a large plant in Canada in conjunction with the Canadian Fairbanks Co., its Canadian representatives.

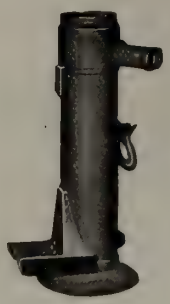
W. R. Toppan, Vice President and General Manager L. M. Booth Co., has closed a contract with the Vandalia Rd. for a Booth water softener, with a treating capacity of 40,000 gallons per hour, and a 350,000 gallon steel storage tank to be installed in connection with the new shops at Terre Haute, Ind. The Booth water softener on the C.R.I. and P. Ry., at Sayre, Okla., has been put into operation.

The Intercolonial Ry., is reported to have made a contract with the North Atlantic Coal Co., Port Morien, N.S., for 500,000 tons of coal.

H & E Patent Ball-Bearing Lifting Jacks

For Railway and Bridge Work, Contractors' and Builders' Use

Foot-Lift



For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed. Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

MANUFACTURED BY

Square Base

Journal Jack

Plain

H & E LIFTING JACK COMPANY = = WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

CANADIAN LOCOMOTIVE Co., LTD.,

KINGSTON, ONT.

Builders of Simple and Compound **LOCOMOTIVES** **Adapted to every variety of service**

THE CANADA IRON CORPORATION

Successors to: **LIMITED**

CANADIAN IRON & FOUNDRY CO., LIMITED
CANADA IRON FURNACE CO., LIMITED
ANNAPOLIS IRON CO., LIMITED
JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE ——— MONTREAL, P.Q.

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and Gas Pipe, Specials, Valves, Hydrants, Etc.
Castings of All Kinds

C.P.R. Betterments, Construction, Etc.

Richelieu River Bridge.—Work has been started upon the sub-structure for the bridge over the Richelieu River between St. Johns and Iberville, Que. The bridge will be 1,500 ft. long, and will have a lift span in the centre. It will be made of sufficient width for a second track, but this will not be laid at present. The contractors are Quinlan & Robertson, Montreal. The Dominion Government is carrying out some important works at this point in the way of widening the river so as to improve the navigation, the dredging work being already well under way.

Ottawa, Northern and Western Ry.—The Dominion Parliament will be asked next session to extend the time for the construction of the lines authorized.

Campbellford, Lake Ontario and Western Ry.—With reference to the recent press reports that the C.P.R. would, at an early date, start construction of a line eastward from Toronto, in order to reach a number of lakeside towns and agricultural centres in eastern Ontario, J. W. Leonard, General Manager Eastern Lines, stated that whatever the company might do in the future, for the present there was absolutely no truth in the story. The company was too busy with urgent construction in the west to bother much with eastern lines. "Eventually," he added, "we will double-track much of the line between Montreal and Toronto, and build new lines, but not for some time."

Georgian Bay and Seaboard Ry.—The engineers on the surveys for the location of this line between Victoria Harbor and Peterboro, Ont., have been working at the Peterboro end recently. According to the present survey, the line will meet the C.P.R. main line at Kendry siding, five miles west of Peterboro. The engineers state that they have found a satisfactory route, no steep gradients having been met, and the general condition of the country is favorable. The line comes down from Omemee, cutting through Cavan and Manvers townships.

Ashbridge's Bay, Toronto.—In connection with G.T.R. application to the Board of Railway Commissioners, to construct a siding into the site acquired by the National Iron Works, the C.P.R. asks that provision be made for a connection for its lines. The plans have been referred to the Board's engineer for a report.

London to Windsor, Ont.—The relaying of the track between London and Windsor, Ont., with 85-lb. steel has been completed.

Goderich Freight Sheds.—General Superintendent Oborne had a conference with the Mayor relative to the construction of a freight shed at Goderich. Two suggestions were made, the first being that the curve at the commercial dock be straightened by extending the dock to a line which would allow for the sheds, the other being that a slip be cut along the beach at right angles to the south pier. The company thinks the Government or the town should bear the expense. The question is under consideration.

Fort William Union Station.—A conference was recently held at Winnipeg between the C.P.R., the C.N.R., the G.T.P.R., and the Mayor of Fort William, on the subject of the union station in that city. The object was to arrange that the station which the C.P.R. is building in Fort William, which will be completed next year, shall be used by all three lines. It is understood that an arrangement has been arrived at by which this object can be carried out.

Fort William — Winnipeg Second Track.—The completion of construction of the second track between Fort William, Ont., and Winnipeg, was marked by a special trip over the line made by representatives of the Winnipeg newspapers and others, early in Oct. The contract has been in progress since 1906, a good deal of work of a preliminary character having been done in previous years by the company. The work done includes over 100 miles of rock cuts, 1,069 running feet of tunnels, and 70 miles of diversions. The greatest difficulties met with in the work were the muskegs, some of which took several months to fill. In all, 2,080,000 cubic feet of rock were blasted, and 14,000,000 yards of earth, sand and gravel handled.

Winnipeg Transfer Track.—Work was completed Oct. 15 on a transfer track in St. James, Winnipeg, between the C.P.R. and the G.T.P.R. Up to the present time the exchange of traffic between these two lines has been made at Portage la Prairie, Man.

Manitoba and North Western Ry.—Application will be made next session of the Dominion Parliament for an expension of time for the construction of the line authorized by sec. 1, chap. 126, of the Statutes of 1908. The company will also ask for authority to construct the following additional lines: from near Birtle to near Hamiota, Man., and from near Russel in a northerly or north easterly direction for 150 miles.

Ardal Extension.—Over 70 teams and 100 men are at work on the extension of the Teulon branch to Ardal, Man. It is expected to have the track laid from Komarno, where the track now ends, to Kreutzburg, about 11 miles north, early in Nov.

Schwitzer Junction.—Tenders are under consideration for grading for tracks in the yards at Schwitzer Junction, Man.

Strassburg.—Considerable work is being done in the laying out of yards, etc., at Strassburg, Sask. The company has a number of men engaged in drilling for water, and, it is understood, if a satisfactory supply can be obtained, a divisional point will be established there.

Sheho to Lanigan.—Tracklaying has been completed on the line to connect the old Manitoba and North Western Ry. at Sheho with the Pheasant Hills branch at Lanigan, Sask.

Wilkie to Hardisty.—Tracklaying on the uncompleted portion of the line between these two points, 75 miles, on the line from Saskatoon to Wetaskiwin, has been in progress since Aug. 20. Progress was slow at first on account of the scarcity of labor, but by the middle of Sept. the difficulty was got over and the work went ahead rapidly. Early in Oct. the contractor stated that tracklaying would be completed by Oct. 24. On Oct. 14, it was reported that only 16 miles remained to be laid. It is not expected that the line will be opened for traffic before the end of the year.

Calgary and Edmonton Ry.—The Dominion Parliament will be asked next session to extend the time within which the company may construct its authorized lines. The company will also ask for authority to construct an extension of its Lacombe branch as authorized by sec. 6b, chap. 89, of the Statutes of 1903, to a junction with the C.P.R. Moose Jaw branch at Outlook, Sask., about 200 miles.

Lethbridge-MacLeod Cut-Off.—Ballasting has been completed, and everything is ready for the operation of the line, except the bridge over the Old Man River. This bridge is expected to be ready by Nov. 1.

Lethbridge Northerly. — Tracklaying was commenced at the end of Sept., and it is expected it will be completed into Carmangay by the end of Nov.

Columbia and Western Ry.—Application will be made next session of the Dominion Parliament to extend the time for the construction of the second, fifth and sixth sections of the authorized line.

Nicola, Kamloops and Similkameen Coal and Ry. Co.—The Dominion Parliament will be asked next session to extend the time within which the company may construct the lines authorized by the B.C. Legislature and the Dominion Parliament.

Esquimalt and Nanaimo Ry.—Application will be made next session of the Dominion Parliament for an extension of time for the construction of the extension of the main line to Comox and branches authorized by chap. 14, B.C. Statutes 1884; and the lines authorized by sec. 2, chap. 92, Statutes of Canada, 1906.

The tender of Jense, McDonnel and Timothy, Calgary, Alta., has been accepted for the construction of the second section of the extension from Nanaimo to Alberni. The contract covers the grading and bridging from the Little Qualicum River to Alberni, and is the most difficult portion of the extension. It involves some heavy cutting at the divide, and a good deal of rock work at other points. On the first section of the extension, grading has been completed from near Wellington to Nanoose, 12 miles, and from near Nanoose to French Creek, 13 miles. Between these two points there is some rock cutting not completed. Some track has already been laid at the Wellington end.

The company has completed the sale of 54,000 acres of timber lands in the Cowichan valley, Vancouver Island, to a U. S. company. In connection with the sale, R. Marpole, Vice President of the E. and N. Ry., stated that the company will undertake the construction of a branch from Cowichan Bay, on the east coast of Vancouver Island, to the foot of Cowichan Lake. This line will be 22 miles, to be used mainly for the development of the lumber trade from these limits.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—The issue of bonds listed on the New York Stock Exchange has been made principally for the purpose of constructing 50 miles of line extending from the Kettle River in Pine county, Minn., northeasterly through Pine, Minnesota, Douglas and Wisconsin counties to Duluth. (Oct., pg. 739.)

Nova Scotia Southern Ry.—In the course of railway construction work in Caledonia, Queen's county, before the acquiring, completing or construction of the New Germany and Caledonia branch by the Halifax and South Western Ry., certain work was done by the N.S.S. Ry. or by R. G. Hervey, beyond the line since acquired by the H. and S. W. Ry. with resulting injury to the lands of several persons. No claims for these injuries were made at the time the commissioner was appointed in 1903 to adjust the claims. Some of the claimants, to whom awards were made, have failed to apply for the money awarded them, and last session of the Nova Scotia Legislature an act was passed authorizing the use of the unclaimed awards for compensating the owners of lands who did not put in claims originally.

The International Railway Fuel Association has decided to hold its second annual meeting at Chicago, Ill., in May, 1910.

In carrying out what are known as No. 1 repairs on a locomotive, the C.P.R. machinists at the Winnipeg shops recently completed same, in about 2½ days, which is claimed to be a record for the continent, the previous best time being seven days.

The British North America Mining Co. will apply next session of the Dominion Parliament for power among other things, so far as it is necessary or useful for its purposes, to construct and operate tramways, telegraph and telephone lines, to acquire steam and other vessels, and to construct wharves, piers, etc.

W. T. RODDEN, Managing Director J. F. JOHNSON, Secretary-Treasurer
T. L. GALLAGHER, Sales Manager

Standard Explosives
Limited

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL
Works: L'ISLE PERROT, NEAR VAUDREUIL, P. Q.

CROSSEN CAR MFG. COMPANY
OF COBOURG, LIMITED

MODERN HIGH-CLASS
ROLLING STOCK
Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows

CAR CASTINGS, FORGINGS AND REPAIR PARTS

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED
BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY
THROUGH TRAINS between BOSTON (via Boston & Maine R.R. and Cent. Vermont Ry.) MONTREAL, TORONTO and CHICAGO.
THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.
Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"
The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.
W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, Gen. Passenger and Ticket Agent, MONTREAL, QUE.

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

ACTON BURROWS LIMITED, - Proprietors, 157 Bay Street, Toronto, Canada.

Local and Long Distance Telpehone, Main 3201.

ACTON BURROWS, - Managing Director and Editor-in-Chief.

AUBREY ACTON BURROWS, - Secretary and Business Manager.

A. FENTON WALKER, - U. S Representative, 143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.

SUBSCRIPTION PRICES, INCLUDING POSTAGE:

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, NOVEMBER, 1909.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, M. MAGIFF, St. Albans, Vt.; MANAGER, J. E. DUVAL, 401 St. Nicholas Bldg., Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. J. Mossman, Buffalo, N.Y.; SEC.-TREAS., T. Marshall, Toronto.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, H. H. Vaughan, Montreal; SECRETARY, J. Powell, St. Lambert, Que. MEETINGS 1st Tuesday each month 8 p.m., except June, July and August.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal. MEETINGS at Montreal, alternate Thursdays, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, J. P. Hanley, Kingston, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto. MEETINGS at Toronto, 3rd Tuesday each month, except June, July and August.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto.
SECRETARY, R. B. Wolsey, C.E., Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Quebec Transportation Club.

PRESIDENT, F. S. Stocking.
SEC.-TREAS., A. H. Davis, Box 350, Quebec.

Western Canada Railway Club.

PRESIDENT, G. Hall, Winnipeg; SECRETARY, W. H. Rosevear, Winnipeg. MEETINGS at Winnipeg, 2nd Monday each month, except June, July and August.

Alphabetical List of Advertisers

	PAGE
Abbott, W.	Cover 1
Alexander Car Replacer Mfg. Co.	844
Allis-Chalmers-Bullock, Ltd.	Cover 2
American Brake Shoe & Foundry Co.	832
American Hoist & Derrick Co.	812
Babcock & Wilcox, Ltd.	864
Baldwin Locomotive Works	836
Banwell Hoxie Wire Fence Co., Limited	848
Beatty, M., & Sons, Ltd.	854
Bertram, John, & Sons Co., Ltd.	796
Boker, Hermann & Co.	856
Booth, L. M. Co.	Cover 1
Bowser, S. F. & Co., Limited	834
Bradstreet Company	852
Brevoort Hotel, Chicago	820
Brown Hoisting Machinery Co.	800
Burns, R. M. & Co.	862
Burrows.—Acton Burrows, Limited	Cover 1
Butterfield & Co.	840
Canada Car Co., Ltd.	808
Canada Iron Corporation, Ltd.	824
Canadian Bridge Co., Ltd.	838
Canadian Bronze Co., Ltd.	860
Canadian Crocker-Wheeler Co.	830
Canadian Fairbanks Co., Ltd.	814
Canadian Gold Car Heat'g & Light'g Co., Ltd.	822
Canadian Locomotive Co., Ltd.	824
Canadian Northern Railway	850
Canadian Office & School Furniture Co., Ltd.	852
Canadian Pacific Railway Land Department.	842
Canadian Railway Accident Insurance Co.	862
Canadian Ramapo Iron Works, Ltd.	848
Canadian Rand Co., Ltd.	840
Canadian Westinghouse Co., Ltd.	Cover 2
Chicago Ry. Equipment Co.	838
Cleveland City Forge & Iron Co.	854
Coghlin, B. J., & Co.	840
Commercial Acetylene Co.	Cover 1
Continental Iron Works	828
Crossen Car Mfg. Co., of Cobourg, Ltd.	826
Date, John	862
Delaware & Hudson Co.	860
Dominion Bridge Co., Ltd.	838
Dominion Car & Foundry Co., Ltd.	Cover 4
Dominion Iron & Steel Co., Ltd.	822
Dominion Wire Rope Co., Ltd.	802
Dougal Varnish Co., Ltd.	Cover 1
Drake and Wiers Co.	854
Drewry, E. L.	862
Drummond, McCall & Co.	832
Duner Co.	860
Engineering News Book Dept.	844
Falls Hollow Staybolt Co.	836
Farlow Draft Gear Co.	846
Flannery Bolt Co.	830
Fuce, Edw. O.	827
Galena Signal Oil Co.	798
Galt Malleable Iron Co.	856
Gardner, J. T.	856
Gartshore, J. J.	856
Gartshore-Thomson Pipe & Foundry Co. Ltd.	842
General Railway Signal Co.	836
Goldschmidt Thermit Co.	858
Grand Trunk Railway	826
Greening, The B., Wire Co., Ltd.	858
H. & E. Lifting Jack Co.	824
Hamilton Pattern Works	858
Hamilton Steel and Iron Co., Ltd.	812
Harrison, John & Sons Co., Ltd.	834
Hart, John A. & Co.	Cover 1
Hart-Otis Car Co., Ltd.	—
Hicks Locomotive and Car Works	854
Holden Co., Ltd., The	830
Hopkins, F. H. & Co.	794
Hudson's Bay Company	822
Hunt, Robert W., & Co.	856
Hutton, James & Co.	862
Illinois Central Railroad	860
Imperial Bank of Canada	858
Imperial Guarantee & Accident Insurance Co.	860
Intercolonial Railway	820
International Marine Signal Co.	858
International Mercantile Marine Co.	862
Jardine, A. B., & Co.	828
Jessop, Wm., Sons, Ltd.	852
Kerr Engine Co., Ltd.	852
Kingsmill, Saunders, Torrance & Kingsmill.	827
Legg Bros.	860
Lehigh Valley Rd.	858
Lewis, Rice, & Sons, Ltd.	832
Lufkin Rule Co.	Cover 1
McConway & Torley Co.	844
McCord & Co.	802
Meaford Wheelbarrow Co.	—
Metcalf, John S., Co.	856
Midland Towing & Wrecking Co., Ltd.	862
Montreal Locomotive Works	790
Montreal Rolling Mills Co.	846
Montreal Steel Works, Ltd.	806
Mussens Limited	Cover 1 and 792
National Malleable Castings Co.	Cover 1
Northern Electric and Mfg. Co., Ltd.	—
Norton, A. O.	804
Nova Scotia Steel & Coal Co., Ltd.	814
Ontario Wind Engine and Pump Co.	840
Orford Copper Co.	856
Ottawa Car Co., Ltd.	Cover 1
Otto Bros.	862
Owen Sound Wire Fence Co., Ltd.	842
Parry Sound Lumber Co., Ltd.	860
Phillips, Eugene F., Electrical Works, Ltd.	852
Piper, The Hiram L. Co., Ltd.	856
Piper, N. L., Railway Supply Co., Ltd.	834
Polson Iron Works, Ltd.	816
Positive Lock Washer Co.	858
Provincial Steel Co., Ltd.	854
Pyke, J. W., & Co.	820
Pyle National Electric Headlight Co.	810
Rail Joint Co. of Canada, Ltd.	Cover 1 and 804
Renouf Publishing Co.	842
Rhodes, Curry Co., Ltd.	816
Robb Engineering Co., Ltd.	818
Robertson Machinery Co.	860
Safety Car Heating & Lighting Co.	808
Saxby & Farmer, Ltd.	Cover 1
Sheriffs Mfg. Co.	862
Silliker Car Co., Ltd.	806
Smart, James Mfg. Co., Ltd.	838
Southam Press	862
Standard Coupler Co.	838
Standard Explosives, Limited	826
Standard Paint & Varnish Co., Ltd.	856
Standard Steel Works Co.	836
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold	828
Toronto Bolt & Forging Co., Ltd.	818
Toronto Pressed Steel Co., Ltd.	850
Union Draft Gear Co.	844
United Typewriter Co.	836
Vulcan Iron Works	854
Warren, Wm.	852
Waugh Draft Gear Co.	Cover 1
Williams, A. R., Machinery Co.	810
Williams Mfg. Co., Ltd.	852
Wire & Cable Co.	Cover 1

EDW. O. FUCE
Hon. Grad., Univ. Tor. (S.P.S.)
A. M. CAN. SOC. C. E.
ONT. LAND SURVEYOR,
Consulting Civil Engineer
GALT, ONT.
Railway Location & Construction.
Reinforced Concrete Structures.

Kingsmill, Saunders, Torrance & Kingsmill,
Union Bank Chambers, 19 Wellington St. West, Toronto
Nicol Kingsmill, K.C., Dyce W. Saunders, K.C., W. P. Torrance, Walter B. Kingsmill.

By an act passed at the last session of the Nova Scotia Legislature, the Inverness Ry. and Coal Co. was given power to grant to the town of Inverness a free site for the erection of a town building, to be used for a town hall, lock-up, fire department, and the holding, if required, of sessions of the Supreme and County courts.

FARNLEY STAYBOLT IRON

HIGHEST GRADE OF IRON FOR STAY-BOLTS, RIVETS AND MINING PURPOSES

All sizes carried in stock in Montreal and Winnipeg

Write us for prices, samples and tests.

TAYLOR & ARNOLD

c/o W. E. SKINNER, LIMITED
SOMERSET BLOCK WINNIPEG, MAN. 180 St. James St., MONTREAL

MORISON Suspension Furnaces

The Universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine Boilers

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

Manufactured by

THE CONTINENTAL IRON WORKS, WEST AND GALVER STS. BOROUGH OF BROOKLYN. Near 10th and 23rd St. Ferries. NEW YORK

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes

**Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.**

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments.

Alaska Central Ry.—In connection with the reported purchase of this railway by the Sovereign Bank, Toronto, now being wound up, it is stated that the purchaser will fix up the 100 miles already constructed and proceed with the construction of the additional 350 miles necessary to carry it to the copper mining district at the Tanana River. It was to reach these fields that the construction of the line was originally undertaken. (June, pg. 413.)

Alberta and Great Waterways Ry.—C. Goddard, who has completed the surveys for the Canada Western Ry., has opened an office in Edmonton, Alta., and is in charge of the location surveys of this projected railway. An Edmonton dispatch states that over twenty engineers are making surveys for the section of the line between Edmonton and Lac la Biche, Alta.

An Edmonton dispatch of Oct. 8 says there is good reason to believe that financial affiliations have been made between this company and the Canada Western Ry. Co., and that a line will be constructed from Edmonton to Calgary to connect them. (Oct., pg. 743.) (See also Canada Western Ry.)

Algoma Central and Hudson's Bay Ry.—The Superintendent and the Chief Engineer have been engaged recently in looking over the located line to connect the Josephine Mine, where the company's Michipicoten branch now terminates, with the C.P.R. near Grasset station, Ont. A survey party has been out all summer, and the visit is for finally passing upon it. It is expected an announcement will be made at an early date respecting construction, not only of this piece of line, but also of the section of the main line from the present end of track to the junction with the Michipicoten-C.P.R. line. (Sept., pg. 649.)

Canada and Gulf Terminal Ry.—We are advised that construction is proceeding satisfactorily on the first section of 10 miles on this railway. The line starts near St. Flavie, on the Intercolonial Ry., and the 10 miles under construction will bring it to Little Metis, Que. It is expected to have this section completed in time for the tourist traffic of next season. The grading and approaches to the bridge over the Metis River are being finished, and the bridge itself is under construction. (Oct., pg. 743.)

Canada Western Ry.—The surveys for a line from Calgary to the International boundary are reported to have been completed, also surveys for a connecting line from the International boundary to Butte, Mont. The preparation of construction plans is being proceeded with, C. Goddard, Edmonton, Alta., being the engineer in charge. It is understood that tenders for construction will be asked for at an early date. The route as laid out starts at Calgary, runs about 20 miles west and turns due south to The Gap, passing between the Porcupine Hills and the Livingstone range. From The Gap it continues parallel with the C.P.R., crossing the Crow's Nest Pass branch between Cowley and Pincher, to Pincher Creek. From this point it takes a southeasterly direction to the International boundary. It is reported that for the present connection will be made in Montana with the Chicago, Milwaukee and Puget Sound Ry. Among the promoters of the undertaking are F. B. Lynch, O. A. Robertson, and T. E. Kenaston, St. Paul, Mo. These men are interested in a number of land, coal and lumber companies at Taber, Red Deer, Alta.; Nelson, Revelstoke and Fernie, B.C. (Oct., pg. 743.) (See also Alberta and Great Waterways Ry.)

Diamond Ry. Coal Co.—The last spike of the line constructed by the company, from the C.P.R. Crow's Nest branch near Lethbridge, Alta., to the coal fields in tsp. 10, range 21, west 4th p.m., was driven Oct. 14, by the wife of the Lieut.-Governor. The ceremony took place at Diamond City, which is the name of the mining town at the terminus of the line. The company's mine has been developed, and after the spike driving ceremony the coal tipple was started and a car loaded up for shipment. T. Underwood, Calgary, Alta., is Managing Director. (Oct., 1908, pg. 711.)

Eastern Townships Ry.—The Dominion Parliament will be asked next session to extend the time within which the company may construct the lines authorised by section 8, chap. 84 of the statutes of 1906-07. L. R. Lavergne, Arthabaska, Que., is solicitor for the company. (July, pg. 475.)

Edmonton, Dunvegan and British Columbia Ry.—Application will be made next session of the Dominion Parliament for an extension of time for the construction of lines authorized by section 71, chap. 85 of the statutes of 1907. Pringle and Guthrie, Ottawa, are solicitors for the company. (July, pg. 475.)

Erie, London and Tillsonburg Ry.—Application will be made next session of the Dominion Parliament for an extension of time within which it may construct its authorised line. The notice is signed by J. H. Teall, of Tillsonburg, Ont. (July, pg. 475.)

Kamloops and Yellow Head Pass Ry.—Application will be made next session of the Dominion Parliament for an extension of time for the construction of the lines authorised by section 8, chap. 115 of the statutes of 1906. Tupper and Griffin, Vancouver, B.C., are solicitors for the company. (July, pg. 477.)

Lillooet to Fort George.—Application will be made next session of the B.C. Legislature for the incorporation of a company for the construction of a railway from Lillooet, northerly by way of the Fraser River valley or other feasible route, to Fort George, B.C., together with all necessary powers. A. McEvoy, Vancouver, is solicitor for the applicants.

Nelson River Ry.—Application will be made next session of the Dominion Parliament for the incorporation of a company for the construction of a line from Lake Winnipeg near its outlet into the Nelson River, or near the discharge of the Saskatchewan River, or from a place between, to the Hudson Bay Ry. (so called) to be located by the Dominion Government. The company also asks power to construct or acquire vessels and operate them from Winnipeg and other places on the Red River and Saskatchewan River to Lake Winnipeg to connect with such line; to construct tramways at points on the Nelson and Saskatchewan Rivers where necessary to transport freight and passengers around rapids; to operate vessels on the Nelson River, and from the mouth of the river to any other port. The company also asks for a number of other powers with the object of developing the country through which the proposed line will pass. Bonnar, Trueman and Thomburn, Winnipeg, Man., are solicitors for the applicants.

Northern New Brunswick and Seaboard Ry.—We are advised that the portion of this railway now under construction begins at the Intercolonial Ry., four miles south of Bathurst station, and extends up the valley of the Nipisiguit River, 17 miles, to the Canada Iron Corporation's ore deposits. The gradient is 1% with the load, and the maximum curvature 955 ft. The bridges are of steel, the culverts of reinforced concrete, and the line will be laid with 85-lb steel rails. Ore will be shipped at Bathurst and Newcastle. Some dredging will have to be done at Bathurst before ore shipments can be made. About one mile below Newcastle, on the Miramichi harbor, the Canada Iron Corporation is constructing ore discharging docks, including trestle approach, a 10,000-ton ore pocket, and an endless bucket conveyor; to reach which a line, one mile long is being constructed from Newcastle station. J. J. Taylor is engineer in charge. (Oct., pg. 745.)

Ottawa, Brockville and St. Lawrence Ry.—Application will be made next session of the Dominion Parliament for an extension of time within which the company may construct the railway authorized by chap. 71 of the Statutes of 1900. (Oct., 1908, pg. 713.)

Owen Sound and Meaford Ry.—At a public meeting in Owen Sound, Oct. 12, a resolution was passed favoring the granting of aid towards the construction of a projected railway from Owen Sound, Ont., easterly, to the extent of $400,000, either by way of an investment or the guarantee of bonds. An opinion was expressed in favor of making the connection with the G.T.R. at Thornbury instead of at Meaford, on account of the easier gradient. An alternative proposal was to construct a line between the C.P.R. station in Owen Sound and that company's Sudbury branch.

The distance between Owen Sound and Meaford is 25 miles, and the O.S. and M. Ry. has a charter for the construction of such a line. The Manitoulin and North Shore Ry. and the Huron and Ontario Ry. (electric) have charters covering the same route. The Dominion Parliament has voted a subsidy on the usual terms for the construction of a line between Owen Sound and Meaford. (July, pg. 479.)

Pine Pass Ry.—Application will be made next session of the Dominion Parliament for the incorporation of a company to construct a line from Edmonton, Alta., northwesterly to junction of the MacLeod and the Athabaska Rivers, thence to Grande Prairie, and westerly to Pouce Coupe Prairie and continuing through Pine River Pass, thence southwesterly to Fort George on the Fraser River, B.C. The company will also ask for power to construct and navigate steam and other vessels; to construct bridges for railway and general traffic and to charge tolls for their use. Smith and Johnston, Ottawa, are solicitors for the applicants.

Prince Albert and Hudson Bay Ry.—Application will be made next session of the Dominion Parliament for an act amending section 7 of its act of incorporation by striking out the words "thence crossing the Saskatchewan River," and providing for an extension of the line from Prince Albert, Sask., by the most feasible route southerly and westerly to Calgary, Alta., and also for a branch from its authorised line southerly to Melfort, Sask., on the C.N.R. It is also desired to issue bonds to the amount of $50,000 a mile, to have power to make agreements with other companies, and to have an extension of time within which it may construct its authorised line. Smith and Johnson, Ottawa, are solicitors for the applicants. (Feb., pg. 103.)

Quebec Central Ry.—The annual report presented to the annual meeting in London, Eng., Oct. 13, states that the extension from St. George to Justine was commenced in the spring, and satisfactory progress having been made, it is expected that this portion of the line will be open for traffic early in 1910.

Queen Charlotte Islands Ry.—A syndicate has been formed in Seattle, Wash., with a capital of $1,000,000 to develop the resources of the Queen Charlotte Islands, B.C. The syndicate owns 20,500 acres of timber lands on the islands, which it is proposed to develop by the immediate construction of a railway. The section of the line which it is proposed to construct at once will be 17 miles and terminate on Lena Island,

ENCLOSED TYPE MOTORS

FOR

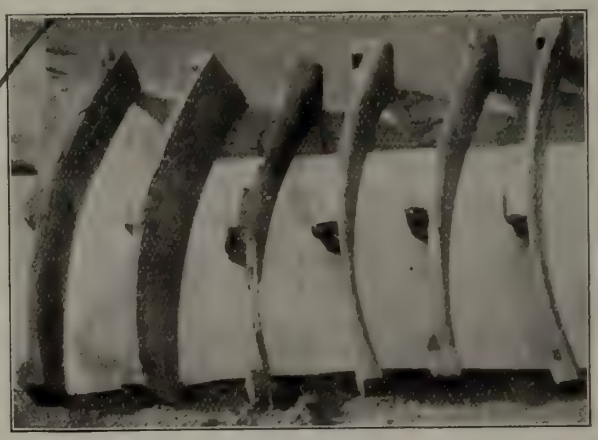
Cranes, Industrial Railways, Hoists, Etc.

WRITE FOR PARTICULARS

CANADIAN CROCKER-WHEELER CO., Limited

Manufacturers and Electrical Engineers - 41 Street Railway Chambers, Montreal

BRAKE SHOES THAT WEAR TO THE LIMIT!



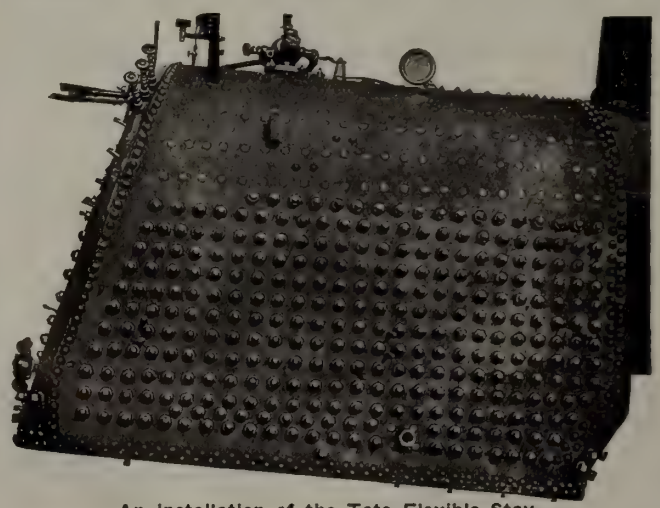
This illustration is a reproduction of a photograph taken of some of our brake shoes which were removed from a car running on one of the largest railway systems in the world. The STEEL BACK feature in connection with our shoes enables them to be worn right down to the "limit of wear" mark without losing any of their braking qualities, ensuring the maximum amount of wear.

Write us for Descriptive Catalogue and Prices.

THE HOLDEN CO., Limited

MONTREAL 302 St. James St. | TORONTO 42 York St. | WINNIPEG 291½ Portage Ave. | COBALT P.O. Box 623

Address Nearest Office



An installation of the Tate Flexible Stay.

THE TATE FLEXIBLE STAYBOLT

THE PERFECT STAY

For Locomotive Fire Boxes

Over two millions and a half bolts in service on over 125 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited

TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, - Pittsburgh, Penn., U.S.A.

where wharves, etc., will be constructed. J. A. Moore, Seattle, is one of the leading members of the syndicate. The Queen Charlotte Islands Ry. was incorporated by the B.C. Legislature in 1903. It has power to construct a line from Rennell Sound to Skidegate Harbor, and from any point on the line to Massett Inlet, all on Graham Island, one of the Queen Charlotte Islands. The company obtained extension of time for construction in 1905 and 1907. The original incorporators of the company were M. King and J. Irving, Victoria, B.C. (June, 1907, pg. 409.)

Queens County Ry.—The Nova Scotia Legislature last session incorporated a company with this title, the provisional directors being J. Walker, New Market, N.H.; H. W. Anderson, Exeter, N.H.; and V. J. Paton, Bridgewater, N.S. It is authorised to acquire the Sable Lumber Co.'s railway lines, extending from Wilkins Siding to its timber lands, to extend same, and generally to construct a line or lines from the Halifax and South Western Ry. between Liverpool and Shelbourne to Sable Lumber Co.'s lands. It is also given various other powers with its capital stock fixed at $100,000, and authority to issue bonds.

Reid Newfoundland Ry.—A survey is being made for the location of a branch line in the Bonavista Bay district. The new line, it is understood, will commence at Shoal Harbor, and run along to Goose Bay, across country to Catalina, and again along the shore to Bonavista, Nfld., about 80 miles. The survey is in charge of J. Powell.

W. D. Reid, together with members of the Government and the Legislature, arrived at Shoal Harbour, Nfld., Oct. 12, and started on a trip of inspection over the route surveyed for the new branch to Bonavista.

St. Lawrence and Ungava Ry.—Application will be made next session of the Dominion Parliament for an act incorporating a company with this title to construct a line from the St. Lawrence River in Berthier county, Que., northerly through Joliette, Berthier, Maskinonge, St. Maurice and Champlain counties to the northern boundary of the province, thence into the Ungava district, northeasterly to Ungava Bay. The company will also ask for power to construct telegraph and telephone lines, to operate steam and other vessels, to construct docks, wharves, etc., and to carry on a number of other businesses. Greenshields, Greenshields and Languedoc, Montreal, are solicitors for the applicants.

Superior and Western Ontario Ry.—We are advised that the line authorized to be constructed by this company is to extend from Velora Jct. on the G.T.P.R. Lake Superior branch to the National Transcontinental Ry., north of Sturgeon Lake, Ont. The line will be about 60 miles long, and will pass through a partially settled district around Sturgeon Lake. The company has this year made a beginning by constructing a portion of the line, from Velora to the south end of Sturgeon Lake, at O'Brien, where it connects with the New Ontario Transportation Co.'s vessels trading to all parts of the lake. The company is now doing a large business, chiefly from railway contractors and prospectors on Sturgeon Lake. The portion of the line opened has been carrying traffic since Aug. 1. Since the opening of the line the name of Velora Jct. has been changed to West Ontario Jct. The officers of the company are:—President, A. McDougall; Vice President, J. J. Whalen; General Manager, J. A. Whalen. (Oct., pg. 745.)

Temiskaming and Northern Ontario Ry.—After considerable delay there is now a prospect of the early construction of the spur line to the wharf at Haileybury. The Commissioners began construction, but a body of citizens objected to the line crossing the water front and the work was stopped. The matter came before the Ontario Railway and Municipal Board Sept. 30, and an order has been made authorizing construction.

The construction of the new station at Cobalt is progressing rapidly. It was announced that half of the structure would be ready for occupation Oct. 30.

Tenders will be asked at an early date for the construction of the spur line to the wharf at New Liskeard. (Oct., pg. 745.)

Thessalon and Northern Ry.—The officers and directors are:—President, D. J. Sandie; Secretary, A. A. Burke; directors, W. H. Taylor, T. Buchanan, H. Appleton, J. B. Dobie, C. A. Keast. The company has constructed a line from Thessalon to the C.P.R., 3.50 miles. This piece of line is being operated by the C.P.R. to and from the town. (Oct., pg. 745.)

Toronto Eastern Ry.—Application will be made to the Dominion Parliament to incorporate a company with this title to construct a line from Toronto, easterly through Whitby, Oshawa and Bowmanville to Cobourg, Ont., with branches from Cobourg to Peterboro, Scarboro tp. to Markham, Stouffville or Uxbridge; from Oshawa northerly, via the eastern side of Lake Scugog, to Lindsay; from Oshawa southerly to Lake Ontario. The company desires that the lines be declared to be for the general advantage of Canada, and that it be authorized to amalgamate with other companies. L. K. Murton, Oshawa, Ont., is solicitor for the applicants.

Railway Rolling Stock Notes.

The C.N.R. has placed an order with Rhodes, Curry Co., Ltd., Amherst, N.S., for five snow plows.

The I.C.R. has ordered 30 Hart-Otis steel dump cars from the Dominion Car and Foundry Co., Montreal.

The Crossen Car Mfg. Co., Cobourg, Ont., has completed delivery of a recent C.N.R. order for 200 box cars and 15 cabooses.

The Montreal Locomotive Works, during the month preceding Oct. 23, delivered locomotives, as follows:—Temiscouata Ry., two; Grand Trunk Pacific Ry., seven; Intercolonial Coal Mining Co., one; New Canadian Co., one; E. and W. Reade Co., one.

The Temiskaming and Northern Ontario Ry. is asking the prices for 12 cinder cars and 50 box cars. Recent additions to rolling stock include five locomotives, nos. 127 to 131, from the Canadian Locomotive Co., Kingston, Ont., and five vans, nos. 63 to 67, from the Silliker Car Co., Halifax, N.S.

The C.N.R., between Sept. 15 and Oct. 15, received the following additions to rolling stock, one first-class coach and eight cabooses from Rhodes, Curry Co., Amherst, N.S.; 20 box cars and 15 cabooses from the Crossen Car Mfg. Cobourg, Ont., and one first-class coach from the Silliker Car Co., Halifax, N.S.

The G.T.P.R., since July 1, has received 25 mogul locomotives from the Canadian Locomotive Co., Kingston, Ont., 25 eight wheel passenger locomotives from the Montreal Locomotive Works; five tourist cars, five colonist cars, 138 box cars, 50 refrigerator cars, 100 stock cars and 50 cabooses from the Canada Car Co., Montreal.

The C.P.R., between Sept. 13 and Oct. 14, placed orders for rolling stock, as follows:—10 consolidation locomotives, three Pacific locomotives, 83 box cars, 48 flat cars, four stock cars, one refrigerator car, one pile driver and two second class cars at its Angus shops, Montreal; five vans and one flanger at its Farnham shops, Que.

The C.P.R., between Sept. 13 and Oct. 14, received the following additions to rolling stock: 177 box cars, seven first class and smoking cars, three box baggage cars, three mail and express cars, seven refrigerator cars and one hump switching locomotive from its Angus shops, Montreal; 125 steel frame flat cars from the Dominion Car and Foundry Co., Montreal; and nine D-10 locomotives from the Montreal Locomotive Works.

The Dominion Car and Foundry Co., Montreal, is building two 50-ton flat cars with steel floors for carrying slag for the Hamilton Steel and Iron Co., Hamilton, Ont. Following are the pricipal dimensions, etc.:

Length	50 ft.
Width	9 ft.
Journal boxes	Cast iron, M.C.B.
Wheels	Cast iron, M.C.B.
Axles	Steel
Couplers, bolsters and brakebeams	Simplex
Brakes	Hand, only

The Dominion Car and Foundry Co., Montreal, has received an order from the Dominion Iron and Steel Co., for 40 all steel hopper ore cars, of which the following are the chief particulars:

Capacity	50 tons
Length inside	28′ 0″
Width inside	9′ 6″
Centre to centre of trucks	23′ 2″
Length inside to inside of coupler knuckles	33′ 0″
Top of rail to top of sides	9′ 10″
Couplers	Tower
Brakes	Hand only
Trucks	Arch bar M.C.B.
Wheel base	5′ 0″
Journal boxes	Cast iron
Bolsters and brake beams	Simplex
Axles	Steel
Brake shoes	Cast Iron

The Esquimalt and Nanaimo Ry. has ordered 20 all steel drop bottom coal cars from the Dominion Car and Foundry Co., Montreal, of which the following are chief particulars:

Length inside	36′ 9½″
Width inside	9′ 6″
Height inside	5′ 0″
Centre to centre of trucks	26′ 0″
Length over end sills	38′ 10″
Height top of rail to top of side	9′ 4 13-16″
Air brakes	Westinghouse K.C. 1012
Couplers	Simplex 5″ by 5″
Draft springs	M.C.B. class G
Truck wheel base	5′ 6″
Truck bolsters	Simplex
Side bearings	Susemihl frictionless
Brakebeams	Simplex
Wheels	Cast iron
Axles	Steel
Journals	5½″ by 10″
Journal boxes	McCord M.I.

The G.T.R., since July 1, has placed orders for 10 Pacific type locomotives, 15 compound consolidation locomotives, with the Montreal Locomotive Works, and 25 mogul locomotives with the Canadian Locomotive Co., Kingston, Ont. Following are chief particulars of the Pacific type locomotives:—

Tractive effort	31,559 lbs.
Weight in working order	210,000 lbs.
Weight on drivers	139,000 lbs.
Weight of engine and tender	353,300 lbs.
Wheel base, driving	13′ 4″
Wheel base, engine and tender	62′ 9½″
Cylinders	22″×28″
Wheels, diam. over tires	73″
Journals	9½″×12″
Truck journals, back	8″×14″
Truck journals, front	6½″×10½″
Boiler, type	Extended wagon top
Boiler, pressure	200 lbs
Firebox	96⅞″×75¼″
Tubes, no. and diam.	308, 2″
Tubes, length	20′ 6″
Heating surface, tubes	3,306 sq. ft.
Heating surface, firebox	169 sq. ft.
Heating surface, total	3,475 sq. ft.
Grate area	50.62 sq. ft.
Tender, tank	Water bottom
Frame	10″ channel, steel
Wheels, diam.	34″
Journals	5½″×10″
Capacity, water	7,000 gals.
Capacity, coal	10 tons

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.

The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.

THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

American Brake Shoe and Foundry Company

NEW YORK MAHWAH, N.J. CHICACO, ILL.

THE HOLDEN CO., Limited, Agents, 302 St. James St., MONTREAL

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

THE ALGOMA STEEL CO., LIMITED

SAULT STE. MARIE, ONTARIO

IS NOW BOOKING ORDERS FOR STEEL RAILS **FOR DELIVERY DURING THE SEASON OF 1909**

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to insure desired deliveries.

Office:
CANADA LIFE BUILDING
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS

MAINLY ABOUT PEOPLE.

Jay Gould has been elected a director of the Wabash Rd., succeeding W. B. Sanders retired.

Stewart Gordon, formerly in the C.P.R. hotel system service, is living in North Devon, Eng., where he has leased a place.

W. N. Graham, son of the Minister of Railways and Canals, was married at Cannington, Ont., Oct. 14, to Miss N. Dure.

Miss N. Lewis, granddaughter of Collingwood Schreiber, C.M.G., was married at Ottawa, Oct. 13, to T. F. Ahearn, Ottawa.

F. A. Mills, cashier Great Northern Ry., Brandon, Man., was arrested there recently, charged with embezzling $350 from the company.

J. W. Lyon, who represents the Guelph City Council, on the board of the Guelph Junction Ry., has occupied that position for over sixteen years.

W. D. Reid, President Reid Newfoundland Co., returned to Newfoundland at the end of Sept., after spending a few weeks in Great Britain.

J. M. Gibbon, C.P.R. Advertising Agent, London, Eng., who has been spending some time in Canada, returned to England at the end of Sept.

F. H. McGuigan, formerly of the G.T.R., and now contractor to the Ontario Hydro Electric Commission, is living at the Prince George Hotel, Toronto.

E. B. Bartlett, one of the engineers engaged on the National Transcontinental Ry., died at Weymontachene, Que., Oct. 8, and was buried at Quebec, Oct. 12.

Lord Strathcona has given his old home farm at Silver Heights to the Selkirk Centennial Exhibition, after which it is to be used as a public park.

R. B. Bennett, Calgary, Alta., stated Oct. 4, that there was no truth in the report that he had been appointed General Solicitor C.P.R. at Montreal.

D. Cummings, G.N.R. ticket agent, Winnipeg, was reported missing, Oct. 15. It was stated that he had been despondent since the recent death of his wife.

W. M. Porteous, C.P.R. Freight Agent, St. Louis, Mo., who recently underwent an operation for the removal of a growth near the spine, has returned to business.

F. H. Phippen, General Counsel Canadian Northern Ry., who removed from Winnipeg to Toronto recently, has leased J. K. Osborne's house, Clover Hill, Toronto.

N. A. Rhodes, one of the founders of the firm of Rhodes, Curry & Co., car builders, Amherst, N.S., died Sept. 30, from the effects of an operation for appendicitis.

F. C. Hammond, of Toronto, eldest son of the late H. C. Hammond, President of the Northern Navigation Co., was married at Kingston, Ont., recently, to Miss K. S. Saunders.

L. R. Thompson, Travelling Freight and Passenger Agent Eastern Steamship Co., St. John, N.B., and Mrs. Thompson, celebrated the twenty-fifth anniversary of their wedding, Sept. 25.

R. Kerr, Passenger Traffic Manager C.P.R., returned to Montreal, Oct. 16, from Chicago, Ill., where he had been attending the meetings of the Transcontinental Passenger Association.

F. B. Nixon, formerly train dispatcher, Central Vermont Ry., St. Albans, Vt., has been appointed train dispatcher for the Colorado Springs and Cripple Creek District Ry., at Cripple Creek, Col.

D. McNicoll, Vice President and General Manager, and J. W. Leonard, General Manager Eastern Lines C.P.R., left Montreal, Oct. 12, for an inspection trip over the company's lines in Ontario.

R. L. Black was mentioned in our last issue as foreman of the freight car repair shop I.C.R., Moncton, instead of R. L. Blake. The compositor's error was unfortunately overlooked in proof reading.

F. Sturdee, of the C.P.R. Passenger Department, Montreal, was presented with a number of cut glass articles, Oct. 16, by transportation officials of the city, on the occasion of his forthcoming marriage.

C. H. F. Plummer, Manager Canadian Lake Transportation Co., Toronto, who recently underwent an operation for appendicitis, is progressing favorably, and it is expected he will be able to resume business shortly.

E. E. Fisher, who retired from the position of General Superintendent of the Toronto, Hamilton and Buffalo Ry. recently, after fifteen year's service, died in the city hospital, Hamilton, Ont., Oct. 13, from the effects of an operation.

W. Mackenzie, President Canadian Northern Ry., has given $500 towards the erection of a memorial tower at Halifax, N.S., in connection with the celebration of the 150th anniversary of the establishment of self government in the province.

J. H. Clergue, father of F. H. Clergue and B. J. Clergue, who were associated with the starting of the various industrial and railway enterprises at Sault Ste Marie, Ont., now carried on by the Lake Superior Corporation, died at Sault Ste. Marie, Sept. 25, aged 79.

G. A. Taylor, railway contractor, who died at Brockville, Ont., Oct. 13, was the first Traffic Manager of the Canada Atlantic Ry. In addition to contracts for the C.P.R., G.T.R. and Intercolonial Ry. he constructed the Coteau du Lac section of the Soulanges canal.

S. Harris and C. Burnside, two of the engineers engaged on the construction of the Guelph and Goderich Ry. and now engaged on the construction of a Chinese transcontinental railway, have been called to Toronto to give evidence in the action brought by M. A. Pigott against the G. and G. Ry.

G. Beach, who was recently arrested charged with stealing $835 from the C.P.R., at Fredericton, N.B., where he was employed as a ticket clerk, was released from custody toward the end of Sept., no evidence being offered against him when the case came up for trial. It was stated that the shortage has been refunded.

D. B. Lindsay, who has been connected with the Temiscouata Ry., for many years, and since Jan., 1901, as Secretary and General Manager, Riviere du Loup, Que., has resigned the position of General Manager, on account of ill health and advancing years, but will retain his connection with the company, holding the position of Secretary.

L. E. Lavoie, who has been appointed General Purchasing Agent Intercolonial Ry., Ottawa, was born June 22, 1879, and entered I.C.R. service Oct., 1894, since when he has been, to Oct., 1902, clerk; Oct., 1902, to Sept., 1904, secretary to General Superintendent; Sept., 1904, to Oct., 1909, chief clerk to General Superintendent.

H. W. Brodie, Assistant General Passenger Agent C.P.R., Winnipeg, has been presented with a gold watch by the members of the British Association attending the recent meetings at Winnipeg. The watch bears the inscription, "H. W. Brodie, in acknowledgement of kind attentions, British Association Western Excursion, 1909."

W. J. Oldham, whose appointment as Supervisor of Bridges, Temiskaming and Northern Ry., North Bay, Ont., was announced in a recent issue, was born at Ellenburgh, N.Y., Sept. 13, 1868, his record being, June, 1887, to June, 1891, bridge and building carpenter, C.P.R.; June, 1891, to June, 1909, bridge and building foreman, same road.

M. Manion, Prescott, Ont., reputed to be the oldest locomotive engineer in the C.P.R. service, was presented with a silver cup and an address by the Brotherhood of Locomotive Engineers and Firemen recently, in recognition of his honorable record. He entered the St. Lawrence and Ottawa Ry. service in 1863, and remained in the service when that railway was taken over by the C.P.R.

H. Shearer, who has been appointed Superintendent Canadian Division M.C. Rd., St. Thomas, Ont., entered that company's service in 1891, since when he has been successively, Agent at Chicago Heights, Michigan City and Jackson, Travelling Freight Agent, chief clerk in General Freight Department, Chicago, Ill., and latterly secretary to the General Manager, Detroit, Mich.

A. M. Travis, I.C.R. station master at Hampton, N.B., who will shortly be retired on the pension fund, entered the service of the old European and North American Ry., May, 1863, as telegrapher at Rothesay, N.B., and served in that capacity, later, at Salisbury and Anagance, and, until May, 1868, as trackmaster at St. John. Since May, 1868, he has acted as station master at Hampton.

M. Hoar, who has been in the employ of the Intercolonial Ry., and its predecessor, the European and North American Ry., for about 37 years, will, it is reported, be placed on the pension fund, Nov. 1. He was employed in connection with the first survey of the line, in 1853, and subsequently drove the stage coach between St. John and Moncton. He has been connected with the track department the whole of the time, the first three years being spent at Dorchester, and the remainder at Sackville, N.B.

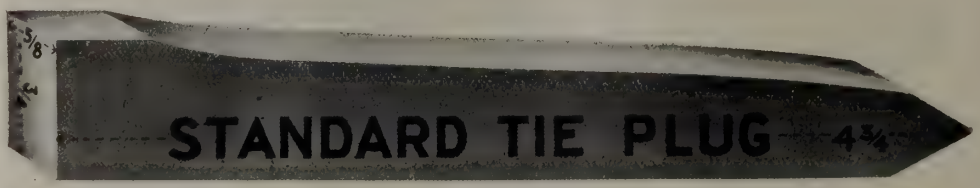
G. H. Anthony, who has been appointed Agent Pere Marquette Rd., Minneapolis, Minn., was entertained to dinner by a number of railway men and shippers of Winnipeg, Sept. 30, on the occasion of his leaving that city, where he had been acting as Agent Wisconsin Central Ry., and who since its acquirement by the Minneapolis, St. Paul and Sault Ste. Marie Ry., had acted for that company. In the course of the evening he was presented with a travelling bag, and Mrs. Anthony with a vase.

N. L. Rand, heretofore Master Mechanic Intercolonial Ry., Moncton, N.B., has retired on the pension fund. He was born at Shediac, N.B., Oct. 28, 1843, and entered railway service in 1859, since when he has been, to 1866, apprentice European and North American Ry., Shediac, N.B.; 1866 to 1875, locomotive engineer same road and its successor the Intercolonial Ry.; 1875 to 1897, roundhouse foreman, Moncton, N.B.; 1897 to 1902, road foreman of engines; 1902 to 1909, Master Mechanic, Moncton, N.B.

"'Cluny' McPherson left for Montreal last night in his private car, in response to a telegram from headquarters. Although he absolutely declined to say anything that would indicate the nature of the business, it is believed that he is slated for the vice presidency of the big concern. It is an open secret that two big transcontinental enterprises have been bidding strong for the aggressive Scotchman's services in connection with the management of their roads." (Ten years hence, Winnipeg Tribune.)

H. H. Adams, who has been appointed General Superintendent Toronto, Hamilton and Buffalo Ry., Hamilton, Ont., was born at Detroit, Mich., Aug. 13, 1876, and entered railway service, July, 1899, as

"Note the Size and Shape"



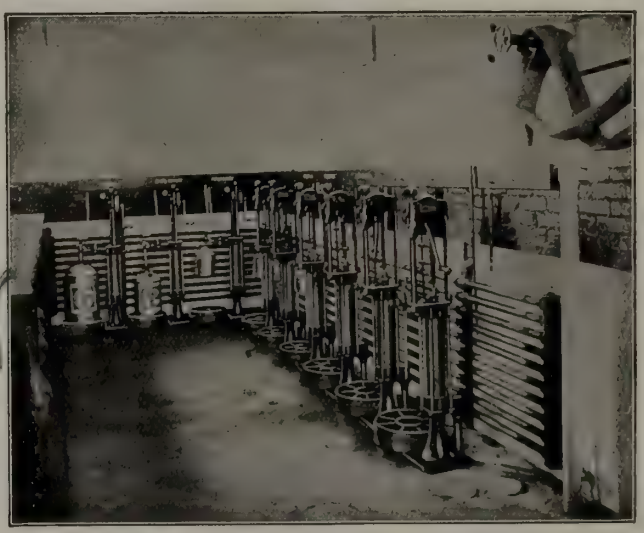
In bags of 1000 each
Write for prices
Better and Cheaper than hand made

M'f'd by J. HARRISON & SONS CO., LIMITED

OWEN SOUND, ONT.

These plugs are giving good satisfaction. We are also large dealers in Ties, Posts, Timbers, Lumber, Sash, Doors, Interior Finish, and with the plant we have here should be able to supply you. . . .

Our Specialty is Good Material Promptly. Try us once.



Bowser Pumps in a Railway Storehouse

Greater Net Earnings

A big gross income is a good thing, but it is what is left after all expenses are deducted that counts.
Reduce your operating expenses, and thereby increase your net income by installing

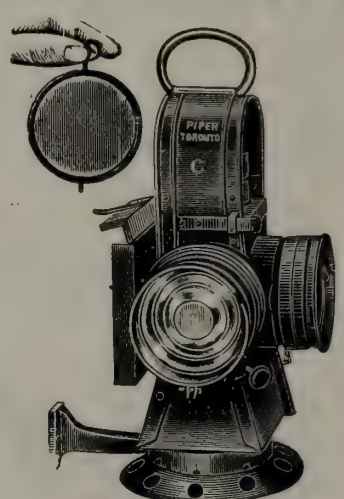
The Bowser System of Oil Storage

The BOWSER reduces the cost of labor involved in handling the oil 75 per cent. It reduces the oil bills 10 to 25 per cent. It also reduces the insurance rate by decreasing the fire hazard.
Bulletin 18 tells all about it. Sent upon request to those interested.

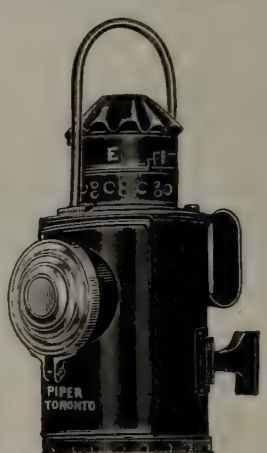
S. F. BOWSER & CO., LIMITED
66-68 FRASER AVENUE - - TORONTO

THE **N. L. PIPER RAILWAY SUPPLY CO.,** LIMITED
—TORONTO—

MANUFACTURERS OF



CLASSIFICATION LAMP



ENGINE TRI-COLOR LAMP

MARKER LAMP

RAILWAY LAMPS ETC

draughtsman in the M.C. Rd. After serving in various capacities in the engineering department, he was appointed Assistant Chief Engineer, Mar., 1902; Secretary to the General Superintendent, Nov., 1902; Assistant Superintendent, Canadian Division, Jan. 1, 1903, and Superintendent Canadian Division, Jan., 1904.

R. L. Latham, who has been appointed Chief Engineer, Toronto, Hamilton and Buffalo, Ry.; Hamilton, Ont., was born at Toronto, Nov. 20, 1876, and graduated in civil engineering from the School of Practical Science in 1889, taking the degree B.A. Sc., in 1901. During portions of 1898, 1899 and 1900 he was engaged in the City Engineer's office, Toronto, and on re-location surveys for C.P.R. Ontario lines, and entered T. H. and B.R. service, May 1, 1901, as Assistant Engineer, which position he held until his present appointment.

C. H. N. Connell, who has been appointed Engineer of Maintenance, Canadian Northern Quebec, and Quebec and Lake St. John Rys., was born at Woodstock, N.B., Aug. 26, 1876, his railway record being, from Aug. to Oct., 1897, chainman, C.P.R. Crow's Nest Pass branch; Oct., 1897, to Nov., 1898, clerk in Division Engineer's office, same road; Nov., 1898, to Aug., 1899, topographer, C.N.R. survey between Port Arthur and Winnipeg; Aug., 1899, to Oct., 1900, Assistant Resident Engineer on construction, same road; Dec., 1900, to Nov., 1902, Resident Engineer on construction, Algoma Central and Hudson Bay Ry., Sault Ste. Marie, Ont.; May, 1903, to Oct. 1, 1909, Locating and Resident Engineer, Alberta Ry. and Irrigation Co., Lethbridge, Alta.

Miss Muriel Acton Burrows, second daughter of the Managing Director of the Railway and Marine World, sailed from Montreal, Sept. 25, en route to Paris, where she was to spend a few weeks with C. E. M. and Mrs. Hodge, at whose wedding she was the bridesmaid in May, and then return with them to England, and remain with them there for some months. While staying in London, on the way, for a few days, she was attacked with meningitis. Her uncle, A. J. Burrows, went to her from Kent; Mr. and Mrs. Hodge hurried from Paris, and the highest specialist advice was secured, but the case was pronounced hopeless, and her father left Toronto, Oct. 15, to sail by the fastest boat available, in the hope of being able to reach London in time to see her alive, but a cablegram received Oct. 20 announced that death took place on that date.

C. G. Bowker, whose appointment as Assistant Superintendent G.T.R. Middle Division, London, Ont., was announced in our last issue, was born at Medford, N.J., Apr. 21, 1871, and entered railway service in May, 1888, since when he has been, to Oct., 1890, operator, Philadelphia and Reading Rd.; Oct., 1890, to 1893, division operator, New England Division, same road; 1893 to 1897, in charge of telegraph lines and electrical service, Buffalo Division, Lehigh Valley Rd.; 1897 to May, 1900, train dispatcher, Lehigh Valley Rd., Buffalo, N.Y.; May, 1900, to Feb., 1902, train dispatcher, G.T.R., London, Ont.; Feb., 1902, to Nov., 1905, train dispatcher, G.T.R., Durand, Mich.; Nov., 1905, to May, 1907, Chief Train Dispatcher, G.T.R., Stratford, Ont.; May, 1907, to Sept., 1909, Trainmaster, G.T.R., Stratford, Ont.

F. M. Spaidal, General Superintendent Canadian Northern Quebec Ry., and Quebec and Lake St. John Ry., Quebec, whose portrait appears on the first page of this issue, was born at Gananoque, Ont., Nov. 13, 1858, and entered railway service in 1876, since when he has been, to June 1883, operator, agent and dispatcher G.T.R., at various points between Kingston, Ont., and Montreal; June, 1883, to June, 1885, agent and dispatcher Union Pacific Rd., Butte, Mont., and other points; Aug. to Dec., 1885, operator C.P.R., Ottawa; Dec., 1885, to June, 1893, dispatcher C.P.R., Ottawa; June, 1893, to Sept., 1897, Chief Dispatcher C.P.R., Ottawa; Sept., 1897, to Oct., 1903, Trainmaster C.P.R., Ottawa; Oct., 1903, to Aug., 1906, Superintendent, District 2, C.P.R. Eastern Division and Montreal Terminals, Montreal; Aug., 1906, to Dec., 1907, Superintendent Canadian Northern Ontario Ry., Toronto; Dec., 1907, he was appointed General Superintendent Canadian Northern Quebec Ry., Montreal, and Mar., 1908, his headquarters were moved to Quebec, and on the acquiring of the Quebec and Lake St. John Ry., Mar., 1908, he was also appointed General Superintendent of that railway.

Railway Finance, Meetings, Etc.

Alaska Central Ry.—The judicial sale of this uncompleted railway was made at Valdez, Alaska, Oct. 10, and press reports state that the purchaser was the Sovereign Bank of Canada. The bank holds $2,400,000 of the $4,000,000 of bonds issued, and F. G. Jemmett, the present manager of the bank, and D. M. Stewart, the former manager, were present at the sale to protect the interests of the bank. It is stated that the investment of its funds in this and some other railway bonds brought about the difficulties of the Sovereign Bank.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales, for Aug., $39,533, against $33,835 for Aug., 1908. Cumulative net profits for two months ended Aug. 31, $69,536. Railway traffic receipts for Sept., $33,567, against $32,315; and for three months ended Sept. 30, $88,189.

Canadian Northern Ontario Ry.—A supplementary trust deed, dated Sept. 29, amending the trust deed of June 28, by substituting one-tenth as the proportion of stockholders required to requisition a meeting instead of one-fifth as the original deed required, has been filed with the Secretary of State at Ottawa.

Dominion Atlantic Ry.—Gross earnings for Aug., $158,300, against $152,237 for Aug., 1908. Aggregate gross earnings for eight months ended Aug. 31, $787,150, against $767,789 for Aug., 1908.

Duluth, South Shore and Atlantic Ry.—The annual report presented at the meeting of shareholders, held at Marquette, Mich., Sept. 16, shows that the company owns 517.44 miles of main lines, 69.28 miles of branch lines, and has trackage rights over 6.66 miles, making a total of 593.38 miles operated. The equipment consists of 82 locomotives, 65 passenger cars, 2,839 freight cars, and 100 miscellaneous cars. For the year ended June 30, the net revenue from operation was $739,819.79, an increase of $26,125.26 over the previous year. the net revenue from outside operations was $7,866.21, a decrease of $12,610.96; making a total net revenue of $747,686.00. After deducting taxes accrued there remained an operating income of $544,-068.30, a decrease of $3,740.16; adding other income of $146,208.67, an increase of $115,803.45, the gross corporate income amounted to $690,294.97, an increase of $112,063.29. From this there was deducted $862,000 interest on bonds. $28,936.81 rents, etc., altogether $891,-741.81, an increase of $2,517.32. The net loss on the year's operations therefor was $201,446.84 against $310,992.81 for the preceding year. The liabilities to stock and bondholders, etc., amount to $52,046,459.18, including $5,262,235.18 to the C.P.R. on guaranteed interest account. The general ledger balances show assets of $48,787,478.96. the balance of loss standing at $3,258,981.22. The retiring directors were re-elected.

Grand Trunk Pacific Ry.—Following are the directors for the current year: President, C. M. Hays; Vice President and General Manager, E. J. Chamberlin; Second Vice President, W. Wainwright; other directors, Sir C. Rivers Wilson, A. W. Smithers, M. G. Carr Glyn, F. Firebrace, Lord Welby, W. H. Biggar, E. H. Fitzhugh, H. A. Allan, E. B. Greenshields, Hon. G. A. Cox, E. R. Wood and J. R. Booth.

Grand Trunk Ry.—A press report from Boston, Mass., states that the G.T.R. has secured an option on the Rhode Island Rd. as the first step towards establishing a terminal at Providence. An earlier dispatch from Rhode Island stated that the G.T.R. was to apply next session of the Rhode Island Legislature for power to construct a line into Providence. Other dispatches state that the reports are not taken seriously in local railway circles, though it is not said there is no truth in the report that G.T.R. representatives are conducting some negotiations in the territory.

The reports are also being revived that the G.T.R. is trying to arrange a purchase of the Lehigh Valley Rd.

Illinois Central Rd.—The report for the year ended June 30, shows that the income from operation was $57,145,512.19, a decrease of $815,215 from those of the previous year; expenses and taxes, $43,681,282.43, a decrease of $898,315.78; net income from operation, $13,464,229.76, an increase of $47,100.32. The income from investments and other sources was $3,874,708, making a surplus of $17,338,937.76. After deducting fixed charges, rentals, etc., the available surplus was $9,592,023.24, which has been applied as follows: 7% dividend on outstanding capital stock, $7,650,720; replacement of equipment, $232,266.92; surplus dividend fund $1,457,886.92; profit and loss, $251,149.40.

London and Port Stanley Ry.—At a meeting of the directors held in London, Ont., Oct. 1, it was decided to meet representatives of the Pere Marquette Rd. and discuss what terms that company is willing to offer the city of London for an extension of the lease of the line.

The present lease expires in about five years, but as certain betterments should be carried out at once, the lessee asks that an extension for 20 years be granted before the work is undertaken. There are several other questions involved in the matter which will have to be settled. The principal one has to do with the payment of the cost of reconstructing certain bridges which the lessee carried out, after notifying the city that it would be held liable for same. The city repudiates any liability, and it is urged that no extension be granted unless the P.M. Rd. pays for the bridges. Those who favor this view think the G.T.R., which at one time leased the line, in which it has a small interest, or the C.P.R. will make bids for a lease.

Maritime Coal and Ry. Co.—By an act passed last session of the Nova Scotia Legislature the company was authorized to increase the number of its directors from seven to eleven.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—The New York Exchange has listed $1,005,000 additional first consolidated 4% bonds due 1938, making a total listed to date $45,891,000.

Nova Scotia Steel Co.—By an act passed last session of the Nova Scotia Legislature the company was authorized, in addition to the powers already possessed, to secure the payment of any money borrowed or raised by it by the issue of debentures or debenture stock charged upon its property, present or future, including its uncalled capital, and to redeem any such securities. The company owns lines in the vicinity of New Glasgow and North Sydney, N.S., and owns several steamships.

BALDWIN LOCOMOTIVE WORKS

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND

LOCOMOTIVES

Mine, Furnace and Industrial Locomotives

Electric Locomotives with
Westinghouse Motors and Electric Trucks

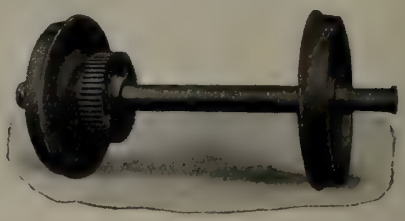
Principal Offices and Works, 500 North Broad Street
PHILADELPHIA, PA., U.S.A.

Cable Address;-"Baldwin," Philadelphia

STANDARD STEEL WORKS CO.

Harrison Building, Philadelphia, Pa., U.S.A.

THE BRYDGES ENGINEERING AND SUPPLY CO.
WINNIPEG, MAN. Limited Representatives



Wheels mounted on axles fitted with motor gear
ready for application to equipment

STANDARD

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

GENERAL RAILWAY SIGNAL COMPANY.

ROCHESTER, N.Y.

SIGNALING INTERLOCKING

CHICAGO — MONADNOCK BLOCK
MONTREAL — EASTERN TOWNSHIPS BANK
NEW YORK — NIGHT & DAY BANK

UNDERWOOD

A contest for the typewriting championship of the world was held in New York on Sept. 30.

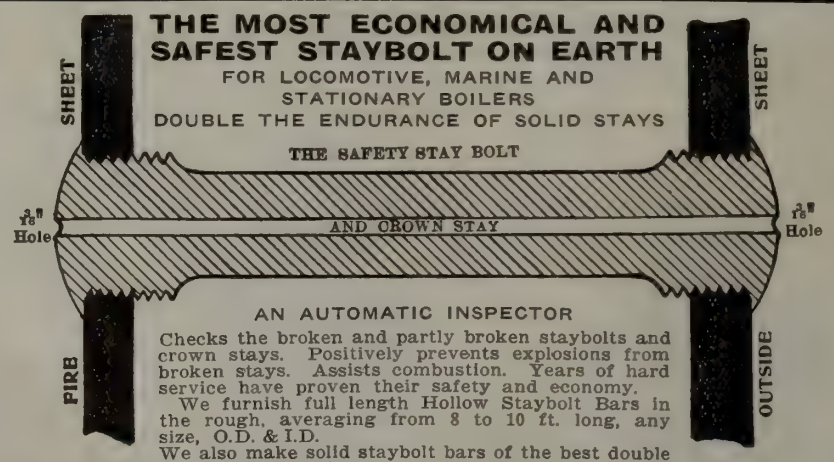
It was won by Miss Rose L. Fritz, the famous Underwood operator, who wrote 102 words a minute for one hour.

The Underwood has won the world's championship in thirteen successive contests. It has won every other contest of any importance in recent years.

Contests subject a machine to the severest strain. The logical deduction is that the Underwood is a good typewriter.

UNITED
TYPEWRITER COMPANY LIMITED
TORONTO
and all other Canadian cities

THE MOST ECONOMICAL AND SAFEST STAYBOLT ON EARTH
FOR LOCOMOTIVE, MARINE AND STATIONARY BOILERS
DOUBLE THE ENDURANCE OF SOLID STAYS



AN AUTOMATIC INSPECTOR

Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO

Representatives Dominion of Canada: Brydges Engineering and Supply Co., Winnipeg, Canada; Mussens Limited, Montreal, Canada.

Orford Mountain Railway—We are officially advised that when the lease of this line to the C.P.R. Co., as announced in that company's annual report published in our last issue, goes into effect, the line will become a part of the C.P.R. system and be so operated.

Pere Marquette Rd.—New York press reports state that arrangements are in progress for the transfer of this railway to the Pennsylvania Rd.

Port Hood Richmond Ry. Coal Co.—Under its act of incorporation the company was authorized to issue mortgage bonds of $865,000, of which $585,000 are second mortgage bonds. By an act passed last session of the Nova Scotia Legislature the financial obligations of the company have been rearranged and provision made for additional working capital by the issue of prior lien bonds.

Quebec Central Ry.—The annual meeting was held in London, Eng., Oct. 13. The report shows that the gross earnings for the year ended June 30 were $1,021,682; expenses, $724,918; net earnings, $296,764; interest earned, $9,176; net income, $305,940, against $1,110,724 gross earnings; $787,293 expenses, $323,431 net earnings; $5,334 interest earned; $328,765 net income for the previous year. During the year, £25,000 of 4% debenture stock were issued, increasing the amount outstanding on this account to £529,837.

Quebec and Lake St. John Ry.—Gross receipts for Sept., $56,919.49, against $67,639.94 for Sept., 1908. Aggregate gross receipts for nine months ended Sept. 30, $444,750.21, against $465,497.48 for same period 1908.

Temiscouata Ry.—Gross earnings for Aug., $21,239.61, against $25,374.27 for Aug., 1908. Approximate gross earnings for Sept., $19,580.73, against $22,088.45, for Sept., 1908.

Following are the officers and directors for the current year:—President, F. Grundy; Vice President, J. H. Walsh; other directors, A. H. Cook, A. Laurie, A. Steele, W. N. Campbell, F. Murphy; General Manager, G. G. Grundy, Secretary, D. B. Lindsay.

Temiskaming and Northern Ontario Ry.—Gross earnings for Aug., $143,086; expenses, $73,728; net earnings, $69,360; ore royalties, $19,438. Net earnings for eight months ended Aug. 31, $449,049, against $117,258 for same period 1908.

Trans-Niagara Bridge Co.—Following are the officers and directors for the current year:—President, T. Penney, Buffalo, N.Y.; Secretary, A. M. Grier, K.C., Niagara Falls, Ont.; other directors, T. E. Mitten, N. Robinson, Buffalo, N.Y.; E. B. Osler, Toronto.

White Pass and Yukon Ry.—Gross earnings for Aug., $252,600. Aggregate gross earnings for two months ended Aug. 31, $476,257.

Wisconsin Central Ry.—The Bank of Montreal in London, Eng., made an issue of $2,500,000 of 4% bonds of this railway, Oct. 7. The issue price was £198 per $1,000 bond.

The members of the conciliation board to deal with the dispute between the Intercolonial Ry. and its fitters and mechanics consists of Judge Barron, Stratford, Ont.; J. O. H. Gilmore, Brockville, Ont., and J. G. O'Donoghue, Toronto.

T. McHattie, Superintendent Motive Power and Car Departments, Central Vermont Ry., St. Albans, Vt., writes:—"I hope the field is enlarging for the Railway & Marine World. My copies of the journal are read over with interest from month to month."

It is understood that the C.P.R. car repairing and building shops at Farnham, Que., will shortly be closed permanently Since the opening of the Angus shops, Montreal, the Farnham shops have been mainly employed in the building of freight cabooses and vans.

National Transcontinental Railway.

During Sept. there was expended on construction on the six sections of the line in New Brunswick $476,084.66, making $7,653,045.01. The returns to the end of Sept. show that the construction is well advanced; 90% of the ballasting has been completed. The foundation for the Upper Salmon River bridge, the largest on the line, has been completed, the steel work will not be gone on with until the spring.

A number of engineers representing bridge building firms have been visiting the site of the bridge across the St. Lawrence River, Quebec, with a view to the collection of information upon which to base tenders for the construction of the new bridge. A. E. Doucet, District Engineer of the National Transcontinental Ry., at Quebec, stated, Oct. 13, that work on the construction of the terminals in that city was to be resumed at once and continued to completion. The work to be done at present would be the rock cut at Point au Pizeau, and the building of a temporary trestle from that point to join with the viaduct construction at Dobell's cove. S. N. Parent, Chairman of the N.T. Ry. Commission, was in Quebec from Oct. 11 to 13, in connection with this matter.

Easterly from Cochrane Jct., Ont., the contractors are making good progress. The only trouble met with is at the crossing of the Abitibi River, where some difficulty is being experienced in getting sufficient hold for the piling for pier foundations. Eight miles of track have been laid up to the river, and on the other side about 50 miles of grading has been done. Westerly from Cochrane track has been laid for 50 miles, and a considerable mileage has been graded. About half the ballasting has been done on this 50 miles. The completion of this section will bring the line to the easterly end of the Davis contract upon which sub-contracts have been let. Fowler and O'Brien have a sub-contract starting at the Opazatica River. The work to be done on this sub-contract is not heavy. Work on the section north of Lake Nipigon is being pushed, and some of the sub-contractors have completed their work. In connection with the work of bringing in supplies, a spur line has been constructed from the western shore of Ombabika Bay, at the north end of Lake Nipigon, to the right of way. The materials are brought to the south shore and carried by steamer and barges to Ombabika Bay, where four warehouses have been erected for storage purposes, pending transfer to the construction camps.

The last spike of the section from St. Boniface, Man., to Lake Superior Jct., Ont., where connection is made with the G.T.P.R. Lake Superior branch, was driven Oct. 12. The section is 244 miles, and has been a most difficult one to construct. In all there have been moved nearly 6,000,000 ft. of solid rock. There are 13 bridges, of which eight are steel. The steel bridges are: Wabigoon River, 190 ft.; McFarlane River, 100 ft.; Winnipeg River, 400 ft.; C.P.R. overhead bridge at Rennie, 180 ft.; Whitemouth River, 180 ft.; East Brokenhead River, 90 ft.; West Brokenhead River, 60 ft.; Red River, in course of construction, 792 ft. The trestle bridges of wood are: Sturgeon River, 600 ft.; English River, 270 ft.; Long Lake, 550 ft.; Cross Lake, 1,100 ft.; Green Lake, 550 ft. The divisional points are at Redditt, 12 miles east of Winnipeg River, and at Pelican Lake, six miles west of Superior Jct. The contract was let May 15, 1906. S. R. Poulin, the district engineer, left Winnipeg Oct. 9, on a trip of inspection over the division.

It is upon this section that differences as to classification have arisen. G. Grant, Chief Engineer, has been appointed to the arbitration board to settle the matter. The other members of the board are B. B. Kelliher representing the G.T.P. Ry., and C. Schreiber, Government Consulting Engineer. The first two left Winnipeg to go over the section Oct. 4, and will agree on as many points as possible, the unsettled matters being reserved for consideration with the third arbitrator.

We are advised that the contract for the excavation and back filling of the pipe line, from the Red River to the locomotive shops, etc., east of St. Boniface, Man., has been let to the Western Contracting Co., Winnipeg. The work is to be completed by Dec. 31.

GRAND TRUNK PACIFIC RY.

Tracklaying has been completed on the main line into Elmonton, Alta., 755.3 miles. On Oct. 5, the Vice President and General Manager arrived in the city over the line, and construction trains are being regularly operated. H. A. K. Drury, of the Board of Railway Commissioner's engineering staff, left Winnipeg, Oct. 1, on an inspection of the whole line, and particularly of the newly completed portion from Wainwright to Edmonton, about 150 miles.

Construction was started Aug. 29, 1905, near Firdale station, 91.5 miles west of Winnipeg, Man. The general contracts were:—Winnipeg to Portage la Prairie, 54.3 miles, Treat and Johnston; Portage la Prairie to Touchwood Hills, 245 miles, McDonald, McMillan Co., and Treat and Johnston; Touchwood Hills to Saskatoon, 140 miles, Canadian White Co.; Saskatoon to Edmonton, 316 miles, Foley Bros., Larson & Co. The grading did not present any great difficulties, although the work was heavier than is usually the case in prairie construction, on account of the determination of the company to obtain the low uniform gradient set as the standard for the whole line. Six large steel bridges had to be constructed as follows:—Assiniboine River, three spans, 22 ft. above water level, 437 ft. long; Arrow River, 68 ft. long; second crossing of Assiniboine River, one span, 24 ft. above water level, 250 ft. long; South Saskatchewan River, eight spans, 74 ft. above water level, 1,501 ft. long; Battle River, 53 spans, 184 ft. above water level, 2,772 ft. long, and North Saskatchewan River, 19 spans, 136 ft. above water level, 1,665 ft. long. The track is laid with 80-lb. steel, of which 106,000 tons have been used in the main line, and 30,000 tons in the sidings, Stations, roundhouses, and other buildings have been erected along the line at divisional points and elsewhere, and eighty new towns have sprung up, and a good deal of settlement is taking place.

West of Edmonton, 66 miles of track has been laid to the Pembina River crossing, and on the other side of the river the grading is completed to Edson, a further 57 miles. Edson is at the crossing of the McLeod River, where another large bridge has to be constructed. W. E. Mann, Divisional Engineer, reports that the Pembina River bridge will be completed by Nov. 30. The substructure for the bridge at McLeod River is under construction, C. May, Edmonton, being the contractor. The Canadian Bridge Co., Walkerville, Ont., has the contract for the steel superstructures.

At the Prince Rupert end of the line, a contract has been let to Foley, Welch and Stewart for the construction of an extension along the front of the townsite to Seals Cove, 3.5 miles. The work will involve some very heavy rock cutting. Contracts have been let to C. H. Ferguson for the substructures, and to the Canadian Bridge Co., for the superstructures of bridges at points respectively 55, 60, 87 and 91 miles east of Prince Rupert.

G. T. PACIFIC BRANCH LINES.

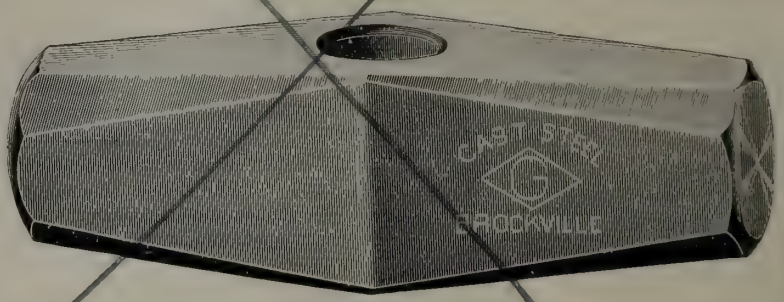
Rapid work is reported to have been

THE ESTABLISHED 1854 INCORPORATED 1881
JAMES SMART MFG. COMPANY LIMIT

WORKS
BROCKVILLE, ONT.

WESTERN WAREHOUSE
131 Bannatyne Ave., WINNIPEG, MAN.

Makers of High Grade
Machinists' Hammers
Track Chisels
Nail Hammers
Jack Screws
Bench Axes
Stoves, Spike Mauls, Drilling Sledges, Copying Presses, Traversing Jacks, Chopping Axes, Trucks, Pumps, Etc.



OUR
TRADE MARK
A GUARANTEE OF EXCELLENCE

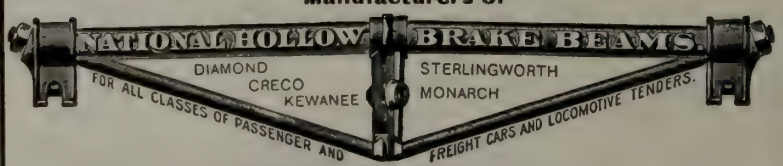
Purchasing Agents are invited to send for our Catalogues and Discount Sheets, which w be furnished promptly.

E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES
46th, Robey and Lincoln Streets.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.
Manufacturers of



DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:
22 St. John Street
MONTREAL, QUEBEC

I. A. YOUNG,
AGENT

THE CANADIAN BRIDGE CO., LIMITED
WALKERVILLE, ONTARIO

LOCOMOTIVE TURNTABLES ROOFS STEEL BUILDINGS

Manufacturers of
Railway and Highway
BRIDGES

STRUCTURAL IRON WORK OF ALL DESCRIPTIONS

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.
BRIDGES

TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

SESSIONS-STANDARD
Friction Draft Gear
Simplest and Best

Both
Made by
Standard Coupler Co.
2 RECTOR STREET NEW YORK

STANDARD STEEL PLATFORMS
Used by all Canadian Railways

accomplished on branch line construction. On the branch from Melville to Regina, Sask., track has been laid for 20 miles, and it was expected that steel would be laid to Balcarres by Oct. 31. No grading has been done beyond this point. On the branch from Melville to Yorkton, about six miles of steel had been laid on Sept. 30, and it was expected to have it laid 25 miles out by Oct. 31. The grading of the line from Tofield towards Calgary, Alta., is progressing and it is expected to have the 50 miles to Camrose completed this fall.

Surveys are being made in the Duck Lake district in connection with the location of a line from Watrous to Prince Albert, Sask.

In connection with the surveys for the location of a line to Vancouver, B.C., three parties are in the field running trial lines via the Nicola valley and the Similkameen district. They are working on Campbell creek, south of Kamloops, and at Stump Lake with the object of securing a route into the Nicola valley. It is stated that the line may ascend the Tulameen River and reach the western slope of the Hope Mountains near Hope. (Oct., pg. 733.)

Canadian Northern Ry. Construction, Etc.

Canadian Northern Quebec Ry.—The question of terminals for the C.N.Q.R. and its allied line, the Quebec and Lake St. John Ry., in Quebec, is being considered by the officials. Reports state that traffic is increasing to such an extent that a considerable enlargement in the yard space is imperative. The question of the shops is also receiving consideration, but nothing definite will be done until a site has been settled on.

Canadian Northern Ontario Ry.—In reference to the entry of the line from Hawkesbury into Ottawa, the city council approved a plan involving the construction of a level crossing over Hurdman road. When the matter came before the Board of Railway Commissioners for final sanction, it was referred to the Board's engineer. It is understood that this official reported against the crossing being allowed, and recommended that instead of the route approved by the city council, the line enters the city over the Ottawa and New York Ry. and the C.P.R. bridge. The suggested route will necessitate the breaking of the line outside the city and putting in a curve to the C.P.R. about 300 yards south of the present approved route.

The route of the proposed line from Toronto to Ottawa, as far as Trenton, Ont., about 100 miles, was set out in our last issue. For this section a contract has been let to Angus Sinclair, C.E., Toronto, and preparations are being made for the construction. Beyond Trenton, the located line keeps along the lake shore line for some miles east of Belleville, and bears away northeasterly before passing out of Thurlow tp. The route is northeasterly through Tyendinaga and Richmond tps., until it crosses one of the old surveys in the middle of Campden tp. The Bay of Quinte Ry. is crossed south of Enterprise, and the Kingston and Pembroke Ry. a short distance north of Verona. Continuing easterly it passes north of Desert Lake and Mud Lake, crossing the Brockville, Westport and Northwestern Ry. at Newboro. Still proceeding easterly, Portland is reached, where the direction again becomes northeasterly, the route surveyed in 1906, being followed through Smith's Falls, and Richmond to Ottawa, where connection will be made with the Ottawa-Hawkesbury line, now practically completed. It is understood that there will be a branch line from some convenient point into Lanark. We are advised that some residents of Perth have surveyed a line for a branch to connect with the Toronto-Ottawa line at Newboro, crossing Rideau Lake at the Narrows. It is not at all certain that this line will be followed, as it involves a very elevated crossing of the Rideau Lake. Residents in Port Hope, Bowmanville, and other points are not satisfied with the route, and have made representations to the company with a view to some changes being made. At Cobourg, the people are asking that arrangements be made with the G.T.R. for the erection of a union station.

The Toronto board of control has approved a proposition by the company to purchase about half an acre on the Don Esplanade, south of Queen St., at a price to be fixed by the Assessment Commissioner. A condition of the sale is that any other railway can have running rights over the tracks to be laid on the land.

The Minister of Railways, Oct. 6, approved the location of the projected line from the Niagara River to Toronto, so far as it is located through Saltfleet and Barton tps. This portion of the line will start at Fruitland and following the route of the Toronto, Hamilton and Buffalo Ry. a short distance, through Stony Creek and Bartonville, entering Hamilton at practically the same point. It is reported that the surveys from Burlington into Hamilton have been completed. The route from Toronto follows the power line right of way to Burlington, and then branches off along the north shore of Burlington Bay to Carrol's Point, crosses over a trestle at the Desjardin's canal, under the high level bridge, and the G.T.R. to Coot's Paradise, and then runs southerly and joins the T.H. & B.R. at Garth St.

Canadian Northern Ry.—Application will be made next session of the Dominion Parliament for an extension of time for the construction of the following lines: from Strathcona, southerly, to Calgary; from Regina, southerly, to the international boundary; between Winnipeg and Ste. Annes, southerly, to the International boundary; from Regina to Humboldt and via the Carrot River to the Pas Mission, and between Humboldt and the South Saskatchewan River, crossing the same south of Prince Albert; from Prince Albert to Edmonton; from Swan River, westerly, to the main line at the crossing of the Saskatchewan River; from the authorized line of the Morden and Northwestern Ry. between Neepawa and the west boundary of Manitoba, northwesterly to the main line between Grand View and Battleford; from Regina, westerly, to the Red Deer River, with a branch to Carleton; from Gladstone to Fort Nelson or Fort Churchill; from Oak Point to the Grand Rapids on the Saskatchewan River; from Edmonton to the Pacific via the Pine River Pass or other feasible pass; from McCreary via Cartwright, southerly, to the International boundary; from Russell, westerly, via Yorkton to the Saskatoon-Calgary line.

The company will also ask for power to construct the following additional lines: Dundee, northerly and easterly, to the Winnipeg River; Portage la Prairie, southerly and easterly, to tp. 2, r. 7, e.p.m.; Hartney, westerly, to tp. 5, r. 7, w. 2 m.; Moose Jaw, southerly and easterly, to Bienfait, with a branch from near Estevan to Roche Percee. Between Davidson and Disley on the Qu'Appelle, Long Lake and Saskatchewan Ry., westerly and northwesterly, to the Saskatoon-Calgary line; Lashburn, westerly, to between Camrose and Edmonton; Saskatoon-Calgary line near tp. 28, r. 6, w. 4 m. to Rocky Mountain House; Saskatoon-Calgary line near the crossing of Red Deer River, northwesterly, through or near Innisfail and Rocky Mountain House to head waters of Brazeau and McLeod Rivers and to Yellowhead Pass; Winnipegosis, southerly, to constructed line near south end of Lake Manitoba; from authorized line between Prince Albert and Battleford near tp. 49, r. 3, w. 3 m., northwesterly and northerly to Great Slave Lake; from authorized line east of Lake Manitoba, westerly, via the Narrows to its constructed line between Grandview and Roblin.

The company proposes to spend $10,000 in improving the yards at Brandon, Man. The new freight sheds at the same point, costing about $10,000, have been practically completed.

Tracklaying was expected to be completed on the branch line from Maryfield, Sask., by Nov. 1. This line, it is proposed, will ultimately be extended to Lethbridge Alta., but at present only about 125 miles have been graded.

A water tank is being constructed at Hudson Bay Jct., near Etoimami, Sask. As soon as this is completed an 8-stall roundhouse will be erected. A yard is being laid out.

A deputation from Yorkton, Sask., was authorized, Oct. 5, to interview the C.N.R. management with a view to securing an extension of the Rosthern branch to Yorkton, Willowbrook and Beaverdale, Sask.

Survey parties are locating a route for a branch line into the Brazeau coal fields. It will be about 75 miles long, and it is expected the surveys will be completed this fall.

Plans have been filed showing the route of about 54 miles northerly from Kamloops, B.C., towards the Yellowhead Pass. A gradient of less than one-fifth of 1% has been secured. C. F. Hannington left Kamloops, Oct. 11, to complete location surveys for a further distance northerly. Another party has completed the location of the route from Kamloops to Agassiz on the south side of the river, about 60 miles east of Vancouver.

A number of reports are in circulation as to the location of the terminals in the vicinity of Vancouver and New Westminster. Every large sale of property there is stated to have something to do with the company's intentions. Among these unfounded reports is one that the company has purchased Anacis Island at the mouth of the Fraser River. The island has an area of 900 acres, and the report set out that it was proposed to lay out terminal yards, and to erect elevators, ships, etc., there.

D. D. Mann, Vice President, arrived in Victoria, Oct. 15, to confer with the Premier on the matter of aid for the proposed extension to the coast. It is understood that a definite understanding has been arrived at, and that a proposal will be submitted by the Government to the new Legislature as soon as it meets.

The B.C. Premier said, Oct. 21, that the Government had entered into a contract with the C.N.R. for the construction of a line from the Yellowhead Pass to Kamloops, by way of North Thompson River; from Kamloops to New Westminster and Vancouver, and from Vancouver to English Bluffs. From this point the company is to make a first-class connection with Victoria, for passengers and freight, and to construct a line from Victoria to Barclay Sound. The distance in all will be about 600 miles. To assist the company in the construction of the line the Government will ask the Legislature next session to guarantee interest at 4% upon bonds to the amount of $35,000 a mile. For security the Government will hold a first mortgage on the line in British Columbia, and a general covenant from the C.N.R. indemnifying it against any loss that may occur. It is stated that the understanding with the company is that at a future date it will construct a line from Victoria along the whole length of Vancouver Island to Quatsino Sound, where ocean terminals will be constructed. (Oct., pg. 763.)

NOTICE

To Men Interested in

Boiler Manufacturing,

Bridge Building,

all kinds of

Structural Steel Work

You are not getting value received for the money expended on construction unless you have

IMPERIAL

RIVETERS

CHIPPERS

MOTOR HOISTS

and

RADIAL DRILLS

in your tool equipment. As a proof of this statement we give below comparison submitted to us by one of the many users of IMPERIAL RIVETERS showing comparative cost of riveting by hand and with this little money saver.

COMPARISON

With one riveter two men and one heater will drive 500 rivets per day (10 hours), while by hand three men and one heater average about 200.

WITH RIVETER

Cost, compressed air (inc. oil) per day.....	.1.15
2 men @ $2.50.....	5.00
1 man @ $2.25.....	2.25
Total.....	$8.40

BY HAND

2 men @ $2.50.....	$5.00
2 men @ $2.25.....	4.50
	$9.50
Cost per rivet by hand	.0380
Cost per rivet with riveter.	.0168
Saving per rivet	.0212

Saving over 55%.

Made in Canada by the

Canadian RAND Co., Limited

MONTREAL, QUE.

Sales Offices:

Montreal, Toronto, Rossland, Cobalt, Halifax

CRUCIBLE SAW AND SHEET STEEL

MADE BY

JESSOP STEEL CO.

Washington Pa., U.S.A.

TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools.

Jessop's "Ark" High Speed Air Hardening Steel

is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings.

WILLIAM JESSOP & SONS, Limited, SHEFFIELD, ENG.

CHAS. L. BAILEY, Agent, 80 BAY STREET, TORONTO, ONTARIO

CONVINCING ARGUMENT

The purchasing agent will be convinced that our Foundry Lines are

LABOR SAVERS

All we ask is a chance to figure on them.

"GRAVITY" and "JAR RAM" MOLDING MACHINES

AIR-HOISTS, LADLES, CUPOLAS, CRANES

M'f'g by Calumet Engineering Works, Harvey, Ill. (We are Sole Agents.)

"HAUCK BURNERS" For Foundries, Machine and Boiler Shops.

CYCLONE HOISTS, From 1-2 to 30 tons capacity

ONTARIO WIND ENGINE & PUMP CO., Ltd., TORONTO and WINNIPEG

REAMERS

ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

RAILWAY SPRINGS

ELLIPTIC

SEMI-ELLIPTIC

AND SPIRAL SPRINGS

OF EVERY DESCRIPTION

MANUFACTURED BY

B. J. Coghlin & Co., 432 St. Paul St., Montreal, Can.

TRANSPORTATION APPOINTMENTS.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Alberta Central Ry.—J. G. MacGregor has been appointed Chief Engineer of this projected railway. Office, Red Deer, Alta.

Boston and Albany Rd.—F. B. Freeman has been appointed Chief Engineer, vice E. E. Stone resigned. Office, South Station, Boston, Mass.

Canadian Northern Quebec Ry., Quebec and Lake St. John Ry.—C. H. N. Connell, heretofore Locating and Resident Engineer Alberta Ry. and Irrigation Co., Lethbridge Alta., has been appointed Engineer of Maintenance in charge of Maintenance of Way, Bridges and Buildings, and any other duties required of him in the Engineering Department, reporting to the General Manager, vice S. S. Oliver, assigned to other duties. Office, Quebec.

E. G. Roussin, formerly Travelling Freight Agent C.P.R., Lowell, Mass., has been appointed Travelling Freight Agent, Quebec.

Canadian Northern Ry.—R. Creelman, heretofore Commercial Agent, St. Paul, Minn., has been appointed Assistant General Passenger Agent, vice C. W. Cooper, General Passenger Agent, resigned. Office, Winnipeg.

Canadian Pacific Ry.—L. M. McTavish has been appointed Travelling Freight Agent Eastern and Lake Superior Divisions, vice W. S. Elliot, promoted. Headquarters, Montreal.

A. Mitchell, heretofore depot master G.T.R., Union station, Toronto, has been appointed platform inspector Sleeping, Dining and Parlor Car Service, C.P.R., Toronto.

W. S. Elliott, heretofore Travelling Freight Agent Eastern and Lake Superior Divisions, has been appointed District Freight Agent, with jurisdiction over the teritory Mattawa and west to Sault Ste. Marie and Port Arthur, including the Temiskaming and Kipawa branches, reporting to the General Freight Agent. Office, North Bay, Ont.

W. J. Singleton, whose appoinment as Trainmaster at North Bay, Ont., was announced in our last issue, was formerly in the Company's service as Superintendent at Montreal.

J. M. Mack has been appointed Locomotive Foreman, Arcola, Sask., vice S. M. Miller, who has been given employment in the Souris shop, Man.

J. S. Rugg has been appointed Locomotive Foreman at Neudorf, Sask., vice H. A. Keswick, transferred.

H. A. Keswick, heretofore Locomotive Foreman, Neudorf, Sask., has been appointed Locomotive Foreman at Field, B.C., vice A. E. Bennetts.

F. Walker has been appointed Acting Superintendent District 3, Pacific Division, vice A. Purvis, resigned. Office, Nelson, B.C.

W. H. Gardiner, heretofore Contracting Freight Agent, Vancouver, B.C., has been appointed City Freight Agent, Victoria, vice F. H. Clendenning, promoted.

Chicago Great Western Rd.—A. C. Gillespie, has been appointed City Freight and Passenger Agent, Winnipeg, reporting to the General Agent there.

Esquimalt and Nanaimo Ry.—W. H. Gardiner, City Freight Agent, C.P.R., Victoria, has also been appointed District Freight Agent E. and N. R., vice F. H. Clendenning, promoted.

Government Railways.—In continuance of the system of reorganization, being carried out in connection with the Intercolonial and P.E.I. Rys., as mentioned in our Sept. issue, L. Lavoie, heretofore on the Moncton staff, has been appointed Purchasing Agent. Office, Ottawa.

It is also intended to select a staff of three clerks from the Moncton office, for transfer to Ottawa. In this connection, we were advised, Oct. 15, that they had not then been decided on.

Grand Trunk Ry.—At the recent half-yearly meeting, in London, Eng., announcement was made of the resignation of the President, Sir C. Rivers Wilson, which will take effect at the end of the current half-year. C. M. Hays, Second Vice President and General Manager, will become President and General Manager, with office at Montreal, and A. W. Smithers, Vice President, will also be Chairman of the Board, with office at London, Eng.

W. P. Corking, heretofore clerk in General Baggage Agent's office, Toronto, has been appointed Baggage Inspector, vice W. J. Cockburn, deceased.

W. J. Dawson has been appointed Car Inspector at Brantford, Ont., vice A. Reid, transferred to Sarnia Tunnel.

A. Reid, heretofore Car Inspector, Brantford, Ont., has been appointed Car Foreman at Sarnia Tunnel, vice J. Morrison, acting Car Foreman, assigned to other duties.

The following Agents have been appointed: Vaudreuil, Que., P. Gibson; Goodwood, Ont., D. H. Thompson, Haliburton, Ont.; H. M. Bray (temp.), St. Pauls, Ont.; W. B. Rife, Port Robinson, Ont.; W. L. Colling, Nelles Corners, Ont.; J. A. Pollock, Lawrence, Ont.; J. A. Murray, Stevensville, Ont.; A. D. Johnson, Onondaga, Ont.; G. G. Skelton, Lucknow, Ont.; O. Martin, Brucefield, Ont.; B. Stobs, Caldwell, Ont.; M. G. Walsh, Whitney, Ont.; F. A. Bamber.

Intercolonial Ry.—E. S. Smiley has been appointed Division Freight Agent at Halifax, N.S., vice A. T. Weldon, resigned.

John Stewart, heretofore locomotive engineer, has been appointed Acting Master Mechanic Eastern Division, vice N. L. Rand, Master Mechanic, placed on the pension list. Office, Moncton, N.B.

See also Government Railways.

Michigan Central Rd.—H. Shearer, heretofore secretary to the General Manager, Detroit, Mich., has been appointed Superintendent Canadian Division, vice H. H. Adams, resigned to enter T. H. and B. R. service. Office, St. Thomas, Ont.

J. D. Curtis and A. C. Campbell have been appointed Chief and Assistant Surgeons respectively, at St. Thomas, Ont.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—Since the acquirement of the Wisconsin Central Ry., and its operation as the Chicago Division of the M. St. P. and S.S.M.R., its interests in Winnipeg will be represented there by the General Agent, J. C. Peterson, G. H. Anthony, General Agent W. C. Ry., having resigned to enter railway service in the U.S.

National Transcontinental Railway Commission.—W. S. Calvert, heretofore member of the Dominion Parliament for West Middlesex, Ont., has been appointed to the Commission, vice R. Reid, deceased.

Pere Marquette-Lehigh Valley Line.—G. H. Anthony, heretofore General Agent, Chicago Division M. St. P. and S.S.M.R., Winnipeg, Man., has been appointed General Agent P.M.-L.V. Line, with offices at St. Paul and Minneapolis, Minn. He has charge of Northwestern Territory, covering Minnesota, the Dakotas and the Canadian Northwest, also Superior and Ashland, Wis.

Pere Marquette Rd.—S. L. Merriam has been appointed General Solicitor, in charge of the Legal Department and land and tax matters. Office, Detroit, Mich.

The position of General Counsel is vacant, Angell, Boynton, McMillan and Bodman, Acting General Counsel, having resigned.

A. E. Plumer, heretofore in the Passenger Department, St. Thomas, Ont., has been appointed General Baggage Agent. Offices, Detroit, Mich.

Prince Edward Island Ry.—See Government Railways.

Quebec, Montreal and Southern Ry., Napierville Jct. Ry.—With reference to the appointment of G. H. Burgess as Chief Engineer Delaware and Hudson Co.'s lines, we are officially advised he is Consulting Engineer Q.M. and S.R. and N.J.R.

Temiscouata Ry.—G. G. Grundy, heretofore Superintendent, has been appointed General Manager, vice D. B. Lindsay, General Manager and Secretary, who retains the latter position only. Office, Riviere du Loup, Que. The position of Superintendent has been abolished.

F. X. Belanger, heretofore General Freight Agent, has been appointed General Freight and Passenger Agent. Office, Riviere du Loup, Que. The Passenger Department was formerly under the jurisdiction of the Superintendent.

C. A. Stewart, heretofore in the company's general office, has been appointed Accountant, and J. T. Lavoie has been appointed Cashier. These are new positions.

Toronto, Hamilton and Buffalo Ry.—H. H. Adams, heretofore Superintendent M. C. Rd. Canadian Division, St. Thomas, Ont., has been appointed General Superintendent T. H. and B. R., vice E. Fisher, General Superintendent and Chief Engineer, resigned. Office, Hamilton, Ont.

R. L. Latham, heretofore Assistant Engineer, has been appointed Chief Engineer. Office, Hamilton, Ont.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases from 1908-09, from July 1, 1909:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July	$ 843,500	$613.900	$229,600	$26,700+
Aug.	807,100	602,700	204,400	18,300+
Sept.	1,076,800	765,300	311,500	60,400+
	$2,727,400	$1,981,900	$745,500	$105,400+
Inc.	$ 349,800	$244,400	105,400	.....
or Dec.	.....	.....	.....	.....

Approximate gross earnings for two weeks ended Oct. 14th, $598,800, against $511,700 for the same period 1908.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1908-9, from July 1, 1909:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
July	7,140,029.93	4,660,159.20	2,479,870.73	205,297.48+
Aug.	7,426,984.62	4,462,926.75	2,964,057.87	385,159.16+
	$14,567,014.55	$9,123,085.95	$5,443,928.60	$590,456.64+
Inc.	$1,888,177.04	$1,297,720.40	$590,456.64	.....
or Dec.	.....	.....	.....	.....

Approximate gross earnings for Sept., $8,148,000, and for 3 weeks ended Oct. 21, $6,460,000; against $6,307,000 and $4,903,000 for same periods 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Approximate gross earnings for Sept., $321,405, and for two weeks ended Oct. 14, $147,043, against $250,884 and $115,340 for same periods 1908.

MINERAL RANGE RD.—Approximate gross earnings for Sept., $75,866, and for two weeks ended Oct. 14, $31,548, against $73,253 and $31,272 for same periods 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for Aug., $1.204,104.17; expenses, $714,493.84; net earnings, $489,610.33; against $961.360.27 gross earnings, $668,580.18 expenses, $292,780.09 net earnings for Aug., 1908. Aggregate gross earnings for two months ended Aug. 31, $2,348,625.99; expenses, $1,451.658.42; net earnings, $896.967.57, against $1.911,469.25 gross earnings, $1,287,145.28 expenses, $624,323.97 net earnings for same period 1908. Approximate gross earnings for Sept., $2,504,701, and for two weeks ended Oct. 14, $1.169.176, against $2,183.601 and $1,031,580 for same periods 1908.

Grand Trunk Ry. Earnings, Expenses Etc.

The following figures give the earnings of the G.T.R., the C.A.R., the G.T. Western Ry., and the

RENOUF Publishing Co.

61 Union Avenue

Montreal

BAKER—**A Treatise on Masonry Construction.** 8vo, xvi+746 pages, over 100 tables, and 244 illustrations. Tenth edition, entirely rewritten and enlarged. Total issue, 26,000. Compared with the ninth edition, the number of pages has been increased from 619 to 762, and the illustrations from 160 to 244. Cloth, $5.00.

TRAUTWINE—**The Civil Engineer's Pocket-Book.** New (19th) edition, 100th thousand, 1909. 200 pages. Cloth, $5.00 net.

FLANDERS—**Gear-Cutting Machinery.** Comprising a Complete Review of Contemporary American and European Practice, together with a Logical Classification and Explanation of the Principles Involved. Large 12mo, vii +319 pages, 219 figures. Cloth, $3.00.

TRAUTWINE—**Concrete (Plain and Reinforced).** Indexed. Full contents. Cloth, $2.00 net.

TAYLOR AND THOMPSON—**Concrete, Plain and Reinforced.** Eleventh thousand, second edition, thoroughly revised and enlarged by the addition of over two hundred pages. 8vo. Cloth, $5.00.

COLLINS—**Manual of Wireless Telegraphy and Telephony.** Second edition, enlarged. 12mo, xii +250 pages, 104 figures, and 1 communication chart. Cloth, $1.50 net.

BOVEY—**Theory of Structures and Strength of Materials.** Fourth edition, rewritten and enlarged. 8vo, xiii+968 pages, 943 figures. Cloth, $7.50 net.

KIMBALL—BARR—**Elements of Machine Design.** 8vo, viii+444 pages, 196 figures. Cloth, $3.00 net.

C.P.R. LANDS

The Canadian Pacific Railway Company have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally)	8.00 to per acre.
Map No. 5 - South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160	Acres at	$ 8.00	per acre,	cash payment	$191.70	first year's interest	$ 65.28	and nine instalments of	$160.00
"	"	9.00	"	"	213.70	"	"	"	73.46	"	"	180.00
"	"	10.00	"	"	239.70	"	"	"	81 62	"	"	200.00
"	"	11.00	"	"	263.60	"	"	"	89.78	"	"	220.00
"	"	12.00	"	"	287.60	"	"	"	97.96	"	"	240.00
"	"	13.00	"	"	311.55	"	"	"	106.10	"	"	260.00
"	"	14.00	"	"	335.60	"	"	"	114.32	"	"	280.00
"	"	15.00	"	"	359.50	"	"	"	122.44	"	"	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-selected districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

WOVEN WIRE FENCING

ARE YOU INTERESTED IN THIS FEATURE OF RAILWAY WORK?

While we are not the only people who make a good wire fence, we are the only firm in Canada who make the best "wrapped stay" fence. Our "Safe Lock" is so constructed that we don't require to kink the strand wires to prevent stays slipping, therefore, the whole strength of the wire is preserved in the "Safe Lock" Fence.

Our "Monarch" is a "stiff-stay" fence similar to others of this style with the most of their objectionable features eliminated.

WRITE US FOR SAMPLES AND INFORMATION

The Owen Sound Wire Fence Co. LIMITED

OWEN SOUND, ONTARIO

JAMES THOMSON, Pres. and Mang. Director. J. G. ALLAN, Vice-President. JAMES A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED

MANUFACTURERS OF

CAST IRON PIPE

3 inches to 60 inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER

HAMILTON, ONT.

D.G.H. & M. Ry., separately, for Aug., as compared with Aug., 1908:

GRAND TRUNK RAILWAY.

	1909.	1908.
Earnings	$2,939,400	$2,624,930
Expenses	2,092,800	1,816,510
Net earnings	$ 846,600	$ 808,420

CANADA ATLANTIC RAILWAY.

	1909.	1908.
Earnings	$ 190,300	$ 192,365
Expenses	168,700	169,963
Net earnings	$ 21,600	$ 22,402

GRAND TRUNK WESTERN RAILWAY.

	1909.	1908.
Earnings	$ 576,700	$ 517,681
Expenses	370,300	322,881
Net earnings	$ 206,400	$ 194,800

DETROIT, GRAND HAVEN & MILWAUKEE RAILWAY.

	1909.	1908.
Earnings	$ 172,900	$ 150,970
Expenses	130,900	112,984
Net earnings	$ 42,000	$ 37,986

TRAFFIC RECEIPTS OF THE SYSTEM

Aggregate from July 1 to Sept. 30:

	1909	1908	Inc.	Decr.
Grand Trunk	£1,791,456	£1,622,464	£168,992	.....
Canada Atlantic	108,744	107,176	1,568	.....
G. T. Western	322,331	301,360	20,971	.....
D.G.H. & M.	103,414	93,394	10,020	.....
Total	£2,325,945	£2,124,394	£201,551	.....

Telegraph and Cable Matters.

M. T. Quigley, Local Manager C.P.R. Telegraphs, Vancouver, B.C., died there, Oct. 7.

J. G. Davies, Manager G.N.W. Telegraph Co.'s office at Ottawa, has been transferred to Vancouver, B.C., vice J. P. Masters resigned.

J. Kent, Manager C.P.R. Telegraphs, left Montreal, Oct. 5, on an inspection tour of the company's telegraph lines in the Maritime Provinces.

J. Kent, Manager, and W. J. Clapp, Electrical Engineer C.P.R. Telegraphs, returned to Montreal recently after completing an inspection of the lines west of Montreal.

C. E. Davies, heretofore chief operator, has been appointed Manager G.N.W. Telegraph Co.'s Ottawa office, vice J. G. Davies transferred to Vancouver, B.C.

The C.P.R. has recently opened telegraph offices at Durban, Headingly, Kelwood, Moore Park, McAuley and Treesbank, Man.; Cavan, Midhurst and York, Ont., and Duval and Hume, Sask.

A. B. Smith, Manager G.T.P.R. Telegraphs, left Winnipeg, Oct. 5, for Prince Rupert, B.C., on a trip of inspection of the work in progress in that neighborhood, proceeding eastward along the Skeena River to Hazleton.

The Pere Marquette Rd. telegraph operators were placed on a new schedule Oct. 1, the chief item in which is an advance of $5 a month on wages, bringing the minimum up to $50 a month. Other items provide for an increase of 5c. an hour for overtime and Sunday work, and extra allowances for special work.

The erection of the new Marconi wireless telegraph station at Glace Bay, N.S., is proceeding rapidly. W. Marconi stated recently that it was hoped to have the towers in readiness for the transaction of business about the middle of Dec. The foundations and buildings are of ferro-concrete and steel, and the entire plant is fireproof. The contractors are Rhodes, Curry Co., Ltd.

The Great North Western Telegraph Co.'s annual meeting was held at Toronto, Sept. 29. The accounts showed that the revenue for the past year was considerably in excess of that for the previous year. Following are the directors for the current year:—President, H. P. Dwight; Vice President, Adam Brown; Vice President and General Manager, I. McMichael; other directors, H. N. Baird, J. Hedley, Hon. J. K. Kerr, W. C. Matthews, Toronto; L. C. Clowry, J. B. Vanevery, New York.

The Dominion Government will shortly have eight wireless telegraph stations completed along the Pacific coast, these being situated at Point Grey, Cape Lazo, Gonzales Hill, Estevan, Pachena, Skeeda Point, Triangle Island and Prince Rupert, B.C. The first five mentioned are already in operation, and it is anticipated that the chain will be completed by the end of the year. It is stated that when completed, a commercial business will be transacted, in addition to giving a marine signal service. The stations are equipped with the latest improvements of the Marconi system.

The Pacific Cable Board's report for the year ended Mar. 31 gives the total receipts as £113,093 3s 7d, and the expenditure as £96,435 15s 5d, leaving £16,657 8s 2d available for the reduction of the amount contributed annually for interest and sinking fund on capital advanced. The receipts exceeded those of the previous year by £2,933. Throughout the year the cable worked without interruption and no repairs were necessary, but the Canadian land line was interrupted on several occasions, and the Board's interests were in consequence adversely affected by the diversion of traffic to the eastern route. The number of messages dealt with was 243,922, of which 232,394 were ordinary, 9,086 Government and 2,532 press messages. The total number represented 2,739,544 words.

Press dispatches from London, Eng., state that the British Government has taken over all the Marconi wireless telegraph stations in Great Britain and Ireland, excepting the long distance stations at Poldhu, Eng., and Clifden, Ireland, which the company retains in connection with its trans-Atlantic service. It is stated that the price paid for the coast stations is $75,000, with the right to use all existing patents and all improvements made during the next 14 years. It is the intention to place these stations under the control of the Post Office Department, and they will be operated for communication with all vessels suitably equipped, regardless of the system adopted by each. It is said that the Government has also taken over all the coast wireless telegraph stations operated by Lloyds.

Among the Express Companies.

An ex-employe of the Northern Ex. Co., Butte, Mont., is reported to be passing forged money orders at various points, chiefly, so far as has yet been ascertained, in the U. S. The Canadian Ex. Co., among others, has been victimized.

The Canadian Northern Ex. Co., has opened offices at Barwick, Ont., Cremer, Lorette, and Oakburn, Man.; Candiac, Fairlight, Howell, Odessa, Vibank and Vandura, Sask., and has closed its offices at Vanscoy, Sask., and at Lake Joseph, Ont., the latter for the season only.

R. Ford, a former Canadian Ex. Co.'s employe, recently sued the company for $5,000 for false arrest in connection with a theft of express order blanks and forgery, at Toronto. He was awarded $1,500 for the arrest, $250 for subsequent detention, and $750 on the theft charge. The company has intimated that it will appeal.

The Express Traffic Association of Canada, recently filed with the Board of Railway Commissioners its tariffs of rates between U. S. points and Canada. The Chairman of the Board announced that though he had allowed the tariff to be filed, it would be subject to the forthcoming general enquiry into express rates in Canada.

Grain Elevator Notes.

The Security Elevator Co., Ltd., with head office at Winnipeg, has been registered at Edmonton, Alta., under the North West Territories Ordinance respecting foreign companies.

The Minister of Public Works while in St. John, N.B., recently, stated that he had some conversation with D. McNicoll, Vice President C.P.R., regarding additional elevator facilities at the port, Mr. McNicoll agreeing that some additional facilities were required, and that some steps would be taken in that direction very soon.

The Saskatchewan Premier, in response to the Secretary of the Saskatchewan Grain Growers' Association, on the subject of the Government ownership of elevators, recently wrote to the effect that after communications with the Premiers of Manitoba and Alberta, they were of the opinion that unless and until constitutional amendments are guaranteed to enable the provinces to undertake the grain growers' scheme on a safe basis, no end would be gained by any further conference on the subject.

The Canadian Northern Ry. elevator at Quebec was destroyed by fire, together with the contents, Oct. 16. The elevator which had a capacity of 1,000,000 bush., was built for the Great Northern Ry., of Canada, now forming part of the C.N.Q.R., in 1900. It was situated on the Louise dock, and equipped with conveyors for loading ocean-going vessels. The shipment of grain through Quebec for ocean-going vessels ceased in 1902, and since then the elevator has been leased to local storage concerns. An estimate of the damage to the structure and contents has been given at $450,000.

Land has been purchased in the east end of Vancouver, by L. P. Strong, acting for the Alberta Pacific Elevator Co., on which it is proposed to erect an elevator of 1,000,000 bush. capacity. The property is on the C.P.R., and has water frontage sufficiently large to accommodate several elevators. Tenders are reported to have been invited for the construction which it is anticipated will be ready for handling next season's crop. The elevator will be built up on the unit system, each with 250,000 bush. capacity. It is also announced that sites have been inspected at Victoria, but no statement has been made as to the company's intentions there.

In regard to the question of grain handling facilities on the Pacific coast, and the accusation of bad faith against the C.P.R. as to such provision, one of the company's officials is reported to have said recently that there was no change in the company's policy in regard to encouraging the movement of grain from Alberta through Vancouver, nor had the Second Vice President expressed any two views on the question. Last year, Alberta produced slightly over 7,000,000 bush. of wheat, and the estimate for this year's crop was slightly under that figure. Of last year's crop, only 215,000 bush. was exported through Vancouver, and though last year was regarded in the nature of an experiment, it was not anticipated, taking into consideration the large seeding and other local requirements, that any large quantity would move westward this year. Facilities would doubtless be provided in time, but not until there was sufficient volume to justify the expense, hence the policy of the C.P.R., to meet the conditions as they are, and to provide suitable sacking plants at Vancouver. This will be done in time to take care of any portion of this year's crop that will be moved for export through Vancouver, so that grain can go to the seaboard in bulk and be sacked at the lowest possible expense.

BOOKS
for
Railroad and Elevator Men and Contractors

ECONOMICS OF RAILWAY OPERATION.

By M. L. Byers.

C.E., Ch. Eng. M. of W., Mo. Pac. Ry.

Cloth, 672 pp., many diagrams and forms illustrating the best modern practice, $5 net.

The only publication explaining in detail the operative systems of American railways. Sir William Van Horne says of it: "I regard it as a most useful and valuable book."

TRACK AND TRACK WORK

(Third Edition, Revised and Enlarged)

By E. E. R. Tratman

Assoc. M. Am. Soc. C. E.

Cloth, 520 pages, 232 illustrations, 44 tables and an appendix of statistics of standard track construction - - - - $3.50 net

The standard treatise on this subject.

DESIGN OF TYPICAL STEEL RAILWAY BRIDGES

By W. Chase Thomson

M. Can. Soc. C.E. Assist. Eng. Dominion Bridge Co.

Cloth, 178 pages, 21 figs., 5 fold. plates, $2 net.

FIELD PRACTICE OF RAILWAY LOCATION

By Willard Beahan

Cloth 270 pages, 50 illustrations - $3.00 net

RIGHT OF WAY SURVEYING

By A. I. Frye

Cloth 8vo, 50 pages - - - $1.00 net

RAILWAY LOCATION AND CONSTRUCTION.

By E. N. McHenry

Cloth, 88 pages, 2 folding plates, $1.00 net

DESIGN OF WALLS, BINS AND GRAIN ELEVATORS

By M. S. Ketchum

Dean of College of Eng., Univ. of Colo.

Cloth, 394 + XIV pages, 260 figs., 40 tables and 2 folding plates - - $4.00 net.

Giving a systematical analysis of the stresses in structures containing granular materials.

EARTHWORK AND ITS COST

By H. P. Gillette

Cloth, 256 pages, illustrated - - $2.00 net

CONCRETE SYSTEM

By Frank B. Gilbreth

Flex. Morocco; 8½ x 11 ins.; 200 pages 220 illustrations and 10 Folding Plates; Printed on finest coated paper - - $5.00 net

ENGINEERING NEWS
BOOK DEPARTMENT
220 Broadway. New York.

The McConway & Torley Co.
PITTSBURG, PA.

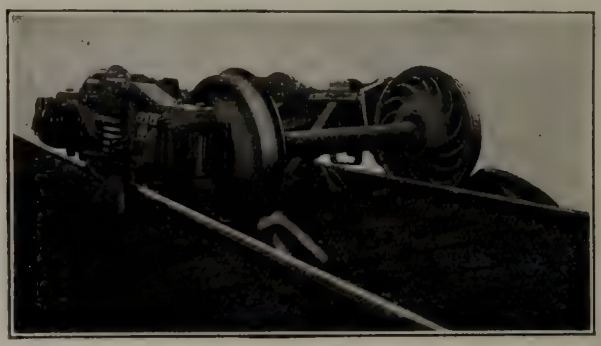
Manufacturers of the

JANNEY,
JANNEY "X"
AND
PITT FREIGHT COUPLERS

BUHOUP 3-STEM EQUIPMENT
BUHOUP VESTIBULE EQUIPMENT

MALLEABLE IRON AND STEEL CASTINGS FOR RAILROAD USE

The Alexander Car Replacer



60,000 PAIRS IN USE.

Manufactured at

Montreal, Que., and

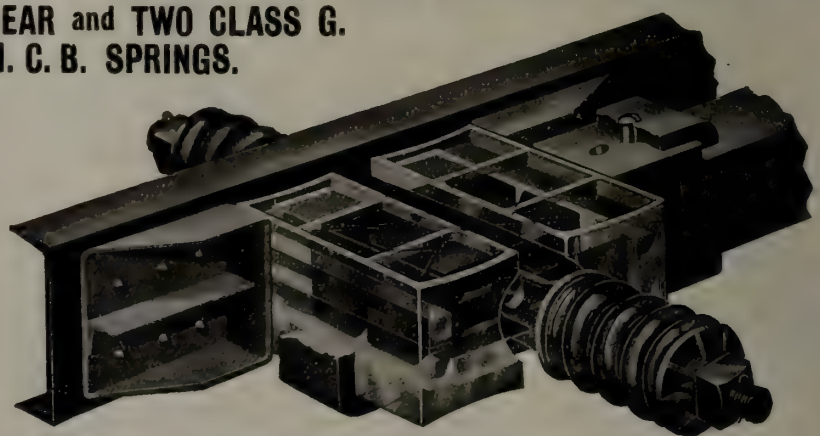
Scranton, Pa.,

of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY

F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

35 to 1 is the relative amount of work done by **ONE CARDWELL FRICTION DRAFT GEAR and TWO CLASS G. M. C. B. SPRINGS.**



CARDWELL FRICTION DRAFT GEAR—MADE BY

UNION DRAFT GEAR CO., CHICAGO, ILL.

ELECTRIC RAILWAYS

Canadian Street Railway Association.

PRESIDENT, D. McDonald, Manager, Montreal St. Ry.; VICE-PRESIDENT, J. Anderson, Manager, Sandwich, Windsor and Amherstburg Ry.; SECRETARY-TREASURER, Acton Burrows, Managing Director, Railway and Marine World.

ASSOCIATION'S OFFICE, 157 Bay St., Toronto.

EXECUTIVE COMMITTEE:—P. Dubee, Secretary, Montreal St. Ry.; E. A. Evans, General Manager, Quebec Ry., Light and Power Co.; H. M. Hopper, Secretary-Treasurer, St. John Ry.; J. E. Hutcheson, Superintendent and Purchasing Agent, Ottawa Electric Ry.; C. B. King, Manager, London St. Ry.

ASSISTANT SECRETARY, Aubrey Acton Burrows, Secretary and Business Manager, Railway and Marine World.

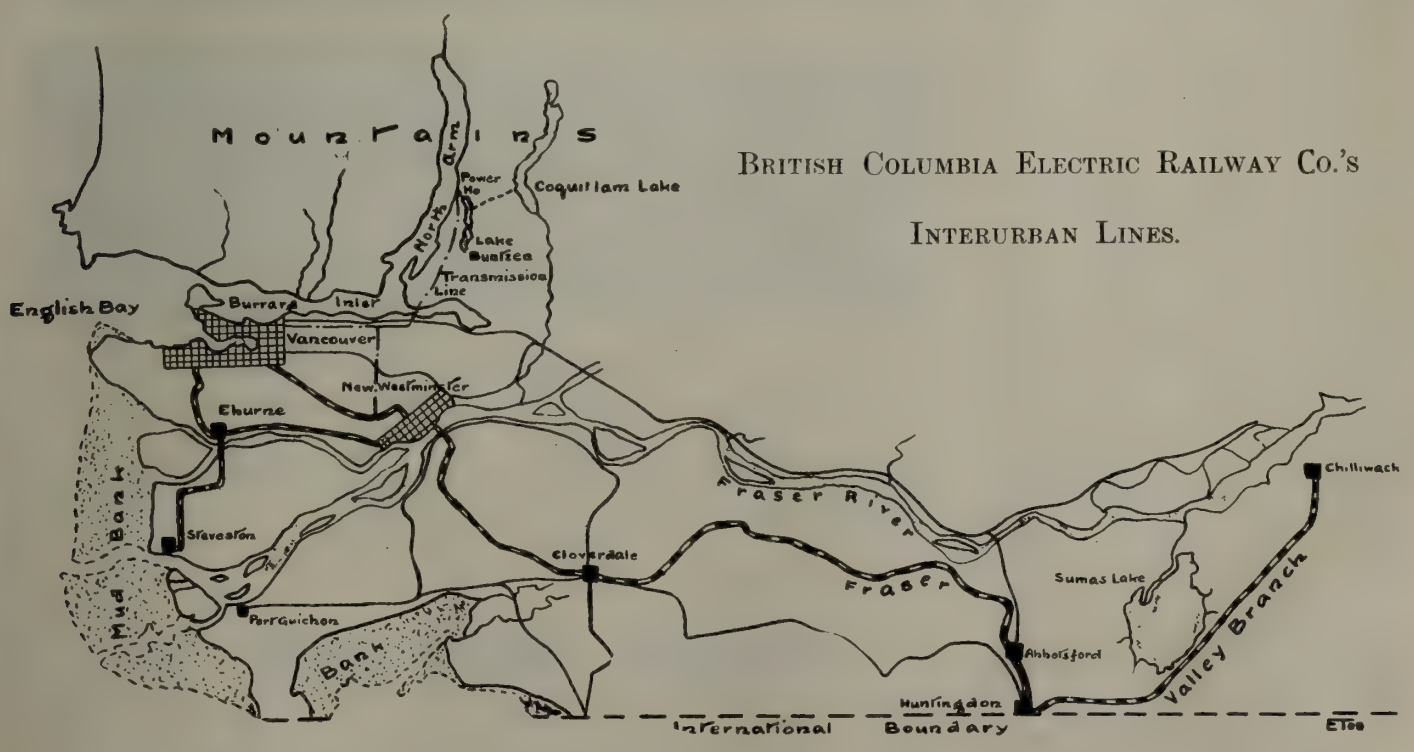
The B. C. Electric Railway Co.'s Fraser Valley Branch.

By Robert Howes, Electrical Engineer.

By natural location the southwest corner of British Columbia is the commercial outlet of a vast area. To the north, for hundreds of miles, a series of rugged mountain ranges forbid easy communication with the coast. On the south, the International Boundary line presents its limits. To the east and north in the foreground lies a vast mountainous area with virgin forests—already an important factor in the world's timber markets—and a mineral wealth as yet slightly explored, but of certain greatness; while in the distance stretch the great resources of the eastern provinces. To the west and south lies the Pacific Ocean, and the markets of the world. In the pioneer days, fur-trading, placer mining and salmon fisheries caused small towns to spring up on the banks of the Fraser River along the natural line of communication. Later, the more distant traffic coming over the railway required a terminal city located at a point where excellent salt water harbors could be obtained, hence the City of Vancouver. These conditions have caused the leading United States railways to seek and obtain railway connections with this young city and far sighted people have flocked in, until now the population is estimated at more than 80,000 persons, and the growth is at the rate of 20% per year. The older city of New Westminster, and lesser towns in the neighborhood, swell the present total of city poulation in the vicinity to a round figure of 100,000. The cultivated farm land immediately surrounding the city is entirely inadequate for supplying the local demand, and supplies of all kinds are shipped in from the east and from the United States. As a result, cultivated land is very valuable, provided ready communication with the city is supplied. Between the Fraser River and the International Boundary lies a strip of land measuring some 60 miles in an east and west direction, and averaging 10 miles in width. This could if developed, supply all the farm products required by a large city. At present three lines of steam roads pass through portions of this region; but infrequent trains and the great distance between stations afford, to even the favorably located farms, entirely inadequate means of communication with the city. Communication along the river by steamboat has done something to develop the region, but this means is also entirely inadequate.

The B.C. Electric Ry. Co. operates a system of electric roads covering the territory in and around the cities of Vancouver and New Westminster. Realizing the possibilities of the tract mentioned above this company is building an entirely modern interurban electric road over 60 miles long and reaching from the City of New Westminster to the town of Chilliwack. This road is an extension of the older system, and passes lengthwise through the centre of the tract. It is designed for high speed operation and will carry passengers, express, baggage and freight, in fact carry everything to supply the needs of the region. The overhead trolley system with direct current at 600 volts will be used. A trip along the right of way shows a succession of partially developed farms and large tracts of virgin forests. For miles the clearing appears as a street between high buildings. The trees, 200 ft. high and straight as an arrow, give the appearance of a southern cane break on a magnified scale. Pine, fir, cedar, spruce, hemlock and alder are the principal woods. In the open ground and where persistent farmers have made a clearing, the rich black soil shows that the wealth in the forest timber is only the beginning. The present scattered population might appear insufficient to justify the expenditure entailed, were passenger traffic the only consideration. But the forest timber thus made so accessible to the terminal point should produce a remunerative freight traffic, and long before this source of business is exhausted the fertile soil will undoubtedly attract a large population. The materialization of the latter assumption is made doubly certain by the scarcity of other suitable farm locations in the region, and the existence of sufficient open land along the new line to permit a rapid agricultural development without awaiting the removal of timber and clearing away of stumps. The farms around the town of Chilliwack are already noted for their productiveness. From this, and other points, a fair amount of dairy and other farm products will require the operation of an express car from the start. The road has a ninety nine year franchise, and there is little doubt but that it will in a short time prove to be remunerative.

The B.C. Electric Ry. Co. and its subsidiary corporations, aside from operating electric railways as mentioned above, is engaged in a general electric light and power business, covering the territory occupied by its railway systems. Small towns, lumber and shingle mills and other prospective users of electric power and light are sufficiently numerous, so that the company decided to extend this branch of its business along with the railway and be prepared to supply a general light and power business throughout the territory. To this end a set of three phase power mains extending between substations and delivering current at 2300 volts will be installed. To minimize the likelihood of serious shut-downs, duplicate high tension lines will be used, the poles being placed on either side of the track. As good cedar poles can be economically obtained in the vicinity a normal spacing of 100 ft. and the use of span wire construction to support the trolley wire has been adopted. The wires being light and the poles very strong, the first wires are all arranged on the track side of the poles, leaving the outside entirely free for additions. This arrangement precludes the use of equilateral triangular spacing of the wires, but presents



BRITISH COLUMBIA ELECTRIC RAILWAY CO.'S INTERURBAN LINES.

Canadian Northern Railway Co.

Notice is hereby given that application will be made to the Parliament of Canada at its next session for an act authorizing the construction of the following lines, from:

(a) Dundee northerly and easterly to a point on Winnipeg River;
(b) Portage la Prairie southerly and easterly to a point in or near Twp. 2, Rg. 7, E.P.M.;
(c) Hartney westerly to a point in or near Twp. 5, Rg. 7, W. 2 M.;
(d) Moose Jaw southerly and easterly to Bienfait, with a branch from a point thereon near Estevan to Roche Percee;
(e) Between Davidson and Disley on the Q.L.L. and Sask. Ry. westerly and northwesterly to a point on the Saskatoon-Calgary line;
(f) Lashburn westerly to a point between Camrose and Edmonton;
(g) A point on Saskatoon-Calgary line near Twp. 28, Rg. 6, W. 4 M. to Rocky Mountain House;
(h) A point on Saskatoon-Calgary line near crossing of Red Deer River northwesterly through or near Innisfail and Rocky Mountain House to head waters of Brazeau and McLeod Rivers and to Yellowhead Pass;
(i) Winnipegosis southerly to constructed line near south end of Lake Manitoba;
(j) A point on authorized line between Prince Albert and Battleford near Twp. 49, Rg. 3, W. 3 M. northwesterly and northerly to Great Slave Lake;
(k) A point on its authorized line east of Lake Manitoba westerly via the Narrows to its constructed line between Grandview and Roblin;

And extending the time for commencement and completion of the following lines, from:

(l) Strathcona southerly to Calgary;
(m) Regina southwesterly to the International boundary between Rgs. 1 and 5, W. 3 M.;
(n) Between Winnipeg and Ste. Anne, southerly to International boundary;
(o) Battleford westerly to Brazeau River;
(p) Regina to Humboldt and via Carrot River to Pas Mission, and between Humboldt and South Saskatchewan River to crossing of same river south of Prince Albert;
(q) Prince Albert to Edmonton;
(r) Swan River westerly to main line crossing of Saskatchewan River;
(s) A point on authorized line of the Morden and North Western Railway between Neepawa and west boundary of Manitoba, northwesterly to main line between Grandview and Battleford;
(t) Regina westerly to Red Deer River, with a branch to Carleton;
(u) Gladstone to Fort Nelson or Fort Churchill.
(v) Oak Point to Grand Rapids on Saskatchewan River;
(w) Edmonton to the Pacific, via Pine River Pass or other feasible pass;
(x) McCreary via Cartwright southerly to International boundary;
(y) Russell westerly via Yorkton to a point in the Saskatoon-Calgary line;

Also varying the limit to the amount of securities which the Company may issue in respect of its land grant lands.

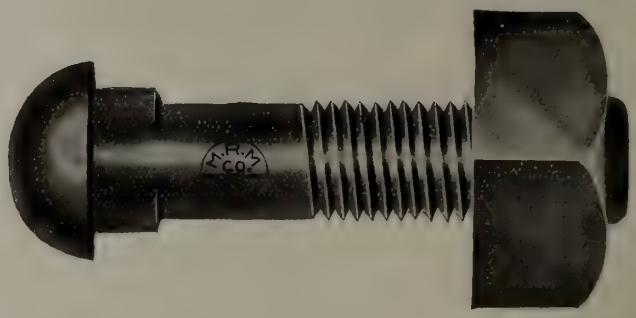
GERARD RUEL,
Chief Solicitor.

Toronto, October 8th, 1909.

"You say you know nothing at all about our railway?" said the official.

"Nothing whatever," answered the applicant for employment.

"Well, you come highly recommended. I suppose we'll have to put you in the bureau of information and let the travelling public educate you."



Track Bolts

also

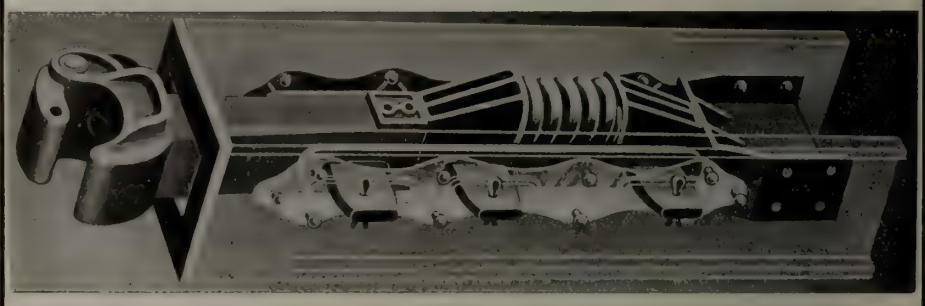
Railway Spikes, Angle Bars and Tie Plates

made by

The Montreal Rolling Mills Co.

THE

Farlow Twin Spring Draft Gear



Designed for Wooden or Steel Cars and Engines.
Pulling Strains Distributed Equally on the Three Cross Keys.
Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.

Baltimore, Md. **Chicago, Ill.**

several advantages for the conditions. A careful analysis of the inductive effects and transposition requirements have led to the conclusion that triangular spacing would have no particular advantage in the case under consideration, providing the transpositions are correctly made; while the construction adopted permits the use of wide spacing with short cross arms, and the running on one set of poles of two high tension lines, either of which is accessible for repairs without shutting down the other, and from both of which taps can easily be lead off for branch connections.

Because of a considerable saving in price, stranded aluminum has been adopted for the high tension lines. The high tension insulators are of the three part porcelain type, each being subjected to a factory test of 100,000 volts, and besides this, each individual part must stand a test of 30,000 volts. The following tests have been reported from the factory: Tops, 60,000 volts; second shells, 45,000 volts; centres, 55,000 volts; for the final proof test of assembled insulators 100,000 volts, which is well above the specified requirements. Besides the above, the porcelain base makes a further addition to the safety factor, hence no insulator troubles are anticipated excepting from actual breakage.

The power used by the company for all purposes on the main land is obtained from a hydro-electric plant located on the north arm of Burrard Inlet, 18 miles by transmission line from the centre of Vancouver. The power is transmitted from this source to the various substations through four transmission lines, at present delivering a line voltage of 20,000 volts with transformers connected in delta. As this voltage would be uneconomical for use with the lines required in connection with the extension here described and the voltage loss in the transmission to the City of Vancouver has also become considerable, it has been decided to re-insulate the old lines and increase the delivered voltage to 34,600 by connecting the transformers in Y. Nearly all of the high tension transformers in use are of the air blast type, and at some of the new substations there might be difficulty in obtaining an entirely satisfactory water supply for cooling purposes. For this reason and for the sake of uniformity, air blast transformers have been ordered for the new stationary substations. The factory insulation test guarantee is 88,000 volts from primary to secondary, and to core, and a spare transformer is supplied with each bank of three, hence the safety factor at these points will correspond approximately to that of the line. The high tension current in each case will be controlled by 45,000 volt oil switches, those in the substation being hand operated. Any bank of transformers may be operated from either line. Series tripping coils located in each wire and having a time limit feature, serve to automatically trip a spring mechanism which opens the switch in event of excess current flowing through the wires.

Power for the road will be supplied from a sub-station at each end of the line, i.e., at New Westminster and Chilliwack, and also from four others located at intermediate points so that the distance between sub-stations will average about 12 miles. Aside from these stationary sub-stations, there will be a portable sub-station with equipment similar to that of the railway part of each stationary sub-station, except that the apparatus will be of the air cooled oil insulated type. A three phase transformer being used instead of single phase transformers. Suitable arrangement for connecting to the lines will be provided near each of the stationary sub-stations, also at intermediate points where power is likely to be of the most value when special occasions require an excessive amount of power on a certain section.

In deciding which system of electrification to adopt, consideration was given to the following requirements: 1. The power will be obtained from an existing transmission system supplying three phase alternating current at 60 cycles. 2. Light and power will on occasions be supplied from the same transmission lines as the railway, although in normal operation one line will be used for railway purposes and the other for light and power purposes. 3. The rolling stock must operate over existing 500 volt d. c. systems. 4. Passenger and express cars will run at fairly high speed and make frequent stops. 5. Fifty ton electric locomotives hauling freight trains will be operated. 6. M.C.B. freight cars will be used in connection with the locomotives. After careful consideration the 600 volt d. c. system was adopted with rotary converters at the sub-stations which will deliver continuous current at 630 volts. The motors on all rolling stock are wound for 600 volts. As the 500 volt system is within the city or along the populous districts, these equipments will automatically operate at a slower speed when they enter the populous districts without the necessity of running all the time on the resistances, which is a desirable feature.

The passenger and express car electric equipments ordered are of the four motor type, each motor having a rated capacity of 75 h.p., and the cars equipped with multiple unit control. Three 50 ton electric locomotives, each equipped with four 160 h.p. 600 volt motors are being constructed in England. In order to collect sufficient current from the trolley wire for these locomotives each will be supplied with two trolley poles and special retrieving arrangements. As the curves will all be very easy, and the maximum grade will be only 2.7% for a short distance; these locomotives will handle freight trains of ample length, at excellent speed. Terminal arrangements are being provided to accommodate passenger trains of three cars, the policy being to divide the trains when more cars than three are required. A two hour schedule will probably be sufficient at the start, leaving the track relatively free for freight operation.

It is anticipated that the first 20 miles will be in full operation before the close of the present year, and work well progressed on the remainder of the line.

Projects, Construction. Betterments, Etc.

Brantford St. Ry.—The Brantford, Ont., city council has given the company a further extension of time for the reconstruction of its lines. A certain amount of work has been done, and the arrangement now is that the Colborne St., Market St. and Brant Ave. lines will be completed this year, and the remainder by Aug. 1, 1910. (Sept., pg. 683.)

British Columbia Electric Ry.—The condition of the lines in the eastern parts of Vancouver has been remedied by the construction of some extensions, which were opened for traffic Oct. 15.

Work will be commenced shortly on the construction of a new passenger station at New Westminster. Large additions will also be made to the car shops. The company has also in contemplation a large stores building and a new freight shed.

It was announced that the first section of the line to Chilliwack, extending from New Westminster to Cloverdale, would be opened for traffic early in November. Beyond this point the work has so far advanced that it is expected to have the line right through to Chilliwack opened for traffic by May, 1910. Tenders are under consideration for the erection of five sub-stations for power distribution along the line.

Negotiations are in progress for the extension of the Vancouver lines to Burnaby. The question whether the proposed line should go north or south of Burnaby Lake is at present under consideration.

The proposed agreement between the company and the Point Grey municipality is still under consideration. The municipality has offered a counter proposal to the terms suggested by the company, and these are now being discussed. (Oct., pg. 769.)

Cape Breton Electric Ry.—The Sydney, N. S., city council has asked the company to make several extensions in the city. (Dec., 1908, pg. 891.)

Chatham, Wallaceburg and Lake Erie Electric Ry.—Owing to the action of a farmer in Dover Tp., Ont., who refuses to allow the company to enter upon his property to continue construction work on the extension to Pain Court is held up. The company is appealing to the Board of Railway Commissioners. (July, pg. 522.)

The Chicoutimi Pulp Co. proposes to construct an electric railway from its mills to the timber limits in the River Du Moulin district, Que. The line will be for lumbering purposes only. Later it may be continued to River a Mars district connecting Alphonse with Chicoutimi, and give connection with the Quebec and Lake St. John Ry.

Grand Valley Ry.—The company has in view the making of a considerable extension of its line. This will consist of the connecting of the various pieces of line owned so as to make one continuous line to London. It will be undertaken in two sections, one starting at Brantford and running through Burford and Eastwood, connecting with the Woodstock, Thames Valley and Ingersoll Ry., at Woodstock; and the other will start at Ingersoll and run to London. The completion of these two pieces of line will make a continuous line from Galt, via Paris, Brantford, Woodstock and Ingersoll to London. It is stated that the work will be proceeded with next year. (April, pg. 281.)

Guelph Radial Ry.—The Guelph city council is considering a by-law providing for an extension of the railway from Guelph to Puslinch Lake and Hespeler, Ont. The extension will be 11 miles long, and will connect with the two lines running into Hespeler. (Oct., pg. 769.)

Hamilton, Waterloo and Guelph Electric Ry.—Application is being made by J. Patterson, on behalf of the company, to the Hamilton city council for an extension of time for the starting of construction of this projected line. The by-law calls for the expenditure of $100,000 on construction by the end of the current year. Mr. Patterson informed the committee that he had spent $40,000 on surveys and was prepared to spend $35,000 on right of way by the end of the year. He stated that the money for construction would be forthcoming if the extension were granted, and construction would be started either this fall or early in the spring. (Aug., pg. 609.)

Kingston, Portsmouth and Cataraqui Electric Ry.—The company and the Kingston, Ont. city council have under consideration the terms of an agreement for the supply of power by the city for the operation of the street railway. The council offers power at a certain rate for a term of three years. The company accepts the rate, but asks that the term be five years. (Oct., 1908, pg. 666.)

Lethbridge, Alta.—At a meeting of the town council, Oct. 4, a letter was submitted from L. M. Johnston, on behalf of a company having a charter to construct an electric railway in the town and vicinity, asking for a franchise. The mayor and the town solicitor are interested in the company. The letter was laid on the table for further consideration.

London and Northwestern Ry.—Surveys have been made over a considerable portion of this projected railway. The company has authority to construct a line from London westerly, via Lobo Junction, to Sarnia, Ont., about 65 miles, with a branch from Lobo northwesterly to Grand Bend, 30 miles, and other branches, in all totalling 115 miles. Some of the right of way has been secured. W. G. Swan, London, Ont., is chief engineer. (Sept., pg. 684.)

Montreal and Southern Counties Ry.—It was expected that the first section of this electric railway would be opened for traffic by the end of October. Objection is being taken to the by-law recently passed by Montreal South, Que. A number of the objections made are of a technical character, and are to be submitted to the Governor in Council when it comes up for ratification. (Oct. pg. 769.)

Morrisburg, Ont.—The taxpayers passed a by-law recently, granting a right of way through the principal streets for an electric railway. (May, pg. 367.)

The Mount McKay & Kakabeka Falls Ry. Co. two years ago constructed 2.5 miles of line and graded an additional 2.5 miles. Further work has been delayed pending the settlement of the crossing of the C.N.R., C.P.R., and G.T.P.R. The Board of Railway Commissioners has now authorized this crossing so that the Mount McKay & Kakabeka Falls Ry. may connect with the Port Arthur & Fort William Electric Ry., at the city limits. It is not expected that any work beyond this will be done this year, except erecting transmission poles, but we are advised that it is hoped to resume construction in the spring, when track will be laid on the 2.5 miles of grading above referred to and the first 5 miles will then be put in operation. The company's cars will enter Fort William over the Port Arthur & Fort William Electric Ry. (June, pg. 449.)

Niagara, St. Catharines and Toronto Ry.—All arrangements have been completed for the extension of this line from Welland to Port Colborne, Ont., five miles. Preliminary work was started on the extension Oct. 5. The construction work involves the placing of a lift bridge over the Welland Canal feeder. The rails for the track have already been delivered, and it is expected that the extension will be completed by the end of the year. (Oct., pg. 771.)

Nipissing Central Ry.—Grading from Cobalt to Haileybury has been completed, and the bridge over the T. & N.O.R., was expected to be completed by Oct. 30. Rails have been delivered, and much of the track laying has been done. The by-law granting the right to operate over Haileybury streets, has been passed. (Sept., pg. 684.)

Okanagan Valley, B. C.—The Coteau Power Co. is preparing plans for the construction of a tram line 25 miles eastward from Vernon, B.C., through an extensive fruit growing district. The company proposes to develop power from the Shuswap River falls, 25 miles from Vernon. Work on the power plant will be started at once.

Ontario West Shore Ry.—The Ontario Railway and Municipal Board has granted the company permission to cross the

---

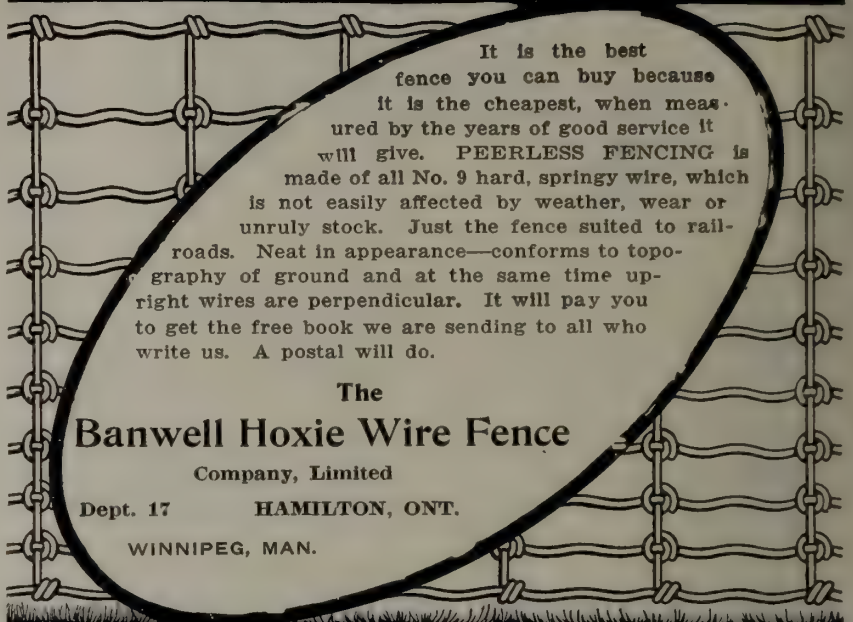
Edmonton and Slave Lake Railway Company.

Notice is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act authorizing the amalgamation of the company with the Canadian Northern Railway Company, and the extension of time for the completion of its line of railway from Edmonton to the Peace River.

GERARD RUEL,
Chief Solicitor.

Toronto, 8th October, 1909.

PEERLESS
The Fence that saves Expense



It is the best fence you can buy because it is the cheapest, when measured by the years of good service it will give. PEERLESS FENCING is made of all No. 9 hard, springy wire, which is not easily affected by weather, wear or unruly stock. Just the fence suited to railroads. Neat in appearance—conforms to topography of ground and at the same time upright wires are perpendicular. It will pay you to get the free book we are sending to all who write us. A postal will do.

The
Banwell Hoxie Wire Fence
Company, Limited
Dept. 17 HAMILTON, ONT.
WINNIPEG, MAN.

STRONGER
Than Stock-Weather and Wear

The Improved
RAMAPO
Automatic, Safety
SWITCH STANDS
have no equal.

Canadian Ramapo Iron Works
LIMITED
Manufacturers
Niagara Falls, Ont.

Style No. 17 Style No. 20

Ask for Information about Six Other Styles.

AGENCIES:

Dominion Equipment & Supply Co.,
354 Main St. Winnipeg

C. L. Hacket.
605 Eastern Townships Bank, Montreal

highway in Dunlop village. Seven carloads of track material have been unloaded at Menesetung station, and additional supplies are coming forward. The right of way through Colborne and Ashfield Tps. is practically ready for tracklaying, and it is expected a start will be made at an early date. (July, pg. 523.)

Ottawa and St. Lawrence Electric Ry.—We are advised that an option has been given to a British syndicate on the company's charter and franchises, to expire Nov. 15. Representatives of the company are sanguine that the deal will go through. In that event it is expected that surveys will be gone on with this fall. A. H. N. Bruce, Ottawa, is Chief Engineer. (Oct., pg. 771.)

People's Ry.—A. N. Warfield, Chief Engineer, states that a good route has been secured for the line between Berlin and Stratford, Ont., and also on the proposed Wellesley and New Dundee branches. Surveys are being made for the line between Berlin and Guelph. As soon as they are completed the company will proceed with the securing of the passing of by-laws in the various municipalities for franchises and financial aid. The aid asked will be, that the municipalities take preference stock to the amount of $3,000 a mile of road. Negotiations are stated to be in a forward condition with Stratford, and it is expected to have the by-law ready for submission to the ratepayers at an early date. If it passes it is hoped to have the lines in the city in operation by Sept., 1910, and to New Hamburg by Nov., 1911. (Sept., pg. 685.)

Port Arthur and Fort William Electric Ry.—The extension of the lines on Arthur street, Port Arthur, is well advanced. Track has been laid from Algoma street to Court street. The conduits for the wires have been laid between Water street and Algoma street. (April, pg. 281.)

Quebec Ry., Light and Power Co.—Work is practically completed on the switches at the top of Palace Hill, for the line which it is proposed to run in continuation of the former transfer line. An extension to Cap Rouge is also contemplated. An engineer is now going over the route and his report is expected to be made at an early date. (Oct. pg. 771.)

Sydney and East Bay Ry.—The Nova Scotia Legislature has incorporated a company with this title, for the purpose of constructing an electric or other railway, from the Sydney city limits to the head waters of East Bay, with power to extend through districts 8 and 13, and to construct branch lines. The company is also given powers to generate electricity. The provisional directors are: T. Cozzilino, J. C. Larder and J. B. McCormack, of Sydney, N. S. (May, pg. 367.)

Toronto and York Radial Ry.—A proposition has been submitted to the Toronto city council for the admission of the company's lines into the city. The proposition is that the company will send its cars into the city if it is allowed to make running arrangements with the Toronto Ry., and is guaranteed that at the expiry of the Toronto Ry. franchise, a similar arrangement will be continued. The Toronto Ry. franchise expires in 1921, and the position which the city has always taken up is that no rights can be given to the Radial company which will run longer than that period. (Sept., pg. 685.)

Toronto Ry.—A permit has been granted by the Toronto city council for the erection of a car barn on Lansdowne Avenue, near Lappin Ave. The new building is to be of brick, and is estimated to cost $50,000.

Permission has been granted for the relaying of the tracks on Shaw St., along the centre of the street instead of at the side as at present. (Oct., pg. 771.)

Winnipeg Electric Ry.—Permission has been granted for the construction of a second track from the north end car barns to the city limits. The city council has also decided to ask for an extension of the Selkirk Avenue line for a couple of blocks, and then westerly to McPhillips' street.

Winnipeg, Selkirk and Lake Winnipeg Ry.—The Winnipeg city council has granted permission to the company to run its cars from the new city limits to the old city limits. This permission is given subject to it not being considered as giving any rights to operate in the city on the Winnipeg Electric Ry. tracks. (Oct., pg. 771.)

Yarmouth and Digby Electric Ry.—The Nova Scotia Legislature has incorporated a company with this title, for the purpose of constructing an electric railway from the northerly limit of Yarmouth, through Yarmouth county to Bear River Village, Digby county, together with all necessary powers. The provisional directors are: B. G. Burrill, B. B. Bowman, I. M. Lovett, I. A. Lovett, Yarmouth; J. A. Dickey, F. B. McCurdy, B. F. Pearson, Halifax; A. H. Comeau, Meteghan River; W. C. Clarke, Bear River; A. Bourneuf, W. Bourneuf, Haverhill, Mass., and the offices of the company are at Yarmouth. (May, pg. 369.)

Yarmouth and Eastern Ry.—The Nova Scotia Legislature has incorporated B. G. Burrill, B. B. Law, Yarmouth; J. A. Dickey, Halifax, with power to construct a railway, to be operated by electricity or other motive power, from Yarmouth to Tusket Wedge, and such branch lines as may be necessary. The company is authorized to enter into agreements with other companies and to carry on a number of allied businesses. (May, pg. 369.)

Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for Aug., $242,016; operating expenses, $128,442; net operating earnings, $113,574; renewal funds, $16,394 ; net earnings, $97,180; approximate income from investments, $16,500; net income, $113,600; against $180,945 gross earnings; $93,485 operating expenses; $97,460 net operating earnings; $14,962 renewal fund; $72,948 net earnings; $13,550 approximate income from investments; $86,048 net income for Aug. 1908. Aggregate gross earnings for two months ended Aug. 31, $462,681; net earnings, $211,698, against $355,355 gross and $168.020 net for same period 1907-08.

Calgary St. Ry.—Gross receipts for Aug., $9,265; sinking fund and interest, $3,996.33; operating expenses, $2,505; surplus, $2,754. Gross receipts for Sept., $10,179.

Halifax Electric Tramway—Traffic receipts for Sept., $21,020.91, and for two weeks ended Oct. 14, $9,389.61, against $21,084.64 and $6,650.88 for same periods 1908.

Montreal St. Ry.—The usual quarterly dividend of 2½% for the quarter ended Sept. 30, has been declared, payable Nov. 2, to shareholders of record, Oct. 13.

Port Arthur and Fort William Electric Ry.—Gross earnings for Aug., $12,951.66; expenses, $6,426.98; net earnings, $6,524.68.

Regina St. Ry.—The Regina, Sask., city council is applying to the Board of Railway Commissioners for authority to construct a street railway. We are advised that the construction and operation of the line will be undertaken entirely by the city.

St. Thomas St. Ry.—Total receipts for Sept., $1,387.47, against $1,463.98 for Sept., 1908. The decrease is chiefly due to the price of tickets which are now sold at 8 for 25c., against 7 for 25c. last year. The number of passengers carried in Sept. was 39,748, against 38,649 in Sept., 1908.

South-Western Traction Co.—At the sale, Oct. 20, the line was sold to J. E. McDougall, of the London Stock Co. The amount realized was $455,000. exclusive of lien, or a total of $535,067.

Toronto Ry.—Gross earnings for Sept., $379,981.08; net earnings, $199,146.97, against $354,095.42 gross earnings; $193,152.33 net earnings for Sept., 1908. Aggregate gross earnings for nine months ended Sept. 30, $2,857,291.30; net earnings, $1,407,655.21, against $2,629,222.04 gross earnings; $1,232,478.72 net earnings for same period 1908.

Winnipeg Electric Ry.—Gross earnings for Aug., $197,800; expenses, $100,800; net earnings, $97,000, against $155,800 gross earnings; $80,100 expenses; $75,700 net earnings for Aug., 1908. Aggregate gross earnings for eight months ended Aug. 31, $1,622,800; net earnings, $812,500, against $1,353,800 gross and $674,700 net for same period 1908.

Electric Railway Notes.

Four cars for the Nipissing Central Ry. have been delivered at Haileybury, Ont., and an order has been placed for four trailers for delivery next summer.

Two cars have been added to the rolling stock of the Winnipeg Electric Ry., making 25 cars added during the year. All these cars have been built at the company's shops.

The Winnipeg Electric Ry. has adopted a new transfer system, modelled on the same lines as that adopted some time ago by the Toronto Ry. The system went into operation Oct. 1.

The Quebec Ry. Light and Power Co., recently asked for tenders for the supply of 10 open cars, six closed cars and three additional sleepers for its City Division, two large cars and a 500 k. w. motor generator set for its Montmorency Division.

T. C. Taylor, formerly a motorman in the employ of the Winnipeg Electric Ry., who was recently admitted to bail in connection with a charge respecting the death of two pedestrians who were crushed between two cars in Winnipeg, July 26, has been committed to an asylum as insane. It is said that the nature of the charge has so preyed on him that his reason has given away.

Allan Purvis, who has been appointed Local Manager, British Columbia Electric Ry. Fraser Valley Branch, Vancouver, was born at Batavia, Java, June 29, 1878, and educated in Liverpool, Eng. He entered railway service at 12 years of age, being successively, Aug., 1890, to Feb., 1891, messenger Stores Department; Feb. to Nov., 1891, storesman; Nov., 1891, to Sept., 1892, junior clerk at Vancouver, B.C.; Sept., 1892, to Aug., 1893, timekeeper, Donald, B.C.; Aug., 1893, to Oct., 1894, clerk, Vancouver, B.C.; Oct., 1894, to Mar., 1895, assistant storekeeper, North Bend and Kamloops, B.C.; Mar., 1895, to Sept., 1896, clerk and operator, Car Service and Fuel Department, Vancouver, B.C.; Sept., 1896, to Jan., 1899, chief clerk, Fuel Department, Vancouver, B.C.; Jan., 1899, to Feb., 1908, chief clerk to General Superintendent, Vancouver, B.C.; Feb. to Nov., 1908, Superintendent District 4, Central Division, Souris, Man.; Nov., 1908, to Oct., 1909, Superintendent District 3, Pacific Division, Nelson, B.C.; all service with the C.P.R.

A press dispatch dated Oct. 22, states that the present lease of the G.T.R. air line division by the Wabash Rd. will expire in a few months, and it is also reported that an arrangement will be concluded with the M.C. Rd. to use its tracks from Detroit to Buffalo. G.T.R. officials, in denying the recent reports that it was considering the construction of a tunnel under the Detroit River, stated it was very likely that the Wabash Rd. would make an arrangement with the M.C. Rd. to use its tunnel, now nearly completed.

Notice.—The Canadian Pacific Railway Company will apply to the Parliament of Canada at its next session for an Act:—

(1) Extending the time within which it may construct the following lines of railway:—

a. From a point at or near Osborne to a point between Cartwright and Boissevain, Manitoba.

b. From Otterbourne to Stuartburn, Manitoba.

c. From Killam or some other point in Township 44, Ranges 13 and 14 West 4th to Strathcona, Alberta, with power to commence from a point in Range 12.

d. From a point at or near Napinka, westerly to a junction with the northwest extension of the Souris Branch.

(2) Authorizing it to construct a line from a point in Township 22, Range 2 East of the Principal Meridian in a northerly or north-westerly direction to a point in Township 34, Ranges 5, 6 or 7, west of the Principal Meridian, Manitoba, a distance of about 100 miles.

(3) Empowering the Directors to enact by-laws for the election or appointment of two or more Vice-Presidents of the company and defining their powers, duties, qualifications and terms of office.

(4) Amending the Company's Acts relating to the election of directors.

(5) To further interpret or define the meaning of the Company's Act relating to the issue of Preferred Stock and for other purposes.

W. R. BAKER,
ANDREW T. THOMPSON, Ottawa Agent.

Dated at Montreal, 20th October, 1909

Notice.—The Esquimalt and Nanaimo Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the extension of its main line to Comox and the branches which it was authorized to construct by its Act of incorporation, chapter 14 of the Statutes of British Columbia, 1884, and the railways which it was authorized to construct by section 2 of chapter 92 of the Statutes of Canada of 1906, and for other purposes.

W. F. SALSBURY, Secretary.
ANDREW T. THOMPSON, Ottawa Agent.

Dated at Vancouver, the 30th September, 1909.

Notice.—The Manitoba and North Western Railway Company will apply to the Parliament of Canada, at its next session, for an Act authorizing it to construct and operate the following lines of railway—

(a) From a point at or near Birtle, to a point at or near Hamiota, in the Province of Manitoba.

(b) From a point at or near Russel in the said Province of Manitoba in a northerly or north-easterly direction, a distance of about 150 miles, and for other purposes.

H. C. OSWALD, Secretary.
ANDREW T. THOMPSON, Ottawa Agent.

Dated at Montreal, the 30th September, 1909.

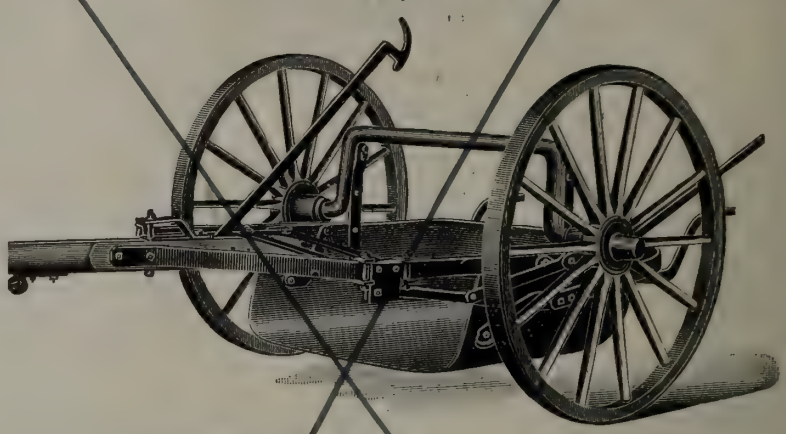
NOTICE.

Pursuant to section 361 of The Railway Act, notice is hereby given that one month after the first publication of this notice application will be made to the Board of Railway Commissioners for Canada by The Canadian Northern Railway Company and The Northern Extension Railway Company for a recommendation to the Governor in council for the sanction of an agreement amalgamating the two companies.

GERARD RUEL,
Chief Solicitor for the companies.
Dated at Toronto, 6th October, 1909.

THE TORONTO PRESSED STEEL CO. LIMITED

TORONTO, CANADA



Our **SOLID PRESSED BOWL DRAG** and **WHEEL SCRAPERS** are the most satisfactory in the market. They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies including

PLOUGHS DUMP CARS
DUMP WAGONS DUMP CARTS
WHEELBARROWS TRUCKS
CEMENT MIXERS WAGONS
etc., etc.

PROMPT SHIPMENTS SEND FOR CATALOGUE

New Ways To The Woods

The six railways of the Canadian Northern Railway system offer the widest choice of new territories for the fisherman, canoeist, camper and hunter.

IN NOVA SCOTIA the Halifax and Southwestern Railway, from Halifax to Yarmouth, serves seven hundred miles of ocean shore; two score generous trout streams and the famous Rossignol lake system.

IN CAPE BRETON, sixty miles of the Gulf of St. Lawrence shore is skirted by the Inverness Railway, which gives easy access to the Margaree valley—far-famed for its salmon fishing.

IN QUEBEC, the Canadian Northern, Quebec and Quebec, and Lake St. John Railways give easy access to the Saguenay, Upper St. Maurice, the Batiscan, the La Tuque game and fish preserve, and the valleys of the St. Lawrence and Ottawa. All good fishing waters, abounding with ouananiche, trout and bass.

IN ONTARIO, the entire range of the Muskokas, the Georgian Bay hinterland, the French, Pickerel, Still and Maganetawan rivers—well stocked with bass, mascalonge, and pickerel, are best reached by the Canadian Northern Ontario Railway.

IN WESTERN ONTARIO and the prairie provinces, the Canadian Northern Railway serves over three thousand miles of splendid territory. The Rainy River section follows the old Dawson fur trail, which is the finest canoe trip on the continent. There is an amplitude of sporting opportunities for the camera hunter, the fisherman and canoeist.

For literature and general or special information inquire of the information Bureau, Canadian Northern Railway System, Toronto.

MARINE DEPARTMENT.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade. Montreal.

Dominion Marine Association.

PRESIDENT, C. J. Smith, Montreal; COUNSEL, F. King, Kingston, Ont.

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Salving the s.s. Turret Bell.

The recent salving of the s.s. Turret Bell, which has been mentioned in earlier issues, after having lain stranded at Cable Head, P.E.I., for almost three years, has some interesting points, the following description of which has been adapted from a recent issue of Shipping Illustrated. The underwriters, after paying a total loss, awarded the contract for the salvage work to S. M. Brookfield, Halifax, N.S., by whom it was subsequently surrendered to the Reid Wrecking Co., Sarnia, Ont., who carried out the work successfully. The vessel was thrown up on the beach during a heavy northeast gale and at low water during ordinary spring tides in May, she had only 3 ft. of water at her stem and 6 ft. at her stern post. The conditions governing the tides were carefully studied, and after a fair analysis the conclusion was arrived at that no reliance could be placed on the tides along the north shore of the island. It was also discovered that after the spring tides of the early part of June each year, the water shrank very rapidly, so that the high water spring tides of July were 15 ins. less than at the corresponding tides in May and June, and at the high water tides of Aug. there was 9 ins. less water than at the corresponding tides of July. The situation was carefully studied, and it was considered possible to float the vessel and deliver it in a dry dock. It was estimated that the work could be accomplished within three weeks from the time the plant was placed aboard the vessel, and had not a number of delays and disappointments occurred, this would have been done. During the course of the operations, the closing of the Welland canal in 1908, the loss of a car on the I.C.R., the failure of contractors to deliver certain equipment, and a fire and boiler explosion on board the wrecking steamer, were some of the troubles which were experienced, so that, with the exception of a few weeks work in Aug. and Sept., 1908, the actual work of floating the stranded vessel, was not commenced until July 1909. At that time it was discovered that the work which had been accomplished was altogether undone, and the vessel forced back about 100 ft. on to the point forming Cable Head. She had then to be literally carried by hydraulic jacks about 1,000 ft., until a sufficient depth of water was reached, when she was floated by means of compressed air and taken to Charlottetown, P.E.I., where temporary repairs were made, and subsequently to Quebec, where she was docked for examination and later berthed at Levis, where she now lies for sale. During the work, every care was taken of the machinery, and it is notable that the engines, boilers and auxiliary machinery were worked continuously without a hitch from the time she was floated until she reached Quebec. The vessel is a steel steamer of 2,211 tons gross, 1,376 tons net, built in 1894, and carrying 3,900 tons deadweight on a mean draft of 10 ft. 7 ins.

The Otonabee-Rainbow Collision.

An investigation was held at Peterboro, Ont., recently, by Capt. L. A. Demers, acting Dominion Wreck Commissioner, assisted by Capts. R. Jones and F. Nash, into the causes which led to the collision between the s.s. Otonabee and s.s. Rainbow. The Rainbow is a wood steam vessel of 34 tons, which was rebuilt in 1909, propelled by a left handed propellor, and manned by a master, mate, engineer and deckhand, the master and mate holding certificates, and the engineer having a permit. The vessel is owned by F. Burnett, of Birdsall, Ont. The Otonabee is a twin screw boat of 87 tons, owned by the Otonabee Navigation Co. The master and mate have certificates. On Aug. 11, about 10.30 a.m., weather being clear, the Otonobee left the wharf, a short distance above Hale's bridge, after having given the whistle for the opening of the bridge, proceeded to follow the course usually adopted, that is the left hand side of the channel, which is done owing to the fact that immediately below the bridge the river forms a sharp bend. On opening up the river ahead of the bend, it was seen that the Rainbow was coming from the opposite direction following the right hand side of the channel. Upon seeing the Otonabee, the master of the Rainbow, immediately hard ported the helm, but in the evolution, a link of the rudder chain parted, the rudder then returned to midship, and the current threw her head to starboard. Seeing that, the master of the Otonabee stopped the port engine and starboarded the helm, with the result that a glancing blow was made into the port side amidship of the Rainbow.

In the Court's point of view, the evolution performed was permissible under the circumstances, though the Otonabee acted contrary to the rules of the road, and yet at such close quarters, or in the moment of danger, the above rule says: "To act as judgment says is proper," which was done in this case by both captains, in view of which the Court finds that Capt. Burnett of the Rainbow, and Capt. Harris of the Otonabee, under the circumstances and to avoid a collision, performed the only evolution permissible when at close range. Therefore, the Court exonerates the masters and officers of both vessels from all blame, and recommends that a suggestion be made to the proper authorities, to cause the overhanging foliage which partly intercepts the view at the bend of the Otonabee River, below the bridge, to be cut down.

The Stigstad-Siraine Collision.

The enquiry into the circumstances attending the collision of the s.s. Stigstad and the schooner Siraine, near St. Lawrence Point, in the River St. Lawrence, Sept. 11, took place before Capt. L. A. Demers, acting Wreck Commissioner, assisted by Capt. A. Reid, Port Warden, Montreal, and R. Paquet, President Corporation of Pilots, Quebec, and the following judgment was delivered, Oct. 4, R. Paquet dissenting:—

The Court having carefully enquired into the circumstances attending the collision, finds Pilot C. Normand in default for not exercising necessary and adequate precaution to avoid collision, and holds that he acted in contravention to articles 20 and 28 of the Rules of the Road, and in consequence thereof, and in view of the facts as adduced, C. Normand, Pilot, C. Wahlquiss, second mate and Capt. O. Ellifsen, incur the Court's severe censure, and are held responsible for the collision, and as the Court is empowered with jurisdiction as to imposition of costs, it is ordered that the costs of this investigation be defrayed by the s.s. Stigstad.

Stranding of the s.s. Urania.

Capt. L. A. Demers, acting Dominion Wreck Commissioner, with R. Paquet and Jas. Bain, assessors, held an investigation recently into the grounding of the s.s. Urania, of the Norwegian register, which occurred on Aug. 7, on a reef extending from White Island, the vessel being engaged in the St. Lawrence coal trade, under charter to the Nova Scotia Steel and Coal Co. Following is the judgment:—

The Court after carefully reviewing the evidence which was of a somewhat contradictory character, finds that Pilot Jos. Dupil is not to blame for the grounding of the vessel, owing to the fact that the Captain, C. H. F. Jensen, was primarily responsible for the stranding through his interference with the pilot's intention of anchoring the ship, when it was deemed advisable in the pilot's opinion to come to an anchor. The pilot is, in consequence exonerated from the responsibility of the stranding, and Capt. Jensen is severely censured for interfering without cause.

Vessels Removed from the Register.

The following vessels were removed from the register during Sept., for the reasonsassigned:—Steam: Columbus, Sault Ste. Marie, Ont., 230 tons, destroyed by fire; Going, Windsor, Ont., 31 tons, burnt; Kathleen, Lindsay, Ont., 26 tons, burnt; Prescott, Montreal, 648 tons, burnt; Rupert, Quebec, 292 tons, broken up. Sailing: C.P.N. no. 1, Victoria, 91 tons, wrecked; Emily B. Maxwell, Port Hope, Ont., 327 tons, wrecked; Grace D. Day, Shelburne, N.S., 39 tons, transferred to Newfoundland; Laura C. Zwicker, Lunenburg, N.S., 85 tons, foundered; Ledee Adele, Charlottetown, P.E.I., 50 tons, wrecked; Letitia, St. Andrews, N.B., 10 tons, foundered; Oriole, Toronto, 50 tons, broken up.

Notices to Mariners

The Department of Marine has issued the following:—

No. 86. Sept. 30. 236.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Lotbiniere, daymarks at range lighthouses.

No. 87. Sept. 30. 237.—British Columbia, Vancouver Island, west coast, Carmanah, change in fog alarm. 238.—British Columbia, Jervis Inlet, Nelson Island, Vanguard Bay uncharted rock.

No. 88. Sept. 30. 239.—Ontario, Great Lakes and St. Lawrence River, dates to which lights will be kept in operation. 240.—Ontario, River St. Lawrence, Iroquois to Prescott, changes in buoyage.

No. 89. Sept. 30. 241.—British Columbia, Vancouver Island, west coast, Quatsino Sound, Entrance Island, new lighthouse.

No. 90. Oct. 1. 242.—Quebec, River St. Lawrence, chart Montreal to Sorel issued. 243.—Quebec, River St. Lawrence, chart Sorel to Batiscan issued. 244.—Quebec, River St. Lawrence, chart Batiscan to Quebec issued.

No. 91. Oct. 4. 245.—Ontario, Lake Superior, Caribou Island change in fog alarm.

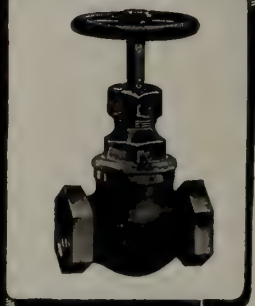
No. 92, Oct. 6, 246.—Ontario, Lake Ontario, west end, Burlington channel, front range lighthouse rebuilt.

No. 93. Oct. 7. 245.—Quebec, River St. Lawrence, Cape Dogs light station, fog alarm established, corrections.

No. 94. Oct. 12. 246.—British Columbia, Vancouver Island, Quatsino Sound, west arm, and Bight Cove, uncharted rocks. 247.—British Columbia, Burrard Inlet, Vanouver harbor, Brockton Point, change in light. 248.—British Columbia, Finlayson channel, Heikish narrows, rock located, wreck. 249.—British Co-

KERR'S GLOBE AND GATE VALVES

STRICTLY HIGH GRADE. TESTED & PACKED



THE KERR ENGINE CO. LIMITED

VALVE AND HYDRANT MANUFACTURERS

WALKERVILLE, ONT.

WILLIAM WARREN

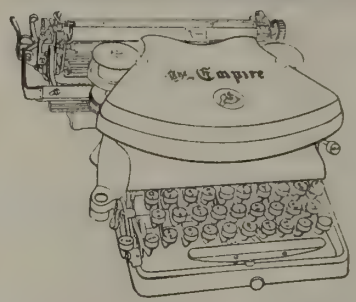
Laggan, Alta. and Field, B. C.

Guide and Outfitter to all points in Canadian Rockies

FISHING AND HUNTING PARTIES (fully equipped) a specialty

Seven years' experience on some of the most extensive private trips ever made since this greatest hunting and recreation ground has been opened.

References Furnished



THE EMPIRE TYPEWRITER

PRICE $60.00 ONLY

Perfect in Construction

Permanent Alignment

Hardened Steel Type

Visible Writing

Made in Canada

BUILT FOR HARD WORK

Will Outlast any Standard Machine made, irrespective of price.

Agents Wanted in every part of Ontario

Communicate Direct with us.

THE WILLIAMS MANUFACTURING CO., LIMITED

P. O. Box 2424 - MONTREAL, P. Q.

ESTABLISHED 1849

BRADSTREET'S

Capital and Surplus $1,500,000

Offices throughout the Civilized World

Executive Offices:

NOS. 346 and 348 BROADWAY, N. Y. CITY, U. S. A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

Correspondence Invited.

OFFICES IN CANADA:

Halifax, N.S.; Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.; Toronto, Ont.; Vancouver, B.C.; Calgary, Alta.; Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited

MONTREAL, CANADA

BARE AND INSULATED ELECTRIC WIRE

Electric Light Line Wire, Incandescent and Flexible Cords,

RAILWAY FEEDER AND TROLLEY WIRE

Americanite, Magnet, Office and Annunciator Wires,

Cables for Aerial and Underground Use.

FOR TICKET CASES AND COMMERCIAL FURNITURE

of all descriptions to stock or special design, apply to

The Canadian Office & School Furniture Co. Limited

Preston Ontario

lumbia, Chatham Sound, Lucy Island, arc of visibility of light. 250.—Alaska, Prince William Sound entrance, Cape Hinchinbrook, lighthouse constructing, temporary light to be established.

No. 95. Oct. 14. 251.—Ontario, Lake Ontario, west of Toronto, Long Branch rifle ranges, caution. 252.—Ontario, Lake Huron, Goderich, lights on south pier.

No. 96. Oct. 14. 253.—Quebec, Gulf of St. Lawrence, Magdalen Islands, Pleasant Bay, Amherst Island, position of wharf. 254.—Quebec, River St. Lawrence, mouth of Saguenay River, Prince shoal, Lightship no. 7 replaced by Lightship no. 17. 256.—Quebec, River St. Lawrence, Cap Brule or Montee du Lac, character of light.

No. 97. Oct. 15. 257.—Nova Scotia, south coast, Halifax Harbor, George Island, buoys marking and reserved for submarine mining purposes withdrawn. 258.—Nova Scotia, Cape Breton Island, west coast, Port Hood, intended change in character of light. 259.—Newfoundland, Labrador, Belle Isle, south end, use of explosive fog signals discontinued. 260.—Ireland, north coast, Lough Swilly, Fanod Head light, character altered. 261.—England, west coast, Bristol Channel, North Lundy lighthouse, alteration in fog signal. 262.—England, west coast, Morecambe Bay, Lune Deep, light buoy replaced by light boat.

No. 98. Oct. 16. 263.—Ontario, Lake Erie, Port Burwell, hydrographic information, aids to navigation.

An act passed last session of the Nova Scotia Legislature, authorized the town of Yarmouth to exempt from taxation for 20 years, property of the New Burrill-Johnson Iron Co. under certain conditions. The company is engaged in the construction and engining of vessels.

The Great Lakes and St. Lawrence Navigation and Improvement Association.

H. W. Richardson, President, has recently issued a circular letter to all organizations and municipalities in any way interested in the project for the general improvement of the waterway from the Great Lakes to the seaboard, as follows:—

"The time seems appropriate to press upon the attention of the Government the urgent need for a new Welland canal. The Northwest is demonstrating its possibilities, and we should not hesitate to increase and cheapen our transportation facilities. There is no easier or cheaper way to do this than to modernize this 26 miles of canal, so that the large freight steamers of the Upper Lakes may proceed to the foot of Lake Ontario. A reduction of two or three cents a bushel could thus be made in the freight rate on wheat, and the saving to the northwestern farmer on the present crop would thus be not less than $3,000,000, while in a few years the saving would be three or four times as great. The lake freight and the lake and rail freight from Fort William to Montreal, for the last half of Oct., is 6½c. a bush. One and one-half cents is the rate from Fort William to the foot of Lake Erie, either Buffalo or the head of the Welland canal. To load, proceed to Buffalo, discharge, and return, a large steamer takes nine days to earn this 1½c. With a new Welland canal she could proceed to Kingston, Prescott or Brockville, and only add two days to her voyage. One-half cent would thus be a fair return for this extra time, and accordingly 2c. would bring the grain from Fort William to the head of the St. Lawrence. The rate by barge down the river to Montreal is 1⅞c. at present, and would doubtless be reduced with increase in the traffic. The total cost from Fort William to Montreal would thus be at the most somewhere between 3 and 4c. a bushel, instead of 6½c. as at present. It goes without saying that while the total rate from Fort William or any Lake Superior port to New York, via Buffalo, approximates or exeeds the present rate to Montreal, a new Welland canal and the new freight rates possible would not fail to attract a large part of the export wheat now destined for Buffalo, and especially so as facilities for ocean transportation from Montreal are increased. Lake Ontario, instead of being sealed to the immense fleets of the Upper Lakes, would be able to share their traffic, every port on Lake Ontario would enjoy corresponding advantages, and the St. Lawrence River, the natural outlet from the lakes, would, as it should, become the highway for the freight of the lakes to the ocean. The Government is giving the matter consideration. Some surveys and estimates have already been made, and the practicability and moderate cost of the work have been demonstrated. Delay gives just so much advantage to the competitive route through New York State, and the expenditure of the $101,000,000 voted for the new Erie canal is being rapidly carried out. The Great Lakes and St. Lawrence Navigation and Improvement Association has been formed primarily to bring about the improvement advocated in this circular. At a meeting in Toronto recently it was decided to interview the Government at the earliest date possible, and at this interview the attendance of everyone interested is desired."

She—"Whoever started the habit of calling a boat 'she'"

He—"Probably the first man who tried to steer one."

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING SEPTEMBER, 1909.

Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
†Alfred Clarke	126,193	Saugatuck, Mich., 1887....	Screw 10 n. h. p..	110.0	22.2	8.6	229	148	Windsor, Ontario.....	Pelee & Lake Erie Navigation Co., Pelee Island, Ont.
Amelia C.....	126,505	Kelowna, B.C., 1909.....	" 1 " ..	33.0	8.0	3.0	4	3	Victoria.....	J. T. Campbell Sunnyside Ranche, B.C.
Asahimaru....	126,623	Vancouver, B.C., 1907.....	" 30 " ..	37.5	9.4	2.9	9	6	Vancouver, B. C.....	Northern Canning Co., Vancouver, B.C.
De Los.....	126,225	Sombra, Ont., 1900.....	" 1 " ..	16.7	4.6	1.5	1	1	Sarnia, Ont.....	T. W. Whiteley, Sombra, Ont.
*Donnacona ..	110,363	Bill Quay, Scotland, 1900...	" 150 " ..	245.0	42.6	20.8	1906	1222	Hamilton, Ont.	Donnacona Ltd., Hamilton, Ont.
*Dundee	112,208	Dundee, " 1906. .	" 146 " ..	250.0	43 2	23.5	2278	1431	"	Dundee Steamship Co., Hamilton, Ont.
*Glenellah....	112,205	" " 1905...	" 146 " ..	250.0	43.2	23.5	2272	1454	"	Union Steamship Co., Hamilton, Ont.
Grainer ...	126,506	Victoria, 1909	" 18 " ..	100 5	23 0	8.0	144	88	Victoria.....	Butler Freighting & Towing Co., Victoria
Hoo Hoo.....	126,560	Vancouver, B.C., 1909.....	" 2 " ..	28 5	9.8	4.0	11	7	Vancouver, B. C.....	J. H. Garden, Vancouver, B.C.
M. J. O'Brien.	126,050	Sturgeon Lake, Ont., 1909..	Paddle 6 " ..	100.0	24.5	4.0	253	194	Port Arthur, Ont.....	New Ontario Transportation Co., Port Arthur, Ont.
*Neepawah ..	102,579	Greenock, Scotland, 1903 ...	Screw 207 " ..	244.5	40.0	21.8	1799	1190	Hamilton, Ont.....	New Ontario Steamship Co., Hamilton, Ont.
Pathmaker...	126,624	Vancouver, B.C., 1908.....	" 3 " ..	28.5	7.4	3.5	4	3	Vancouver, B.C... ...	P. and E. Easthope, J. O., Vancouver B.C.
Picnic.....	126,622	" 1909.....	" 1 " ..	28.0	8.4	3.6	4	3	"	E. Easthope, Vancouver, B.C.
Silverland....	126,410	Haileybury, Ont., 1909 ..	" 13 " ..	85.4	17.0	6.7	92	53	Ottawa.	Haileybury Navigation Co., Haileybury, Ont.
*Strathcona ..	110,354	Dundee, Scotland, 1900.....	" 120 " ..	249.0	41.9	21.0	1881	1465	Hamilton, Ont.....	Strathcona, Ltd., Hamilton, Ont.
Tekla	126,416	New York, N.Y., 1902	" 13 " ..	102.0	21.0	13.0	83	36	Toronto.....	J. C. Eaton, Toronto
Vera T.....	126,384	Levis, Que., 1908.....	" 3 " ..	47.9	12.4	7.9	36	22	Quebec.....	J. S. Thom, Quebec Que.
*Wahcondah..	102,577	Port Glasgow, Scotland, 1903	" 148 " ..	230.4	37.1	21.8	1554	996	Hamilton, Ont.....	New Ontario Steamship Co., Hamilton, Ont.
Westham.....	126,276	NewWestminster, B.C., 1909	" 10 " ..	85.3	22.0	8.3	199	126	NewWestminster, B.C	L. Rogers, M.O., Vancouver, B.C.
*Winona.....	122,851	Wallsend on Tyne, Eng.,1908	" 225 " ..	252.0	43.5	21.3	2085	1327	Hamilton, Ont.....	Winona Steamship Co., Hamilton, Ont.

†Formerly Saugatuck. *Transferred from Great Britain.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING SEPTEMBER, 1909.

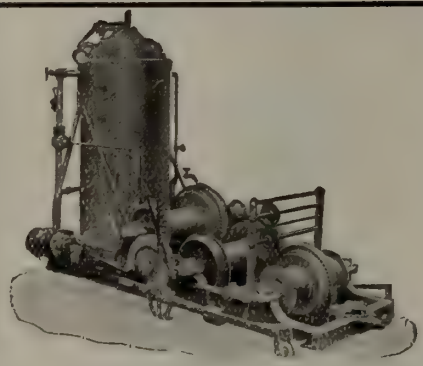
Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
British Yeoman ..	81,391	Woolston, Eng., 1880....	Bark..	269.2	39.8	24.2	1862	Victoria..... ..	Ship British Yeoman Co., Victoria
Clare Lass.....	121,820	Church Point, N.S., 1908.....	Sloop ..	36.0	13.2	5.7	13	Digby, N.S.....	W. S. Melanson, Church Point, N.S.
Drummuir.	86,233	Liverpool, Eng., 1882.....	Ship..	270.5	39.2	24.0	1798	Victoria..	Ship Drummuir Co., Victoria
F. D....	126,385	Isle aux Coudres, Que., 1908..	Schr....	50.0	15.0	5.4	28	Quebec.....	F. Degagne, M.O., Isle aux Coudres, Que.
Hawley Brothers.	126,562	Ingonish, N.S., 1909.....	" ...	37.7	12.3	6.0	11	Sydney, N.S.....	J. T. Hawley, Ingonish, N.S.
Katie Margaret ..	126,563	" 1909.....	" ...	39.5	11.6	5.6	15	"	P. Dickson, M.O., South Harbour, N.S.
Lawson	125,970	Port Greville, N.S., 1909.....	" ...	128.8	31.0	10.8	274	Parrsboro, N.S.....	J. W. Cochrane, Fox River, N.S.
Lulu S.....	126,188	Shelburne, N.S., 1909	" ...	53.6	16.1	6.1	23	Shelburne, N.S.	H. R. Swim, M.O., Lockeport, N.S.
Maggie Julia....	126,564	Cape North, N.S., 1909..	" ...	35.4	12.2	5.9	13	Sydney, N.S.	J. Fitzgerald, Cape North, N.S.
North Bend	126,621	Coos Bay, Ore., 1877.....	" ...	152.6	32.0	11.0	392	Vancouver, B.C.....	S. F. MacKenzie, Vancouver, B.C.
P. L. S. No. 1....	126,497	Montreal, 1905.....	Scow..	98.5	30.6	6.6	174	Montreal.....	T. Lyall, M. O., Montreal, Que.
P. L. S. No. 2....	126,498	" 1905.	" ..	88.5	26.5	6.6	134	"	" " "
P. L. S. No. 3....	126,499	" 1905.....	" ..	79.2	20.6	5.0	72	"	" " "
P. L. S. No. 4....	126,500	" 1904.....	" ..	78.8	20.8	5.0	72	"	" " "
Rosalie Belliveau	122,035	Belliveau's Cove, N S. 1909 ...	Schr. ..	114.0	29.0	10.0	197	Weymouth, N.S.....	B. Belliveau, M.O., Belliveau's Cove, N.S.

TURNBUCKLES

FORGINGS
OF ALL KINDS

CLEVIS NUTS

CLEVELAND CITY FORGE & IRON CO.
CLEVELAND, OHIO, U.S.A.



M. Beatty & Sons, Limited
Welland, Ont.

Dredges - Ditchers - Derricks
Steam Shovels
Steel Dump and Deck Scows

Submarine Rock Drilling Machinery
Mine Hoists, Hoisting Engines
Centrifugal Pumps, Clam Buckets
Steel Skips, Coal and Concrete Tubs
and other Contractors' Machinery.

Now is the time to place your order for Contractors' Locomotives. Why not buy the best?

VULCAN IRON WORKS
WILKES-BARRE, PA., U.S.A.

Canadian Representatives - MUSSENS LIMITED, MONTREAL

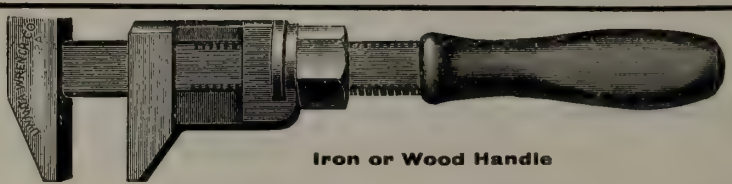
Largest Dealers Rebuilt Equipment in United States
TWO SEPARATE PLANTS

EAST PLANT
Capacity, 25 New Freight Cars per day
10 New Coaches per month

WEST PLANT
Capacity, 10 Heavy Repairs Locomotives per month
Besides Coach and Freight Car Repairs

PROMPT DELIVERY—New Passenger and Freight Equipment—Rebuilt Locomotives, Passsenger and Freight Equipment

HICKS LOCOMOTIVE AND CAR WORKS, = = Chicago, Ill.



Iron or Wood Handle

UWANTA WRENCH

Greatest strength of any on market. Reinforced jaw. Double threaded screw of large proportions.

Indestructible Convenient Perfect Write at once for Prices

THE DRAKE & WIERS CO., - - CLEVELAND, OHIO

PROVINCIAL STEEL CO., LTD.

COBOURG, ONT.

Canadian Northern Steamships, Ltd.

A company with the above title has been incorporated under the Dominion Companies Act, with a capital of $2,000,000, and office at Toronto, to construct, purchase, or otherwise acquire, operate and manage: (a) Steamships and boats of every description; (b) Buildings, hotels, stores, works appliances, mills, machinery, plant and equipment of every kind whatsoever, on land or water deemed necessary in connection with the construction, maintenance, navigation, renewal or repair of the company's vessels, works, or equipment, or in connection with the accommodation, care or conveyance of passenger traffic or the handling, forwarding, warehousing, elevation, storage, or care of freight, mails, express or other traffic; (c) Lands, water lots, docks, wharves, basins, slips, harbor and port works and terminal and other facilities, and privileges of every description; to carry on any business incidental to the full use of the work and facilities authorized or which may seem capable of being conveniently carried on in connection therewith or calculated to enhance the value of, and render profitable any of the company's properties or rights; to make traffic or other arrangements with any railway, steamboat or navigation company whose line of railway or undertaking communicates with or is contiguous to that of the company, or may be conveniently operated therewith, and to enter into agreements with such other companies for the conveying or leasing to it the undertakings or works of the company in whole or in part, or for amalgamation upon such terms and conditions as may be agreed upon; to acquire and undertake the whole or any part of the business, property and liabilities of any person or company carrying on any business which this company is authorized to carry on, or possessed of property suitable for the purposes of the company; to use any of the funds of the company to purchase or otherwise acquire, and hold shares, or other securities of any other company, and to promote any company having objects similar to those of this company, or carrying on any business capable of being carried on so as to benefit this company, and while holding the same to exercise all the rights and powers of ownership, including the voting powers; to amalgamate with any other company having objects similar to those of this company; to dispose of any of the assets or undertakings of the company by sale, lease or otherwise; to do all or any of the above things in Canada or elsewhere, and as principals, agents or attorneys. The operations of the company to be carried on throughout the Dominion of Canada and elsewhere.

The provisional directors are, F. H. Phippen, K.C., G. G. Ruel, G. F. Macdonnel, R. H. M. Temple and A. J. Reid, Toronto, all of whom are connected with the Canadian Northern Ry. Co.

Atlantic and Pacific Ocean Marine.

W. Watson, Chairman Cunard Steamship Co., died in London, Eng., Oct. 4, aged 66.

The C.P.R. has announced the cancellation of the sailings of the s.s. Lake Erie, from St. John, N.B., Nov. 4, and from Liverpool, Eng., Nov. 10.

The Government s.s. Arctic arrived home Oct. 4, after a 14 months' trip to the Arctic regions. Capt. Bernier, who was in charge, states that about 24,000 miles was covered without accident.

It is reported that the Government will grant a subsidy for a new steamship line between St. John, N.B., and a Mexican port to be selected, with calling places at British West Indies ports.

It is reported that Manchester Liners, Ltd., intends to operate a weekly service between Canada and England, during the coming winter, instead of fortnightly, if berth accommodation can be arranged at St. John.

The St. John, Boston and Cuba Steamship Co., recently organized to operate a steamship service between St. John, N.B., Boston, Mass., and Havana, Cuba, commenced its service Oct. 5 with the sailing of the s.s. Karen from St. John.

The Allan Line announces that its first winter sailing from St. John, N.B., will take place Nov. 26, and the first from Halifax, N.S., Nov. 27. The first sailing of the winter season will be on Nov. 12, when the s.s. Virginian will leave Liverpool for St. John.

D. D. Mann, Vice President Canadian Northern Ry., is reported to have stated, Oct. 26, that as soon as the railway was completed and linked up from coast to coast, it was the intention to place lines of vessels on both the Atlantic and Pacific Oceans.

The C.P.R. is reported to have made arrangements with the Allan Line, whereby a number of its winter sailings from St. John have been cancelled, these being taken up by the Allan Line steamships Grampian, Corsican, Hesperian and Tunisian.

The Donaldson Line s.s. Alcides, which several years ago was on the St. Lawrence route, has been sold for breaking up. She was built at Glasgow, Scotland, in 1886, her dimensions, etc., being: length, 340 ft.; breadth, 42.1 ft.; depth; 30 ft.; tonnage, 3,421 tons gross, 2,181 tons register.

The White Star-Dominion steamships Laurentic and Megantic, which have been running on the St. Lawrence route between Montreal and Liverpool, Eng., during the summer, will be placed on the Liverpool-New York service during the winter, replacing the steamships Cedric and Celtic.

Montreal papers have printed recently what purports to be a balance sheet of the Allan Line, dated Aug. 21. The company being more or less of a private one, its balance sheet has never been made public, and it is claimed that the recent publication of the figures is the first made.

The following C.P.R. steamships are now equipped with Marconi wireless telegraph apparatus: Lake Champlain, Lake Erie, Lake Manitoba, Lake Michigan, Milwaukee, Montezuma, Mount Temple, Monmouth, Montrose, Montcalm, Montreal, Montfort and Mount Royal, in addition to the Empress of Britain and Empress of Ireland.

A movement has been started by the captains of the C.P.R. Atlantic fleet, for the supply of newspapers and periodicals to the isolated wireless telegraph operators at various points along the St. Lawrence route, during the season when navigation is open. The papers are packed in barrels, to which a flag is attached, and thrown overboard near the stations.

The C.P.R. s.s. Empress of Ireland, while inward bound, Oct. 14, struck what is presumed to be a submerged wreck between Cape Chatte and Matane, and damaged her hull considerably. She was examined at Quebec, where the damage was not considered to be serious, and eventually sailed for Liverpool, where she will be thoroughly examined and overhauled

The British owned s.s. Paradox is reported to have been picked up by the Hudson Bay Co.'s s.s. Pelican in the Bay and taken to Fort Churchill. The vessel is reported to have been badly crushed by ice last spring and to have been drifting since she was abandoned by the crew, all of whom were rescued by Revillon Bros.' s.s. Adventure and sent back to England early in the fall.

The Canadian-Mexican Pacific Steamship Co., in conjunction with the Jebsen Line, are giving a fortnightly service between Victoria and Vancouver, and Salina Cruz, Mexico, sailing on the 21st and 7th of the month respectively, making connections at the last mentioned port with the Tehuantepec National Ry., for transport across the isthmus to Puerto Mexico, for transhipment to Atlantic vessels.

Press reports emanating from the U.S. state that cable dispatches have been received to the effect that a conference of steamship owners operating between European and U.S. ports, held in London, Eng., has decided unanimously to increase ocean freight rates from U.S. ports. It is stated that the opinion prevailed at the conference that present rates are inadequate, and that agents and other representatives at U.S. ports must advance tariffs and improve their position generally.

The Allan Line s.s. Laurentian, which was wrecked on Mistaken Point, Nfld., Sept. 6, has been declared a total wreck, which is in accordance with the first reports as to her condition, though, at one time it was thought possible she might have been saved. Salvage operations on the cargo have been undertaken, but she is reported to be breaking up. We understand that she has been sold for $5,000, subject to the right of the underwriters to deal with any cargo that might be left, should opportunity arise for its salvage.

With reference to the recent acquirement of the steamships Cairo and Heliopolis, which have been engaged in the Mediterranean service, mentioned in our last issue, and which were reported to have been purchased by interests representing Mackenzie, Mann and Co., reports from the Pacific coast state that negotiations are in progress for their acquirement by the G.T.P.R., and also state that that company already has one vessel under construction, and one about to be commenced for the Pacific coast trade.

The Donaldson Line s.s. Hestia was wrecked in the Bay of Fundy, Oct. 25, and lies a total loss on the ledges about five miles from Grand Manan, N.B. In rescuing those on board, one of the boats was upset and 30 of the crew and four passengers were drowned. The Hestia was built at Sunderland, Eng., in 1890, her dimensions being: length, 365 ft.; breadth, 44.2 ft.; depth, 27.3 ft.; tonnage, 3790 gross, 2434 register. She was equipped with engines having cylinders 27", 44" and 72" diar., by 48" stroke, developing 390 n.h.p., driving twin screws.

Notwithstanding the Allan Steamship Line's official statement regarding the future management of the company, which was given in our last issue, rumors continue current as to the sale of the company's vessels, and the complete change of control. The C.P.R. has now been added to the list of those credited with the purchase of the company, but the statement was promptly denied by the President. A Montreal paper states that it has definite knowledge that a sale of the property has taken place, the consideration being $12,000,000, but that the name of the purchaser is not known.

H. and A. Allan, Ltd., has been incorporated under the Dominion Companies Act, with a capital of $300,000, and office at Montreal, to build, purchase and sell shares in, acquire, own and operate steam and other vessels, and to carry on the business of shipowners and shippers, steamship and forwarding agents, master porters, ship brokers, warehousemen, wharfingers, storekeepers, harbor masters, importers and exporters, and to employ such vessels for profit. The provisional directors are: Sir H. Montagu Allan, Hugh A. Allan, A. A. Allan, G. W. MacDougall, Montreal, and B. J. Allan, Boston, Mass.

DOMINION BUREAU

ROBERT W. HUNT & CO.
ENGINEERS

BUREAU OF INSPECTION
TESTS AND CONSULTATION

Chemical and Cement Laboratories, Montreal
NORFOLK HOUSE, CANNON ST., LONDON
CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

METEOR WIRE
FOR
Make and Break
Contact Points
AND
Spark Points
IN
Gas & Gasoline Engines
Automobiles
DURABLE NON-CORROSIVE
ABSOLUTE SUBSTITUTE FOR PLATINUM
WRITE FOR CATALOGUE
Hermann Boker & Co.
332 ST. JAMES ST. - MONTREAL

JOHN S. METCALF CO.
ENGINEERS AND CONTRACTORS FOR
GRAIN ELEVATORS ONLY
CONCRETE—STEEL—WOOD
Plans and Specifications our Specialty
MIDLAND, ONTARIO CHICAGO, ILL

NEW AND RELAYING
RAILS
FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.
LOCOMOTIVES, CARS AND OTHER EQUIPMENT.
John J. Gartshore
83 Front Street West - TORONTO

MALLEABLE IRON CASTINGS
of Superior Quality
GALT MALLEABLE IRON CO., LIMITED, - GALT, ONT.

JAMES T. GARDNER
RAILWAY EQUIPMENT
615 Railway Exchange
CHICAGO, ILL.
Has on hand at all times
First-Class Freight and Passenger Locomotives
Also
Contractors' Locomotives
Cars, Rails, Etc.
Specifications with Prices on Application

HEADLIGHTS-WE MAKE THEM
For OIL, for Pyle ELECTRIC equipment or SPECIAL to Blue Print, and carry a large stock of standard headlight reflectors, burners, burner parts, felt wicks and chimneys.
The HIRAM L. PIPER CO., Limited
17 to 23 Normand Street, Montreal.
Get our No. 30 Catalogue. (Between St. Peter and McGill Sts.)

NICKEL
THE CANADIAN COPPER COMPANY
NICKEL FOR NICKEL STEEL
THE ORFORD COPPER COMPANY
WRITE US FOR PARTICULARS AND PRICES
General Offices: 43 Exchange Place, NEW YORK

Standard Paint & Varnish Co. Limited
Makers of High Grade
Varnishes, Japans,
Paints, Colors & Enamels.
Windsor Ont.

In discussing the position of the proposed "all-red" route between Great Britain and the Antipodes, via Canada, the New Zealand Premier is reported to have said, in Wellington, N.Z., recently, that the original idea of securing a fast service on both oceans had been practically abandoned. The old difficulty of the present service between Canada and Australia, namely, that of Brisbane being a port of call, which prevented vessels calling at Wellington, still stood in the way. New Zealand must therefore either subsidize a fast connection with Australia and the Fiji Islands, or arrange with Canada for a fast service direct or from Sydney.

Maritime Provinces and Newfoundland

The final accounts of the liquidator of the Grand Lake Steamship Co., were submitted to a meeting of shareholders, at St. John's, Nfld., Oct. 26.

The Black Diamond Steamship Line, operated by the Dominion Coal Co., is reported to be about to add another steamer to its fleet, for service next year between Montreal and Newfoundland.

Lord Northcliffe, who is intimately associated with the Anglo-Newfoundland Development Co., stated while in Montreal recently, that a direct steamship line between Newfoundland and England would be established.

The Atlantic Shipping Co., Port Maitland, N.S., has sold its bark Kate F. Troop to an Argentine firm. She was built at Tynemouth, Eng., in 1881, her dimensions being: length, 187 ft.; breadth, 37.5 ft.; depth, 22.1 ft.; 1,097 tons register.

C. J. Stuart, Halifax, N.S., first officer of the cruiser Canada, J. A. Nicholson, Lunenburg, N.S., first officer of the cruiser Petrel, and H. P. Cousins, St. Andrews, N.B., first officer of the cruiser Curlew, have been appointed to the Fisheries Protection Service.

The Minister of Marine stated Oct. 18, that the icebreaking steamship Earl Grey, which recently arrived in Canada, and has been taken over by the Government from the firm who built her, will be operated this winter across the Northumberland Strait, replacing the s.s. Stanley, which will be used in the Bay of Fundy buoy and lighthouse service, etc.

A delegation from the Halifax and Dartmouth Boards of Trade waited on the Provincial Government, Oct. 14, to call the Government's attention to the suitability of Halifax for the construction of a shipbuilding plant, and to ask the Premier to make representations to the Dominion Government on the subject. Halifax and Dartmouth have each voted $100,000 in aid of such a project.

The Valley Steamship Co.'s s.s. Granville, some details of which we gave in our Oct. issue, is equipped with fore and aft surface condensing marine engine, 12" and 24" by 18", with horizontal two-furnace boiler 8' 6" by 9', and with all the auxiliary pumps, tanks, steam steering gear, etc. The hull was built at Shelburne, N.S., and the machinery and fittings installed and completed at Yarmouth.

The Edgett-Grady Co., Ltd., has been incorporated under the Prince Edward Island Joint Stock Companies Act, with a capital of $20,000, and office at Summerside, P.E.I., to carry on a general wholesale and retail mercantile business, and in connection therewith to own and operate steam and other vessels, and to conduct agencies for insurance, marine and mining companies, railway corporations, etc. W. H., J. F., and J. C. Edgett, Moncton, N.B., and J. Grady, Summerside, P.E.I., are provisional directors.

Bowring Bros. have sold their sealing steamer Terra Nova, to be used in connection with the Antarctic expedition which is being organized in England, under Capt. Scott, and which is to be undertaken next year. The vessel was sold subject to inspection, and on her return from the south, the original owners have the option of re-purchasing her. The Terra Nova was similarly sold and repurchased a few years ago, in connection with the relief expedition which followed up the first Scott voyage to the Antarctic in the s.s. Discovery, which vessel is now owned by the Hudson Bay Co.

Province of Quebec Marine

T. Beland has been appointed Agent for the Marine Department and Shipping Master for the port of Quebec.

J. N. Beaudry, a former Secretary-Treasurer of the Richelieu and Ontario Navigation Co., died at Montreal recently.

The Richelieu and Ontario Navigation Co.'s steamboats Montreal and Quebec have been berthed at Montreal for the winter.

The Richelieu and Ontario Navigation Co.'s steamboat Rapids Queen, which went aground near Vaudreuil, recently, and was re-floated, is being overhauled and repaired at Sorel.

The Government steamboat Montmagny, recently launched from the Government Dockyards, Sorel, and which is being constructed and fit up for work in the lower St. Lawrence, will, it is anticipated, be ready for the opening of navigation next spring.

Recent press reports to the effect that the Government proposed to ask Parliament to authorize a Government guarantee of bonds to the extent of $18,000,000 to enable the Montreal Harbor Commission to carry out a number of extensions and improvements, has been officially denied.

Capt. Daveluy, one of the oldest officers in the Richelieu and Ontario Navigation Co.'s employ, died at Montreal recently, aged 87. He had been engaged on the St. Lawrence since boyhood, and in 1837 he was left in charge of the vessel he was employed on, owing to the arrest of the captain during the war.

A delegation from the Quebec Board of Trade waited on the Minister of Marine, Oct. 14, to protest against the levying of a porterage charge on local import freight, as it was claimed that local import freight was being discriminated against by the imposition of a master porter's charge. The Minister promised to give the matter his careful consideration.

The Quebec Harbor Commission is about to undertake a number of improvements along the front. It is intended to extend the new wharf into the river about 65 ft., and bring it in line with the Point a Carcey wharf, and along the river front for 500 ft. Freight sheds will also be built, thus providing all the facilities for the berthing and accommodation of large ocean going vessels.

At a meeting of the Quebec Board of Trade, Oct. 12, it was agreed that the Board's proposal to organize a company for the purpose of constructing and operating dry and wet docks, etc., be abandoned, as the result of an interview, which a deputation had had with the promoters of a similar organization, in which it was assured that there was every prospect of the object being achieved in the near future.

A considerable amount of valuable property was destroyed by fire, which swept the Quebec harbor, Oct. 16. In addition to the C.N.R. elevator, there were also destroyed, either wholly or partially, several of the sheds and contents, bonded warehouse, custom house, and some rolling stock, while some of the larger ocean vessels, including the Empress of Ireland, had to be moved from their berths to places of safety. The damage is only partially covered by insurance.

It is reported that a company recently organized in Canada, in which M. J. and J. A. O'Brien and J. E. Roy, Montreal, are interested, for the construction of dry docks, etc., in Canada, has made certain proposals to Vickers Son and Maxim of England, with a view to that firm establishing a branch shipbuilding yard and docks on this side. Vickers Son and Maxim have built several vessels for the Government, the most recent one being the icebreaking steamship Earl Grey.

The dispute between the Montreal Parks Committee and the Harbor Commissioners as to the rights of each, in connection with the proposed construction of a wharf at St. Helen's Island, is to be laid before the Government. The city desire to build a wharf there, and as it has purchased the island from the Government, claims to have sole control of it, but the Harbor Commission claims that it owns the shore rights, and offers to build a wharf, at a cost of $25,000, provided the city lease it, for 20 years, paying 6% on the cost.

An application will be made at the next session of the Dominion Parliament for the incorporation of the Dominion Dry Dock and Ship Building Co., with power to carry out its operations throughout Canada and elsewhere, with a capital of $1,000,000, and office at Montreal; to carry on the business of ship building, ship repairing and salvaging; to construct, repair, acquire, own and operate dry and wet docks, harbors, slips, piers, wharves, elevators, steam and other vessels, and other similar constructions; and for other purposes. L. A. Cannon, Quebec, is acting for the company.

The franchise for the operation of the ferry service between Quebec and Levis was sold recently, to a new company, organized for the purpose, of which J. F. Demers is Manager. The price paid is given as $5,250 a year for 15 years, in addition to which the holder must pay $350 to each of the municipalities for rent of waiting rooms, and $1,500 wharfage charges. It is stated that some new boats will be built at Levis next year. The company which formerly had the franchise is now operating a railway car ferry service between the two points, but it is stated that the new company may enter a protest against this, as it claims to have the sole privilege to operate such service.

The Richelieu and Ontario Navigation Co. will apply at the next session of the Dominion Parliament to amend its act of incorporation, and for the following purposes: to increase its capital stock and add to its powers of owning real estate in Canada and elsewhere; to amalgamate with, control and manage other companies incorporated for any similar purposes; to obtain further powers to pass bylaws; to construct and establish terminals and obtain the necessary powers in connection therewith; to carry on the general business of common carriers by land and water; to purchase, build and operate dry docks, graving docks and to carry on the business of shipbuilders, and for other purposes.

Considerable speculation is rife throughout the Maritime Provinces and Quebec, as to the location of drydocks and shipbuilding plant, which Harland and Wolff of Belfast, Ireland, are reported to be about to establish in Canada. No definite proposals have, as yet, been made public, but it is understood that that firm has a representative in Canada for the purpose of settling on a likely site, or sites, for the construction of dry docks and shipbuilding yards. It is

THE INTERNATIONAL MARINE SIGNAL CO.

OTTAWA, CANADA

Manufacturers of

Automatic Acetylene Gas Buoys, Beacons and Fog Signals

Mariners describe our lighted buoys as "floating lighthouses."

GOLDSCHMIDT THERMIT CO.

A UNIQUE ADVANTAGE IN WELDING BROKEN STERNPOSTS

is offered by the Thermit Process, owing to the fact that a re-inforcement of steel is fused around the weld. This re-inforcement can be made as large as necessary so that the welded section will be as strong, if not stronger, than it was originally, thus guarding effectually against further breakage.

Another advantage of the Thermit Process, and a most important one, is the fact that the welds can be made ANYWHERE. All appliances are light and portable and may be brought to the job. Locomotive frames are welded without dismantling the engine. Stern-posts of steamships are repaired in place at a tremendous saving over other methods. The same advantages apply in the repairing of gear wheels, crank shafts and other machine parts.

Write for Pamphlet No. 20-N, which gives full information.

Goldschmidt Thermit Co.

103 Richmond St., W., Toronto, Ont.

General Offices: 90 West St., New York.

Pacific Coast Branch, 432-436 Folsom St., San Francisco

WIRE ROPE

BALLAST PLOUGH ROPES
WRECKING ROPES
SWITCH ROPES
DERRICK ROPES
SEMAPHORE STRANDS
STANDARD AND LANG'S PATENT LAY, ETC.

THE B. GREENING WIRE CO., LIMITED

HAMILTON, ONT. MONTREAL, QUE.

Schools of the Sisters of the Church

(ANGLICAN)

36 Walmer Road, Toronto
330 Kent St., Ottawa

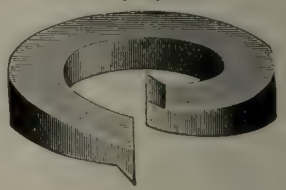
VISITORS: The Lord Bishop of Toronto and the Lord Bishop of Ottawa.

Boarding and Day School for Girls. Kindergarten, Primary, Secondary and Collegiate Departments. Preparation for Matriculation. Next School year will begin Thursday Sept. 9th. Apply to

Sister in Charge.

THE POSITIVE LOCK WASHER

Is the BEST Nut LOCK for all purposes



We also make plain coils and tail nut locks.

The Positive Lock Washer Co.
Sole Mfrs., Newark, N.J.
F.H. HOPKINS & CO., Agts., Montreal

LEHIGH VALLEY RAILROAD

BEST LINE FROM TORONTO AND ONTARIO POINTS

— TO —

NEW YORK, PHILADELPHIA AND SOUTH

For particulars, write to or call on
MR. ROBERT S. LEWIS
Canadian Passenger Agent
54 King St. East - - - - Toronto

IMPERIAL BANK OF CANADA

Capital Authorized - -	$10,000,000.00
Capital Paid Up - - -	5,000,000.00
Reserve Fund - - - -	5,000,000.00

HEAD OFFICE - - - - TORONTO

AGENTS—London, Eng., Llovds Bank Limited; New York, Bank of the Manhattan Co.

Sterling exchange bought and sold. Letters of credit issued available in any part of the world.

A general Banking business transacted. **Branches throughout the Dominion of Canada.**

SAVINGS DEPARTMENT—Interest allowed on deposits from date of deposit.

WOOD PATTERNS

—ALL KINDS—

High Grade. Right Prices. Prompt Delivery.

THE HAMILTON PATTERN WORKS
HAMILTON, ONT.

stated that there is every likelihood of their constructing duplicate plants at Levis and St. John, N.B. It was also stated that the C.P.R. was interested in the proposals being made, to a considerable financial extent, but Sir Thos. G. Shaughnessy, while recently denying that the company was financially interested, said that the company being shipowners, was naturally interested in any proposition of the nature mentioned.

Ontario and the Great Lakes.

W. H. Hacker has been appointed measuring surveyor of shipping for the port of Midland.

The name of the steamboat Saugatuck, no. 126193, registered at Windsor, has been changed by order in council to Alfred Clarke.

The captain of the Argyle Steamship Co.'s steamboat Argyle was fined $100 at Toronto, Oct. 2, for having sold liquor on his vessel.

The Otonabee Navigation Co. was fined $100 at Peterboro, recently, for carrying passengers in excess of the number allowed by its certificate.

A Welland deputation waited on the Minister of Inland Revenue, Oct. 12, with the request for a renewal of the ferry service between Fort Erie, Ont., and Buffalo, N.Y.

Plans are reported to have been prepared for the construction of a steamboat, similar to the Britannia for the Detroit, Belle Isle and Windsor Ferry Co.

The steamboat Rideau King ran aground on White Hall island in Mud Lake, Oct. 15, during a storm. She was floated and taken to Kingston for examination and repairs.

A committee of the Arnprior Board of Trade was recently appointed to interview the town council on the question of granting aid for the construction of the proposed Georgian Bay canal.

The Niagara Navigation Co.'s steamboat Corona made the final trip for the season, Oct. 16. This is the last of the company's vessels operating up the Niagara River to be berthed for the winter.

The Merchants' Steamship Co.'s steamboat Mapleton struck the stone abutment between locks 24 and 25 in the Welland Canal, Oct. 9, and sustained slight damage. She was able to proceed on her voyage to Kingston.

Capt. P. C. Robinson and C. O. Macdonald, Port Stanley, first officer of the cruiser Vigilant, have been appointed to the Fisheries Protection Service, the former with the rank of master marner.

The Northern Navigation Co.'s steamboats Hamonic and Huronic appear to be the only Canadian vessels operating on the Great Lakes, which have, as yet, been equipped with wireless telegraph apparatus.

The Argyle Steamship Co. is reported to be negotiating for the purchase of a steamboat in England to run next summer between Toronto and Olcott Beach, N.Y., in conjunction with its steamboat Argyle.

The vessels carrying package freight on the Great Lakes ceased accepting such freight at Fort William and Port Arthur, consigned to Brockville, Courtright, Kingston, Montreal, Sarnia and Windsor, Oct. 23; to Sault Ste. Marie and Georgian Bay ports, Nov. 20.

The Farrar Transportation Co.'s steamboat Collingwood, which was wrecked in the Detroit River about two months ago, was floated early in Oct., and taken to Detroit, where she was docked for repairs, which, it is stated, will be considerable.

Work on the Trent Valley canal continues to make good progress. The construction of lock 2 is completed, and the forces are being concentrated on dams 2 and 3, and lock 3. Lock 2 is 33 ft. by 175 ft., with a depth of 9 ft. over sills.

The Dominion Government is about to establish a life saving station at the Toronto harbor western entrance, which it is said will be a thoroughly up to date one, provided with a permanent and well trained crew, a lifeboat, and the most modern life-saving appliances.

It has been announced that immediately on the completion of the works of the Western Dry Dock and Shipbuilding Co., Port Arthur, probably about July 1, 1910, keels will be laid for the construction of two large lake freight vessels. These, it is stated, will be the largest built in Canada, each being 600 ft. long.

A deputation from Port Arthur waited on the Minister of Public Works, Oct. 8, to urge the carrying out of a number of harbor improvements there. The Minister assured the deputation that the Thunder Bay harbors would receive full attention, and that they would be deepened to 25 ft., and three sections of the breakwater at Port Arthur constructed.

The St. Clair and Erie Ship Canal Co. will apply at the next session of the Dominion Parliament to amend its Act of incorporation and acts amending same, to increase its bonding or borrowing powers, to authorize the substitution of other persons as provisional directors, and to extend the time for the construction of the authorized works.

The Dominion Marine Association has recently made strong representations to the Department of Trade and Commerce as to the advisability of stopping the Government issue of certificates of lading at Fort William and Port Arthur, on account of the difficulties arising in connection with alleged shortages between the head of the lakes and Georgian Bay and other ports.

Various U.S. vessel owners have registered strenuous objections to the tonnage tax, which is being levied at the rate of two cents a gross ton on vessels arriving from foreign ports. All U.S. vessels which in the course of their voyage may have touched at a Canadian port are subject to the tax. It is stated that the matter is to be brought to the attention of he Washington authorities.

Press reports state that the positions of Deputy Minister of Marine and Wreck Commissioner, which have been vacant for some time, will be filled shortly. It is anticipated that G. J. Desbarats, Acting Deputy Minister of Marine, and formerly Director of the Government Shipyards at Sorel, Que., and Capt. L. A. Demers, Acting Wreck Commissioner and Chief Examiner of Masters and Mates, will be appointed, respectively, to the positions.

An estimate of the cost of constructing a dry dock was submitted to the Owen Sound town council, Oct. 18. The figure has been placed at $225,000, and the plans and estimates are to be forwarded to Ottawa, with a view to the proposed application for a subsidy in aid of construction and operation. The Polson Iron Works, Ltd., Toronto, has offered to enter into a working agreement in connection with the dock, and it is understood that the town will vote financial aid.

The Great Lakes and St. Lawrence Navigation and Improvement Association has issued a pamphlet concerning the proposals of the Association for the improvement of the Welland canal and the St. Lawrence waterway generally. It has been decided to get up a deputation representing all the various municipalities and organizations interested in the matter, for the purpose of waiting on the Government to urge the adoption of the proposals.

The Montreal, Ottawa and Georgian Bay Canal Co. will apply at the next session of the Dominion Parliament for an extension of time within which it may construct the canals authorized by sec. 8, cap. 103 of the Statutes of 1894, and to repeal paragraph (a), substituting a new paragraph therefor, and to amend sec. 1, cap. 106 of the Statutes of 1900, by substituting the word "nine" for the word "eight," and the words "twenty-five" for the word "fifteen" in the eighth line, and for other purposes.

Capt. A. J. Tymon, one of the best known lake captains in Toronto, died there, Oct. 4, aged 66. He originated, and for many years operated the Island Park Ferry Co., and in 1885 several of his boats were destroyed by fire. The property was subsequently acquired by the Doty Ferry Co., and later by the Toronto Ferry Co., by which it is at present operated. Capt. Tymon was stepfather of S. J. Murphy, Travelling Passenger Agent, Niagara Navigation Co., Toronto.

A decision in the cross suits of the Parry Sound Lumber Co., Toronto, and the Pittsburg Steamship Co., Detroit,

SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie Canals during Sept :

ARTICLES.			CANADIAN CANAL	U. S. CANAL	TOTAL
Copper	Eastbound	Net tons	517	13,875	14,392
Grain	"	Bushels	2,286,062	2,166,732	4,452,794
Building stone	"	Net tons	.....	4	4
Flour	"	Barrels	206,858	652,600	859,458
Iron ore	"	Net tons	3,979,624	2,807,949	6,787,573
Pig iron	"	"	1,809	2,053	3,862
Lumber	"	M. ft. B.M.	2,001	77,843	79,844
Wheat	"	Bushels	9,695,295	6,087,199	15,782,494
General merchandise	"	Net tons	7,636	10,739	18,375
Passengers	"	Number	1,976	2,426	4,402
Coal, hard	Westbound	Net tons	59,100	59,095	118,195
Coal, soft	"	"	298,827	1,021,073	1,319,900
Flour	"	Barrels	550	.....	550
Grain	"	Bushels	.....	.....	.....
Manufactured iron	"	Net tons	15,985	34,986	50,971
Iron ore	"	"	4,895	.....	4,895
Salt	"	Barrels	9,117	30,446	39,563
General merchandise	"	Net tons	54,795	57,097	111,892
Passengers	"	Number	2,354	1,336	3,690
Vessel passages		Number	943	1,975	2,918
Registered tonnage		Net	2,832,539	4,603,230	7,435,769
Freight—Eastbound		Net tons	4,355,230	3,260,186	7,615,416
" —Westbound		"	434,958	1,176,818	1,611,776
Total freight		"	4,790,188	4,437,004	9,227,192

Mich., for damages sustained by their vessels, the Seguin and the Sir Isaac Lothian Bell, respectively, in a collision which occurred in the St. Clair River, Nov. 14, 1906, was delivered at Detroit, Oct. 6. The judgment states that the Seguin was at fault, and to blame for the collision, and provides that the amount of damages shall be computed with the costs.

The U. S. Lake Survey reports the stages of the Great Lakes in feet above tidewater, for Sept., as follows:—Superior, 602.39; Michigan and Huron, 580.82; Erie, 572.38; Ontario, 246.28. Compared with the average stages for 10 years, Superior is nine inches lower, Michigan and Huron, 2½ ins. lower, Erie is equal, and Ontario three inches higher. During Oct., it was anticipated that Superior would fall a quarter of an inch, Michigan and Huron, 2¾ ins., Erie, three ins. and Ontario 4¼ ins.

The steamboat Newona, which recently arrived in Montreal, was specially built for the Canadian lake and canal traffic. Her dimensions are: length, 258 ft. over all; breadth, 42 ft. 6 ins.; depth, moulded, 25 ft., and she is estimated to be capable of carrying 3,350 tons deadweight on a draft of 18 ft. The machinery consists of tri-compound screw engines, with cylinders 21½", 34" and 55" diar., by 36" stroke, supplied with steam at 190 lbs. There are six large cargo hatchways, each 12 by 29 ft., and the hull is divided into three cargo holds by steel bulkheads.

The C.P.R. steamboat Athabasca ran aground on the Flower Pot Island, near Owen Sound, Oct. 14, and after having her cargo transferred to another vessel, was floated off, and taken to Owen Sound, where temporary repairs were made prior to her proceeding to Collingwood, where she will be thoroughly examined and overhauled. The cause of the accident is stated to be the wrong carrying out of an order by the wheelman. There was a heavy snowstorm at the time and the vessel was running in close for shelter. It is also said that the fog horn was not sounding.

Upon reference to the list of vessels registered in Canada during Sept., given on another page, it will be seen that the steamboats Donnacona, Dundee, Glenellah, Neepawah, Strathcona, Wahcondah and Winona have been transferred from the British register. These vessels, all

---

NOTICE—The Nicola, Kamloops and Similkameen Coal and Railway Company will apply to the Parliament of Canada at its next session for an Act extending the time within which it may construct the railways which it has been authorized to construct by Section 3 of Chapter 47 of the Statutes of British Columbia, 1891, and by Section 1 of Chapter 134 of the Statutes of Canada, 1905, and for other purposes.

H. C. OSWALD,
Secretary.

ANDREW T. THOMPSON,
Ottawa Agent.

Dated at Montreal the 30th September, 1909.

NOTICE—The Manitoba and North Western Railway Company will apply to the Parliament of Canada at its next session for an Act extending the time within which it may construct the railway which it has been authorized to construct by Section 1 of Chapter 126 of the Statutes of Canada, 1908, and for other purposes.

H. C. OSWALD,
Secretary.

ANDREW T. THOMPSON,
Ottawa Agent.

Dated at Montreal the 30th September, 1909.

NOTICE—The Calgary and Edmonton Railway Company will apply to the Parliament of Canada at its next session for an Act extending the time within which it may construct the railways which it was authorized to construct by section 6 of chapter 89 of the Statutes of Canada of 1903, and for other purposes.

H. C. OSWALD,
Secretary.

ANDREW T. THOMPSON,
Ottawa Agent.

Dated at Montreal the 30th September, 1909.

NOTICE—The Columbia and Western Railway Company will apply to the Parliament of Canada at its next session for an Act extending the time within which it may construct the second, fifth and sixth sections of the railways which it has been authorized to construct by Section 16 of Chapter 54 of the Statutes of British Columbia, 1896, and for other purposes.

H. C. OSWALD,
Secretary.

ANDREW T. THOMPSON,
Ottawa Agent.

Dated at Montreal the 30th September, 1909.

LEGG BROS. ENGRAVING CO.

MAKERS OF FINE ½ TONES LINE ENGRAVINGS WOOD CUTS, ELECTROS

DESIGNERS, ILLUSTRATORS
FINE CATALOGUE MAKERS

PRICE LOW QUALITY HIGH

'PHONE MAIN 5003. No. 5 JORDAN ST.
TORONTO

Ticket Agents — Please Note

ILLINOIS CENTRAL RAILROAD — CENTRAL MISSISSIPPI VALLEY ROUTE

Where ILLINOIS CENTRAL RAILROAD COMPANY has through car service both Coach and Sleeper and Free Chair Cars.
Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California.
NEW ORLEANS ROUTE TO THE PACIFIC COAST.
Special low rates to Canadian Northwest and Yukon-Alaska Exhibition at Seattle, all summer, via St. Paul or Omaha.
Look the Illinois Central map over and consult
G. B. WYLLIE, Canadian Pass'g'r Agent.
305 Ellicott Square, Buffalo, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

Delaware & Hudson

"The Leading Tourists' Line"

Shortest, Quickest and Best Line between

MONTREAL AND NEW YORK

Through Pullmans

Trains leave Montreal 7.00 p.m. daily, 8.01 p.m. daily, 7.16 a.m. daily, and 10.05 a.m. Sunday.

Perfectly equipped trains. Handsome, large steamers on Lake Champlain and Lake George connect with trains for Saratoga Springs, Albany and New York.

A. A. HEARD, G.P.A., Albany, N.Y.

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS MACHINERY, address
THE ROBERTSON MACHINERY CO.
WELLAND, ONT. Limited

THE IMPERIAL GUARANTEE AND ACCIDENT INSURANCE CO.
46 King St. West, TORONTO

Capital Subscribed $1,000,000
ACCIDENT AND SICKNESS Insurance protects your income in case of disablement.
GUARANTEE BONDS protect you against loss from dishonest employees.
Write us if you need a Bond or want an Accident Policy.

The Parry Sound Lumber Co.
Limited
1315 Traders Bank Bldg., Toronto.
Manufacturers of
PINE, HEMLOCK, LUMBER, BRIDGE TIMBER, RAILWAY TIES, TELEGRAPH POLES, LATH, SHINGLES, BOX SHOOKS.

THE CANADIAN BRONZE COMPANY, LTD.
Brass Wearing Parts for Locomotives.
Journal Bearings for Freight and Passenger Service.
BABBITTS. Miscellaneous Brass Castings for Railroads.
Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

DUNER CAR CLOSET
ENAMELED IRON WET OR DRY CLOSET
DUNER CO. 116 SO. CLINTON ST., CHICAGO

of which were built in Great Britain, have a register tonnage of 9,085 tons, and comprise a portion of the fleet of the Inland Navigation Co., Hamilton. The remainder of the vessels controlled by this company are on the Canadian register, with the exception of the Stadacona, built in Detroit, Mich., which it is understood will be registered in the U.S.

The Freeland property, of which the Yonge St. wharf forms a part, has been sold to E. B. Osler, M.P., for $270,000. A lease has also been secured of a water frontage of 92 ft., from the city at $12 a foot, which gives the purchaser control of the docks and wharves from the west side of Scott St., to the east side of Yonge St., a total water frontage of 312 ft. 4 ins. It is reported that the future management of the wharf may be by means of a combination of those at present using the wharf, with the possible addition of the Toronto Ferry Co., but in the meantime it will be controlled by the Niagara Navigation Co., and the Richelieu and Ontario Navigation Co.

The steamboat Port Colborne which recently arrived in Montreal with a general cargo, has been built with a view to her operation in the Canadian lake trade, and is similar in type to the Keyport Transportation Co.'s steamboats Keyport and Key West. Her dimensions are: length, 260 ft.; breadth, 42 ft. 6 ins.; and she has been built with the object of carrying the greatest possible cargo within the limitations of the canal locks. This is estimated at 85,000 bush. There are five hatchways, each 12 by 29 ft., and a sixth one 28 by 29 ft., with high coaming for trimming purposes. She is equipped with engines having cylinders 15", 25" and 42" diar., by 30" stroke, supplied with steam at 190 lbs. She is also fitted with forced draught and extra steering gear above the wheel house.

The Marine Department has issued a notice that all Canadian lights and fog alarms in Lake Superior will be kept in operation until Dec. 10, with the exception of those at Caribou Island, which may not be kept in operation after Dec. 5, subject to weather conditions or the early closing of navigation. It is also announced that all Canadian lights and fog alarms in Lake Huron, Georgian Bay, Lake St. Clair, Lake Erie, Lake Ontario and connecting waters will be kept in operation until Dec. 15, excepting those at Lonely Island, Western islands and Red Rock lights in Georgian Bay, which may be closed Dec. 10, if navigation closes early. All Canadian lights on the St. Lawrence River will be kept in operation as long as navigation is open, and all gas buoys will be kept at their stations as long as ice conditions permit, and when it is necessary to remove the buoys before the close of navigation, spar markers will be laid down where possible.

The Richelieu and Ontario Navigation Co., Ltd., is applying to the Dominion Parliament for an act amending its act of incorporation, for the following purposes; to increase its capital stock and to add to its powers for owning real estate in Canada and elsewhere; to amalgamate with, control and manage other companies incorporated for any similar purposes; to obtain further powers to pass by-laws; to construct and establish terminals and obtain the necessary powers in connection therewith; to carry on a general business of common carriers on land and water; to have power to do all and everything necessary for the accomplishment of any of the purposes or the attainment of any or more of the objects incidental to the powers of the company, either as holders or interested in any property or otherwise and for other purposes, and to purchase, build and operate dry docks and graving docks, and to carry on the business of shipbuilders.

Manitoba, Saskatchewan and Alberta.

The Hyland Navigation and Trading Co.'s steamboat Winnitoba was withdrawn from service for the season, at the end of Sept., owing to low water in the Red River.

The Stewart Lumber Co.'s steam tug Majestic, while running under full steam from Lake Winnipeg to the Selkirk docks, ran on the north end of the Point and sank. She was built at Bad Throat, Man., in 1904, and is equipped with engine of 4 n.h.p., driving a screw. Her dimensions are: length, 78 ft.; breadth, 16 ft.; depth, 7 ft.; tonnage, 64 gross, 44 register.

The Winnipeg and Western Transportation Co.'s steamboat Marquis was destroyed by fire at Prince Albert, Sask., Sept. 29. The Marquis was built at Grand Rapids, Sask., in 1882, and was a paddle wheel steamer, with engine of 84 n.h.p. Her dimensions were: length, 201 ft.; breadth, 33.5 ft.; depth, 5.3 ft.; tonnage, 754 gross, 475 register. She was utilized for the conveyance of troops from Battleford, Sask., in 1885, at the time of the Red River rebellion.

The Peace River Trade and Navigation Co., the incorporation of which was announced in a recent issue, has offered for public subscription 2,500 shares of 7% preference stock at par, with a bonus of one share of common stock for each two shares of preference stock. The lists were closed Oct. 27. The object of the company is the development of the Peace River district, and for this purpose steamboats will be built and operated on the connecting waterways; grain elevators will be erected at suitable points and other transportation facilities provided as necessity arises. F. S. Lawrence is General Manager.

B.C. and Pacific Coast Marine.

The last vessel for this year, conveying all classes of mail matter for the Yukon, left Vancouver, early in Oct.

The G.T.P.R. is reported to be making a survey and taking soundings for the construction of a wharf in the inner harbor at Victoria.

Mackenzie Bros.' steam tug Mystery, with a barge in tow, which were wrecked on Gossip Island, Sept. 30, were floated and taken to Vancouver Oct. 4.

The North Vancouver Board of Trade entertained the officers of the Canadian-Mexican Steamship Co.'s s.s. Lonsdale, recently, on the occasion of the opening of that port.

The Boscowitz Steamship Co. has placed an order for an additional vessel for its coast service, in Glasgow, Scotland. The chief engineer of the company's s.s. St. Denis left recently, to superintend the construction.

The existence is reported of a small boulder shoal in the Vancouver Narrows, in the channel for small craft. The shoal is covered with 15 ft. of water at low tide. It is stated to be a short one, but it verges on the course of the deep water vessels.

The B.C. Packers Association is reported to be negotiating for the purchase of the Canadian Fishing Co.'s steamboats Celestial Empire and Flamingo. Both vessels were specially built for deep sea fishing, and were brought to the coast from England, round Cape Horn, about ten years ago.

The work of the extension of the market wharf at New Westminster was commenced at the end of Sept. The new wharf will be 300 ft. long by 10 ft. wide, and there will be ample accommodation for ocean going vessels. Other wharves along the water front are also being extended and improved.

The steamboat R. J. Skinner, built in Vancouver, and engined from New Westminster, for the B.C. Government Crown Lands Department, arrived at New Westminster from Vancouver recently and went through a successful trial trip on the Fraser River. The vessel is to be used as a patrol boat to see to the carrying out of regulations in the timber limits along B.C. waters. Her dimensions are: length, 55 ft.; breadth, 11 ft. 6 ins.

The C.P.R. is reported to be planning the construction of a steamboat for the freight service between Victoria and New Westminster. At a recent meeting of the Victoria Board of Trade, the question of additional steamship service was discussed with Sir Thomas Shaughnessy, President C.P.R., who is reported to have promised that a new steamer would be put on the Victoria-Comox run and that the construction of a steamer to ply between Victoria and New Westminster would be dealt with at once.

The Purchasing Agents' Guide

To the Manufacturers of and Dealers in Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph Telephone and Contractors' Supplies, &c.

Aerated Waters
E. L. Drewry ..... Winnipeg.

Air Brakes and Fittings
Allis-Chalmers-Bullock Ltd.....Montreal.
Canadian Westinghouse Co. Hamilton, Ont.

Ales
E. L. Drewry.. .....Winnipeg.

Angle Bars
Hamilton Steel & Iron Co...Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.

Anti Rail Creepers
The Holden Co., Ltd.....Montreal.

Automobiles
Polson Iron Works, Ltd.....Toronto

Axes
Hamilton Steel & Iron Co..Hamilton, Ont.
James Smart Mfg. Co.....Brockville, Ont.

Axles
James Hutton & Co.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry Co., Ltd.....Amherst, N.S.

Beacons
International Marine Signal Co....Ottawa.

Bearings, Side
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co...Montreal.
Union Draft Gear Co. .....Chicago, Ill.

Blankets and Bedding
The Hudson Bay Co.....

Boilers
Babcock & Wilcox, Ltd.....Montreal.
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Boilers, Portable
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co, Ltd..Amherst, N.S.

OCEAN STEAMSHIP OFFICES

AMERICAN LINE

Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.
Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE

New York—London
Sailing from New York Saturdays.

WHITE STAR DOMINION LINE

Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Docks
(Bristol and Antwerp)

RED STAR LINE

New York—Dover—Antwerp
Sailing from New York Sat. and Wed.

WHITE STAR LINE

New York—Queenstown—Liverpool
Sailing from New York Saturdays.
N.Y.—Plymouth—Cherbourg—Southampton
Sailing from New York Wednesdays.
Boston—Queenstown—Liverpool
Regular Departures.

NEW YORK AND BOSTON
MEDITERRANEAN SERVICE
To Italy and Egypt

Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured.

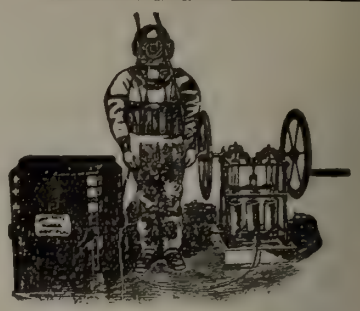
H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO
41 KING ST. EAST, TORONTO.

E. L. DREWRY
REDWOOD BREWERY
WINNIPEG, MANITOBA

MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE,
EXTRA STOUT AND
REDWOOD LAGER

Also the GOLDEN KEY BRAND
AERATED WATERS



JOHN DATE
MANUFACTURER OF
DIVING APPARATUS
FOR SALE OR HIRE
Brass Founder & Coppersmith
152 Craig St. West, Montreal

Otto Brothers
FIELD, B.C. LAGGAN, ALTA.

GUIDES and OUTFITTERS

for the greatest scenic spot of the world,

The Canadian Rockies

Mountain climbing, exploring, hunting and fishing parties arranged on short notice. Reliable men and horses. References.

SHERIFFS
MANUFACTURING CO.

MILWAUKEE, WIS., U.S.A.
ESTABLISHED 1854

RAILWAY AND
STEAMSHIP PRINTING

STEEL, PEECH & TOZER
Limited,
SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada

Sole Agents:
James Hutton & Co., Montreal

CARS
NEW and REBUILT
Box, Flat, Gondola and Tank

Steam Shovels, Rails, Locomotives and Contractors' Equipment
Immediate and Prompt Deliveries
Correspondence Solicited

ROBT. M. BURNS & CO.
Railway Exchange
CHICAGO

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA
A PURELY CANADIAN COMPANY

JOHN EMO, General Manager — H. W. PEARSON, Secretary-Treasurer — D. MURPHY, President

AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

JAMES PLAYFAIR, Pres. & Gen'l Mgr. D. L. WHITE, Vice-Pres. & Gen. Man. J. W. BENSON, Sec'y-Treas.

MIDLAND TOWING & WRECKING CO., LIMITED, MIDLAND, ONT., CANADA
FIRST-CLASS TUGS FOR WRECKING, RAFT TOWING, ETC.
STEAM PUMPS, DIVERS, JACKS, HAWSERS AND LIGHTERS

Boilers, Stationary and Marine
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd..Amherst, N. S.

Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

Boilers, Steam
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.

Boilers, Water Tube
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd...Amherst, N.S.

Bolsters
Dominion Car and Foundry Co..Montreal.

Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.

Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.
Toronto Bolt and Forging Co.....Toronto.

Books
Engineering News Book Dept...New York.
Renouf Publishing Co.....Montreal.

Borers, Car Wheel
John Bertram & Sons Co.....Dundas, Ont.

Braces, Cross Arm
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Brake Beams
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co..Montreal.

Brake Shoes
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.
The Holden Co., Ltd.....Montreal.

Brake Shoes, Electric Ry.
Am. Brake Shoe & F'dry Co..Mahwah, N.J.

Brake Shoes, Locomotive Driver
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.

Brass and Copper Cloth
The B. Greening Wire Co..Hamilton, Ont.

Bridge Numbers
Acton Burrows, Limited .....Toronto.

Bridges
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Buckets, Coal, Ore and Concrete
M. Beatty & Sons, Ltd. .....Welland, Ont.
Brown Hoisting Machinery Co. Cleveland.

Buildings, Steel
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Bumping Posts
The Holden Co., Ltd..... .....Montreal.
McCord & Co. .....Chicago, Ill.

Buoy Lighting
Safety Car Heat. & Light. Co..New York.

Buoys
International Marine Signal Co....Ottawa.

Cables Electric and Feeder
E. F. Phillips Electrical Works....Montreal.
The Wire and Cable Co.....Montreal.

Car Loaders, Box
Mussens, Ltd. .....Montreal.

Car Movers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Cars
American Car & Equipment Co....Chicago.
R. M. Burns & Co.....Chicago, Ill.
Canada Car Co., Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Dominion Car and Foundry Co....Montreal.
J. T. Gardner.....Chricago, Ill.
Hart-Otis Car Co., Ltd.....Montreal.
Hicks Locomotive and Car Works. Chicago.
Ottawa Car Co. Ltd.....Ottawa.
Preston Car and Coach Co., Ltd..Preston.
Rhodes, Curry Co., Ltd.....Amherst, N.S.
Silliker Car Co., Ltd.....Halifax, N.S.

Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
Standard Steel Works Co..Philadelphia, Pa.

Castings, Brass
Canadian Bronze Co.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.
Tallman Brass & Metal Co., Ltd.Hamilton.

Castings, Car
American Brake Shoe & Fdry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.

Castings, Iron
Allis-Chalmers-Bullock Ltd.....Montreal.
Canada Car Co., Ltd.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Castings, Iron and Steel
American Brake Shoe & F'dry Co.Mahwah.

Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.

Castings, Manganese Steel
Montreal Steel Works, Ltd.....Montreal.

Castings, Steel
Canada Iron Corporation, Ltd....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry Co., Ltd.....Amherst, N.S.

Chains
B. J. Coghlin & Co.....Montreal.

Closets, Car
Duner Co.....Chicago, Ill.

Coal
Nova Scotia S. & C. Co., New Glasgow, N.S.

Compressors, Air
Allis-Chalmers-Bullock Ltd.....Montreal.
Canadian Rand Co.....Montreal.

Concrete Mixers and Rock Crushers
F. H. Hopkins & Co. .....Montreal.
Mussens Limited.....Montreal
Toronto Pressed Steel Co..... .Toronto

Contractors' Supplies
F. H. Hopkins & Co.....Montreal
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Conveyors, Coal and Ash
Babcock & Wilcox, Ltd.....Montreal.

Copying Presses
James Smart Mfg. Co.....Brockville, Ont.

Couplers, Car and Locomotive
Dominion Car and Foundry Co..Montreal.
McConway & Torley Co....Pittsburgh, Pa.
National Malleable Castings Co..Cleveland
Taylor & Arnold.....Montreal.

Cranes
Brown Hoisting Machinery Co..Cleveland.

Cranes, Electric
Babcock & Wilcox.....Montreal.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.

Cranes, Locomotive
American Hoist and Derrick Co..St. Paul.

Cranes, Wrecking
Mussens Limited.....Montreal.

Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Curtains and Fixtures, Car
The Holden Co., Ltd.....Montreal.

Cuts
Acton Burrows, Limited.....Toronto.

Derailing Devices
General Railway Signal Co., Rochester, N.Y.

Derricks
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Mussens Limited.....Montreal.

Dies
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Ditchers
M. Beatty & Sons.....Welland, Ont.

Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.

Doors, Steel Rolling
Mussens Limited.....Montreal.

Door Signs
Acton Burrows Limited.....Toronto.

Draft Gear
Farlow Draft Gear Co.....Baltimore, Md.
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.
Union Draft Gear Co. .....Chicago, Ill.
Waugh Draft Gear Co.....Chicago, Ill.

Draughtsmen's Supplies
John A. Hart & Co.....Winnipeg.

Dredges
M. Beatty & Sons.....Welland, Ont.

Drills, Air
Canadian Rand Co.....Montreal.

Dry Goods
The Hudson's Bay Co.....

Dump Cars (Contractors')
F. H. Hopkins & Co.....Montreal
Toronto Pressed Steel Co.....Toronto.

Dump Cars, Hand
Meaford Wheelbarrow Co., Ltd..Meaford.

Dynamos
Northern Electric & Mfg. Co., Ld.Montreal.

Dynamo and Electric Castings
American Brake Shoe & F'dry Co.Mahwah.

Economizers
Babcock & Wilcox (Ltd.).....Montreal.

Electric Car Route Signs
Acton Burrows Limited.....Toronto.

Electric Apparatus
Allis-Chalmers-Bullock Ltd.....Montreal.
Northern Electric & Mfg. Co., Ld.Montreal.

Electric Light Plant
Allis-Chalmers-Bullock Ltd.....Montreal.

Elevators, Grain
John S. Metcalfe Co.....Chicago, Ill.

Enameled Iron Signs
Acton Burrows Limited.....Toronto.

Engines, Automatic
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Corliss
Robb Engineering Co., Ltd..Amherst, N.S.
Allis-Chalmers-Bullock Ltd.....Montreal.

Engines, Gas
Allis-Chalmers-Bullock Ltd.....Montreal.

Engines, Gasoline
Canadian Fairbanks Co., Ltd.....Montreal.
Ontario Wind Engine & Pump Co.Toronto.

Engines, Hoisting
Allis-Chalmers-Bullock Ltd.....Montreal.
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Robertson Mfg. Co. .....Welland, Ont.

Engines, Stationary and Marine
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Steam
Allis-Chalmers-Bullock Ltd.....Montreal.

Engines, Steam Steering, for Tugs
Sheriffs Mfg. Co.....Milwaukee, Wis.

Explosives
Standard Explosives Limited....Montreal.

Express Office Signs
Acton Burrows Limited.....Toronto.

Fencing
Owen Sound Wire Fence Co..Owen Sound.

Fire Brick
Mussens Limited.....Montreal.

Flags
The Hudson's Bay Co.....

Flour
The Hudson's Bay Co.....

Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co..Cleveland.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton.
Nova Scotia S. & C. Co., New Glasgow, N.S.
Standard Steel Works Co.Philadelphia, Pa.

Foundry Appliances
Goldschmidt Thermit Co.....Toronto.
Ontario Wind Engine & Pump Co., Ltd.,

Frogs
Canadian Ramapo Iron Wks.Niagara Falls.

Furnaces, Corrugated
Continental Iron Works....Brooklyn, N.Y.

Fuse Batteries
Standard Explosives Limited....Montreal.

Fuse Detonators
Standard Explosives Limited....Montreal.

Fuses, Electric
Standard Explosives Limited....Montreal.

Gaskets
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Gates
Owen Sound Wire Fence Co..Owen Sound.

Gates, Crossing
General Railway Signal Co. Rochester, N.Y.
The N. L. Piper Ry. Supply Co..Toronto.

Gauges, Locomotive
Taylor & Arnold.....Montreal.

Generators, Electric
Northern Electric & Mfg. Co., Ld.Montreal.

Grates, Shaking
Babcock & Wilcox, Ltd.....Montreal.

Groceries
The Hudson's Bay Company.....

Guides and Outfitters
Otto Bros. ..... Field, B.C.

Hammers, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.
James Smart Mfg. Co....Brockville, Ont.

Handcars
Canadian Fairbanks Co., Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....".Montreal.
Mussens Limited.....'.....Montreal.
Rice Lewis & Son.....'.'Toronto.
Toronto Pressed Steel Co.....'Toronto.

Hardware
The Hudson's Bay Co.....
Rice Lewis & Son..'.....Toronto.

Headlights
The N. L. Piper Ry. Supply Co..Toronto.
Pyle National Elec. Headlight Co..Chicago.

Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.

Heaters, Feedwater
Robb Engineering Co., Ltd..Amherst, N.S.

Heating, Car
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car Heating & L'ting Co.New York.

Hoists, Electric
American Hoist & Derrick Co....St. Paul.

Hoists (Pneumatic)
Taylor & Arnold.....Montreal.

Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co.Cuyahoga Falls.

Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.

Hydrants
Canadian Fairbanks Co., Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Illustrations
Acton Burrows Limited.....Toronto.

Inspections
R. W. Hunt & Co. .....Montreal

Insurance, Accident
Canadian Ry. Accident Ins. Co....Ottawa.
Imperial Guarantee & Ac. Ins. Co.Toronto.

Insurance, Boiler
Canadian Casualty & Boil. Ins. Co.Toronto.

Interlocking Plant and Signals
General Railway Signal Co. Rochester, N.Y.
Montreal Steel Works.....Montreal.
Saxby and Farmer, Ltd.....Montreal.

Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton.

Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton.
Nova Scotia S. & C. Co., New Glasgow, N.S.

Iron Signs
Acton Burrows Limited.....Toronto.

Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

Jacks
Canadian Fairbanks Co., Ltd....Montreal.
H and E Lifting Jack Co..Waterville, Que.
F. H. Hopkins & Co, Ltd.....Montreal.
Montreal Steel Works, Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.
A. R. Williams Mchy. Co., Ltd....Toronto.

Japans
The Dougal Varnish Co. Ltd....Montreal.

Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.

Journal Boxes
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Journal Jacks
A. R. Williams Mchy. Co., Ltd....Toronto.

Lager Beer, &c.
E. L. Drewry.....Winnipeg.

Lagging and Covering, Locomotive
Taylor & Arnold.....Montreal.

Lamps, Arc
Northern Electric & Mfg. Co, Ltd.Montreal.

Lamps, Incandescent
Canadian Westinghouse Co..Hamilton, Ont.

Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.

Lamps, Switch
The N. L. Piper Ry. Supply Co..Toronto.

Lathes
John Bertram & Sons Co.....Dundas, Ont.

Laths
J. Harrison & Sons Co..Owen Sound, Ont.

Launches
Polson Iron Works, Ltd.....Toronto.

Lighting, Car
Canadian Gold Car H'g & L'g Co.Montreal
Safety Car H't'g & L't'g Co..New York.

Lights, Contractors' and Wrecking
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Locomotives (Compressed Air)
Baldwin Locomotive Works..Philadelphia.
Canadian Locomotive Co...Kingston, Ont.
Montreal Locomotive W'ks (Ltd.)..Montreal.

Locomotives (Electric)
Baldwin Locomotive Works..Philadelphia.
Montreal Locomotive W'ks (Ltd.).Montreal.

Locomotives (Logging)
Baldwin Locomotive Works..Philadelphia.
Canadian Locomotive Co....Kingston, Ont.

Locomotives (Rack)
Baldwin Locomotive Works..Philadelphia.
Canadian Locomotive Co....Kingston, Ont.
Montreal Locomotive Works.....Montreal.

Locomotives (Steam)
American Car & Equip. Co....Chicago, Ill.
Baldwin Locomotive Works..Philadelphia.
R. M. Burns & Co.....Chicago, Ill.
Canadian Fairbanks Co., Ltd.....Montreal.
Canadian Locomotive Co....Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hicks Locomotive & Car Works..Chicago.
Montreal Locomotive W'ks. .....Montreal.
Vulcan Iron Works.....Wilkesbarre, Pa.

Lorries, Tracklaying
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.

Lubricators
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.

Lumber
Parry Sound Lumber Co.....Toronto.
J. Harrison & Sons Co., Owen Sound, Ont.

Machinery, Cement
Jas. W. Pyke & Co.....Montreal.

Machinery and Plant, Contractors'
American Hoist & Derrick Co....St. Paul.
M. Beatty & Sons.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
Canadian Fairbanks Co., Ltd.....Montreal.
J. T. Gardner.....Chicago, Ill.
General Railway Signal Co., Rochester, N.Y.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Toronto Pressed Steel Co.....Toronto.

Machinery, Hoisting
American Hoist & Derrick Co....St. Paul.
Brown Hoisting Machinery Co..Cleveland.

Machinery, Marine
Sheriffs Mfg. Co.....Milwaukee, Wis.

Machinery, Tracklaying
F. H. Hopkins & Co.....Montreal.

Machinery, Wood and Iron Working
Canadian Fairbanks Co., Ltd.....Montreal.

Machines, Boring and Turning
John Bertram & Sons Co.....Dundas. Ont.

Machines, Drilling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Milling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Planing and Shaping
John Bertram & Sons Co.....Dundas, Ont.

Machines, Radial Drilling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Shaping
John Bertram & Sons Co.....Dundas, Ont.

Machines, Slotting
John Bertram & Sons Co.....Dundas, Ont.

Machine Tools
John Bertram & Sons Co.....Dundas, Ont.

Manhole Frames and Covers
American Brake Shoe & F'dry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.

Marine Repairs
Goldschmidt Thermit Co.....Toronto.

Marine Supplies
Rice Lewis & Son.....Toronto.

Metal, Anti-friction
W. Abbott.....Montreal.

Metal, Babbit
Tallman Brass & Metal Mfg. Co. Hamilton.

Metals
Goldschmidt Thermit Co.....Toronto.

Metal Work, Structural
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Montreal Locomotive W'ks (Ltd.).Montreal.
Jas. W. Pyke & Co.....Montreal.

Milepost Numbers
Acton Burrows Limited.....Toronto.

Motors
Canadian Fairbanks Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Motors, Electric
Allis-Chalmers-Bullock Ltd.....Montreal.
Canadian Crocker Wheeler Co., Montreal.
Northern Electric & Mfg. Co. Ld.Montreal.

Motor Generator Sets
Allis-Chalmers-Bullock Ltd.....Montreal.

Motors, Turntable
Taylor & Arnold.....Montreal.

Nickel
The Orford Copper Co.....New York.

Nickel for Nickel Steel
The Orford Copper Co.....New York.

Numbers
Acton Burrows Limited.....Toronto

Nut Locks
Positive Lock Washer Co....Newark, N.J.

Nuts, Clevis
Cleveland City Forge & Iron Co., Cleveland.

Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal
Toronto Bolt and Forging Co.....Toronto

Oakum
The Hudson's Bay Company.....

Office Fittings
Can. Office & Sch'l Furniture Co..Preston.

Office Signs
Acton Burrows Limited.....Toronto

Oils
Galena Signal Oil Co..Franklin & Toronto.

Packing
The N. L. Piper Ry. Supply Co..Toronto.

Paints
Standard Paint & Var. Co., Windsor, Ont.

Patterns
Hamilton Pattern Works....Hamilton, Ont.

Pile Drivers, Railway
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Pinch Bars
The N. L. Piper Ry. Supply Co..Toronto.

Pipe, Culvert (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Gas (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Sewer (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe Stocks
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Pipe, Water (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Planers
John Bertram & Sons Co.....Dundas, Ont.

Platforms, Steel
Standard Coupler Co.....New York City.

Ploughs, Contractors'
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.

Ploughs, Grading
Meaford Wheelbarrow Co., Ltd..Meaford.

Poles
J. Harrison & Sons Co., Owen Sound, Ont.

Porter
E. L. Drewry.....Winnipeg.

Posts
J. Harrison & Sons Co., Owen Sound, Ont.

Powder, Blasting
Standard Explosives Limited.....Montreal.

Printing
Southam Press.....Toronto.

Propeller Wheels
Sheriffs Mfg. Co.....Milwaukee, Wis.

Pumps
Canadian Fairbanks Co., Ltd.....Montreal.
S. F. Bowser & Co., Limited.....Toronto.
Ontario Wind Engine & Pump Co..Toronto.
James Smart Mfg. Co.....Brockville, Ont.

Pumps (Centrifugal)
M. Beatty & Sons.....Welland, Ont.

Rail Benders, Roller
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

BABCOCK & WILCOX
LIMITED

Patent Water-Tube Boilers

(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes = MONTREAL

BRANCH—TRADERS BANK BUILDING, TORONTO

The Purchasing Agents' Guide—Continued.

Rail Drilling Machines
A. B. Jardine & Co.....Hespeler, Ont.
Rails (new)
Dominion Iron & Steel Co....Sydney, N.S.
Drummond, McCall & Co. .....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co...'.....Montreal.
Rails (for relaying)
F. H. Hopkins & Co...'.....Montreal.
J. J. Gartshore.....Toronto.
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada....Montreal.
Railway Supplies
Canadian Fairbanks Co., Ltd.....Montreal.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Rice Lewis & Son.....Toronto.
Ranges
Stearnes Steel Range Co.....Chicago, Ill.
Reamers
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Replacers, Car and Locomotive
Alexander Car Replacer Mfg. Co..Scranton.
The Holden Co., Ltd .....Montreal.
F. H. Hopkins & Co.....Montreal.
Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
Rock Crushers
Allis-Chalmers-Bullock Ltd.....Montreal.
Roofing, Car
Drake & Wiers Co.....Cleveland, O.
Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Company.....
Ropes, Coal Haulage
The B. Greening Wire Co..Hamilton, Ont.
Ropes, Derrick
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.
Ropes, Switch
The B. Greening Wire Co..Hamilton, Ont.
F. H. Hopkins & Co.....Montreal.
Scales
Canadian Fairbanks Co., Ltd.....Montreal.
Scows, Dump and Deck
M. Beatty & Sons.....Welland, Ont.
Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.
Screw Plates
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Screws, Coach and Lag
Montreal Rolling Mills Co.....Montreal
Toronto Bolt and Forging Co.....Toronto.
Seats, Station
James Smart Mfg. Co....Brockville, Ont.
Semaphore Arms
Acton Burrows Limited.....Toronto.
Semaphores
General Railway Signal Co., Rochester, N.Y.
The N. L. Piper Ry. Supply Co..Toronto.
Saxby & Farmer, Ltd. .....Montreal.
Shafting, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.
Shingles
J. Harrison & Sons Co..Owen Sound, Ont.
Ships
Polson Iron Works.....Toronto.
Shops
The Hudson's Bay Co.....
Signal House Numbers
Acton Burrows Limited.....Toronto.
Signals
General Railway Signal Co. Rochester, N.Y.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer, Limited.....Montreal.
Signals, Fog
International Marine Signal Co....Ottawa.
Signs
Acton Burrows Limited.....Toronto.
Slack Adjusters
Chicago Railway Equipment Co..Chicago.
Sledges
James Smart Mfg. Co.....Brockville, Ont.
Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.
Rhodes, Curry Co., Ltd.....Amherst, N.S.
Solder
Tallman Brass & Metal Mfg. Co. Hamilton.
Spikes, Railway, Ship or Pressed
Hamilton Steel & Iron Co., Ltd.Hamilton.
F. H. Hopkins & Co.....Montreal.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.
Toronto Bolt and Forging Co.....Toronto.
Spreader Cars
F. H. Hopkins & Co.....Montreal.
Spring Dampeners
McCord & Co.....Chicago, Ill.
Springs
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.
Station Name Signs
Acton Burrows Limited.....Toronto.
Staybolt Bars, Charcoal Iron
Falls Hollow Staybolt Co..Cuyahoga Falls.
Staybolt Iron
Taylor & Arnold.....Montreal.
Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.
Staybolts, Flexible
Flannery Bolt Co.....Pittsburg, Pa.
Staybolts, Locomotive
Falls Hollow Staybolt Co..Cuyahoga Falls.
Flannery Bolt Co.....Pittsburg, Pa.
Staybolt Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Steam Couplers
Safety Car H't'g & L't'g Co....New York.
Steam Hammers
John Bertram & Sons Co.....Dundas, Ont.
Steam Shovels
M. Beatty & Son.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Steamships
Polson Iron Works.....Toronto.
Steamship Signs
Acton Burrows Limited.....Toronto.
Steel
W. Abbott...'.....Montreal.
Hermann Boker & Sons.....Sheffield, Eng.
Nova Scotia S. & C. Co., New Glasgow, N.S.
Wm. Jessop & Sons.....Sheffield, Eng.
Steel, Fire Box
Taylor & Arnold.....Montreal.
Steel for Axes
Montreal Steel Works.....Montreal.
Steel for Saws
Montreal Steel Works.....Montreal.
Steel for Springs
James Hutton & Co.....Montreal.
Steel Shafting
Nova Scotia S. & C. Co., New Glasgow, N.S.
Steel, Speedicut High Speed
Montreal Steel Works.....Montreal.
Steel, Nickel, for Nickel
The Orford Copper Co.....New York.
Steel Plates
Jas. W. Pyke & Co.....Montreal.
Steel, Tool
W. Jessop & Sons.....Sheffield, Eng.
Montreal Steel Works.....Montreal.
Stokers, Mechanical
Babcock & Wilcox (Ltd.).....Montreal.
Stoves
James Smart Mfg. Co.....Brockville, Ont.
Superheaters
Babcock & Wilcox (Ltd.).....Montreal.
Switches
Canadian Ramapo Iron W's Ld.Niagara Fs.
Montreal Steel Works.....Montreal.
Switch Stands
Canadian Ramapo Iron W's, Ld.Niagara Fs
Switch Targets
Acton Burrows Limited.....Toronto.
Tanks and Tank Fixtures
Ontario Wind Engine & Pump Co..Toronto.
Tanks, Oil
S. F. Bowser & Co., Limited.....Toronto.
Tapes, Measuring
Lufkin Rule Co.....Saginaw, Mich.
Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Telegraph and Telephone Apparatus
Northern Elec. & Mfg. Co., Ltd.Montreal.
Telegraph and Telephone Office Signs
Acton Burrows Limited.....Toronto.
Thermit
Goldschmidt Thermit Co.....Toronto
Ticket Cases
Can. Office & School Furniture Co.Preston.
Tie Plates
B. J. Coghlin & Co.....Montreal.
Hamilton Steel & Iron Co..Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.
J. Harrison & Sons Co..Owen Sound, Ont.
Tie Plugs
J. Harrison & Sons Co..Owen Sound, Ont.
Ties
J. Harrison & Sons Co..Owen Sound, Ont.
Parry Sound Lumber Co.....Toronto.
Tires, Steel
James Hutton & Co.....Montreal
Jas. W. Pyke & Co.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.
Tools and Supplies
Canadian Fairbanks Co., Ltd.....Montreal.
James Smart Mfg. Co.....Brockville, Ont.
A. B. Jardine & Co.....Hespeler, Ont.
Tools, Track
John Bertram & Sons Co.....Dundas, Ont.
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Mussens Limited.....Montreal.
Tools, Pneumatic
The Holden Co., Ltd.....Montreal.
Tools, Cast Steel Tr..ck
American Brake Shoe & F'dry Co.Mahwah.
Track Equipment
Canadian Ramapo Iron W's Ld.Niagara Fs.
Tramway Equipment
J. J. Gartshore.....Toronto.
Transformers
Allis-Chalmers-Bullock Ltd.....Montreal.
Transmission Appliances
Canadian Fairbanks Co., Ltd.....Montreal.
Trolley Wheels
Tallman Brass & Metal Co., Ltd.Hamilton.
Trucks
James Smart Mfg. Co.....Brockville, Ont.
Trucks (Electric Car)
Baldwin Locomotive Works..Philadelphia.
Montreal Steel Works.....Montreal.
Trucks (Railroad and Warehouse)
Toronto Pressed Steel Co.....Toronto.
Trusses, Roof
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Tubes, Boiler
Jas. W. Pyke & Co.....Montreal.
Turbines, Steam
Allis-Chalmers-Bullock Ltd.....Montreal.
Turnbuckles
Cleveland City Forge & Iron Co.Cleveland.
Montreal Steel Works.....Montreal.
Turntables
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Typewriters
United Typewriter Co.....Toronto.
Valves, Brass Gate
Kerr Engine Co.....Walkerville, Ont.
Valves, Brass Globe
Kerr Engine Co.....Walkerville, Ont.
Valves, Iron and Brass
Canadian Fairbanks Co., Ltd.....Montreal.
Valves, Iron Gate
Kerr Engine Co.....Walkerville, Ont
Valves, Locomotive Pop
Taylor & Arnold.....Montreal
Varnishes
The Dougal Varnish Co., Ltd....Montreal.
Standard Paint & Var. Co., Windsor, Ont.
Vessels
Polson Iron Works.....Toronto.
Washers
Montreal Rolling Mills Co.....Montreal.
Waste
B. J. Coghlin & Co.....Montreal.
N.L. Piper Railway Supply Co....Toronto.
Water Softeners
Babcock & Wilcox, Ltd.....Montreal.
L. M. Booth Co.....Chicago, Ill.
Welding
Goldschmidt Thermit Co.....Toronto.
Wheelbarrows
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Toronto Pressed Steel Co.....Toronto.
Wheels, Car
Canada Car Co., Limited.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry Co., Ltd.....Amherst, N.S.
Standard Steel Works Co..Philadelphia, Pa.
Wheels, Locomotive
Canada Iron Corporation, Ltd....Montreal.
Wheels, Rolled, solid forged
Standard Steel Works Co..Philadelphia, Pa.
Wheels, Steel tired
Standard Steel Works Co..Philadelphia, Pa.
Windmills
Ontario Wind Engine & Pump Co..Toronto.
Wire and Wire Rope
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.
Mussens Limited.....Montreal.
The Wire and Cable Co.....Montreal.
Wire Cloth
The B. Greening Wire Co..Hamilton, Ont.
Wire, Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.
Wire, Electric
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.
Wire, Insulated Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.
Wire Rope Clips
American Hoist & Derrick Co.....St. Paul.
Wire, Telegraph and Telephone
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.
Wire, Transmission and Trolley
The Wire and Cable Co.....Montreal.
Wrenches, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.
Yachts
Polson Iron Works, Ltd.....Toronto.

DOMINION CAR & FOUNDRY CO.
LIMITED

FREIGHT CARS

(ALL-STEEL AND COMPOSITE)

CAR TRUCKS **STEEL UNDERFRAMES**

FORGINGS OF ALL KINDS

SIMPLEX

Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works---MONTREAL WEST

P. O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.

The Railway and Marine WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests

Old Series, No. 224.
New Series, No. 142.

TORONTO, CANADA, DECEMBER, 1909.

For Subscription Rates, See Page 905.

WIRES AND CABLES

FOR TELEPHONE, TELEGRAPH, ELECTRIC RAILWAY AND POWER PURPOSES

THE WIRE AND CABLE CO., MONTREAL

SAXBY & FARMER, LIMITED, LONDON, ENG.

RAILWAY SIGNALS AND SAFETY APPLIANCES, SIGNALLING AND INTERLOCKING WORK OF EVERY DESCRIPTION, ELECTRICAL AND MECHANICAL.

CANADIAN BRANCH: 611 Canadian Express Building, McGill St., MONTREAL

LUFKIN MEASURING TAPES
MADE IN CANADA AND THE BEST IN THE WORLD
SEND FOR CATALOG.
THE LUFKIN RULE CO. OF CANADA, LTD. WINDSOR, ONT.

FOR DRAUGHTING SUPPLIES AND INSTRUMENTS
JOHN A. HART COMPANY
WINNIPEG

ENAMELLED IRON SIGNS
For Steam and Electric Railways, Steamships, Express, Telegraph, Telephone and General Advertising Purposes. For prices, etc., address
ACTON BURROWS, LIMITED - 157 BAY ST., TORONTO

STEARNES STEEL RANGE COMPANY
Our specialties are Dining, Private and Cafe Car Ranges and General Cooking Apparatus
Fifth Ave. and Lake St., Chicago, Ill.

THE WAUGH DRAFT GEAR
FRICTION SPRING CUSHION
200,000 lbs. 400,000 lbs. Capacity
MADE IN CANADA
Send for Catalog and Particulars.
Waugh Draft Gear Co., Chicago, Ill.

Additional safety and economy in
TRACK MAINTENANCE
has been proven by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen years' service, having a record of over 50,000 miles in use—the extent of which is evidence of their excellence.
THE RAIL JOINT CO. OF CANADA
See Advt. Page 880.

MUSSENS LIMITED
Railway, Mining and Contractors' Supplies
See Advt. Page 866.

THE OTTAWA CAR CO.
BUILDERS OF Limited
Electric Cars, Fine Carriages, Wagons, Sleighs, Etc.
Office and Works: Slater St., OTTAWA

SIMPLICITY, EFFICIENCY AND CONVENIENCE OF OPERATION DISTINGUISH THE
BOOTH WATER SOFTENER
L. M. BOOTH COMPANY
Fisher Bldg. - - Chicago

High Carbon Steel Tubing
SAVING OVER BAR STEEL 60%
WILLIAM ABBOTT
334 St. James Street, Montreal

THE HOLLENDEN
CLEVELAND
EUROPEAN PLAN
600 Rooms $1.50 to $5.00

TALLMAN
Brass and Metal Co.
Hamilton
Canada

ACETYLENE HEADLIGHTS
PENETRATING, NOT BLINDING
ECONOMICAL
The Commercial Acetylene Co.
6 King Street West, Toronto

The Dougall Varnish Co., Ltd.
Successors to McCASKILL, DOUGALL & COMPANY
Railway Varnishes, Japans and Enamels MONTREAL.
Medals Awarded.

WESTINGHOUSE
"AMM" Automatic Air Brakes

When buying new cars

insist upon their being equipped with Westinghouse "AMM" Automatic Brakes. A good car with an inferior brake is a poor investment. Safe, efficient operation demands a brake of absolute reliability. Such indispensable features as quick recharge, graduated release, quick service and high pressure in emergency are found only in Westinghouse "AMM" Automatic Air Brakes.

Described fully in Instruction Pamphlet T-5031

Canadian Westinghouse Co., Limited

General Office and Works: HAMILTON, ONT.

Traders Bank Building
TORONTO
439 Pender Street
VANCOUVER

For particulars address nearest office
HAMILTON
922-923 Union Bank Bldg.
WINNIPEG

232 St. James St.,
MONTREAL
158 Granville St.
HALIFAX

STREET RAILWAY MOTORS
AND CONTROLLERS

50-h.p. Motor

These motors are thoroughly reliable in every respect. The matter of commutation has received particular attention. They run practically sparkless in service and the flashing over point is unusually high.

Send for Bulletin 1053 — Railway Motors and Controllers

Car Controller

ALLIS-CHALMERS-BULLOCK
LIMITED

Works, MONTREAL

Sales Offices, - MONTREAL, TORONTO, WINNIPEG, VANCOUVER

See Purchasing Agents' Guide on page 941 :: :: :: ::

See Alphabetical Index to Advertisements on page 905

THE

Railway and Marine World

With which are incorporated The Western World and The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' interests

Old Series, No. 224.
New Series, No 142.

TORONTO, CANADA, DECEMBER, 1909.

For Subscription Rates, See page 905.

Efficient Freight Service.

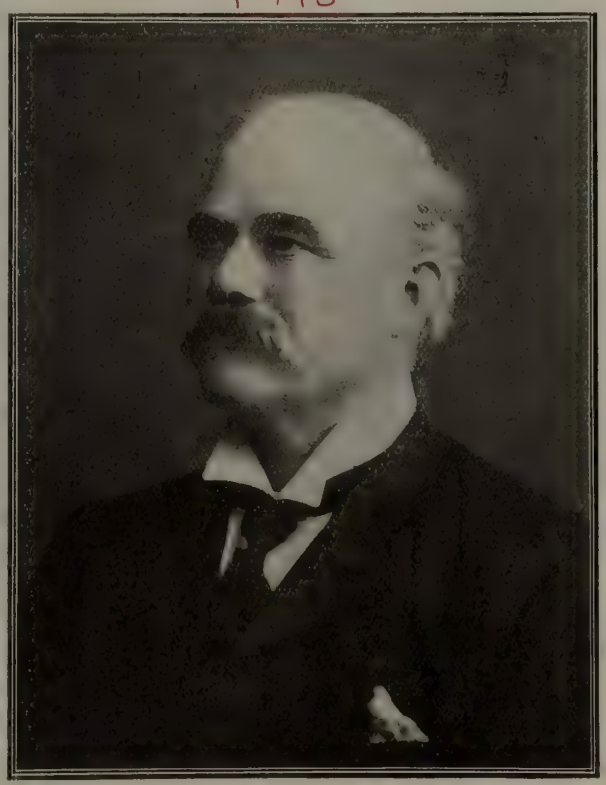
By Alfred Price, General Superintendent, Western Division, C.P.R.

In the securing of freight, competition in rates has ceased to be a factor, but in order that a transportation company may obtain and hold its fair share of the traffic available, it must be in a position to successfully compete with its rivals in the matter of time. Time is the all important element. In recognition of this fact, circuitous routes are being altered and short-cut diversions constructed; stronger and speedier locomotives and heavier and larger capacity cars are being built, the tracks and bridges are being strengthened, block signal systems installed, and extensions and improvements made in connection with terminal facilities.

What is needed to improve the average time of freight is not so much a higher speed of trains as the elimination of unnecessary delays at terminal and divisional stations. Fast freight trains should be run on schedules, which can be made under normal conditions. Some sacrifice of tonnage will be found to be necessary, but a continuous moderate speed movement is much more desirable than fast time between stops, and numerous delays at stations, including unnecessary dead time at terminals.

Terminal yards should be constructed with a view to passing cars through them in the least possible time. They should be sufficiently large to provide adequate accommodation for the maximum traffic handled during any period of the year. The larger terminals, where trains have to be broken up in order that the cars may be classified according to their destinations, should have separate receiving, classification and departure yards, and the switching should be done by passing the cars over a hump or by poling them. In designing a yard consideration should be given to the location of the engine house, stores, coaling plant, sand tower, ash pit, water tank, ice house, track scales and yard office. There should be ample track accommodation near the engine house for incoming and outgoing engines; tracks separate from the switching leads should, if possible, be provided for engines travelling between the yards and the engine house; repair tracks should be located convenient to the classification yard, and the departure yard should be air-piped for the testing of the brakes, so as to avoid the delay which takes place when the road engine has to do it.

Cars containing long distance freight should, as far as practicable, be kept separate from purely local loads. It is well to assemble all cars going into certain territories at a point where two or more lines converge—each territory to be restricted to the area to which an average of a train load per day moves—least, beyond the initial divisional station of the section to which they are consigned, and any cars of fast or long distance freight originating at intermediate stations, should be worked to the first divisional point, and there attached to the outgoing caboose of the fast train prior to the train's arrival. When, in order



J. CHRISTOPHER
Master Mechanic Toronto, Hamilton and Buffalo Ry.

table schedules the greatest distance possible without re-classifying them. No cars for stations between divisional points should be handled on these trains, at and run such cars in solid trains on time to provide sufficient tonnage, it is necessary to attach local cars to a fast freight train, they should be placed next to the locomotive, and the through cars kept en bloc immediately ahead of the caboose. This will facilitate switching at terminals, and when reducing is necessary, local, instead of through cars will be dropped off.

The importance of the prompt and careful handling of less than car load freight is sometimes not fully recognized. There are but few cars of l.c.l. freight that do not contain some consignment which is urgently wanted at its destination. Each car should therefore be considered as a fast freight load and treated accordingly. It should also be remembered that those cars contain freight for a great number of consignees, and should a delay take place many persons would be inconvenienced and feel annoyed, whereas, in most cases of car load freight only one consignee being interested only one would have cause for complaint.

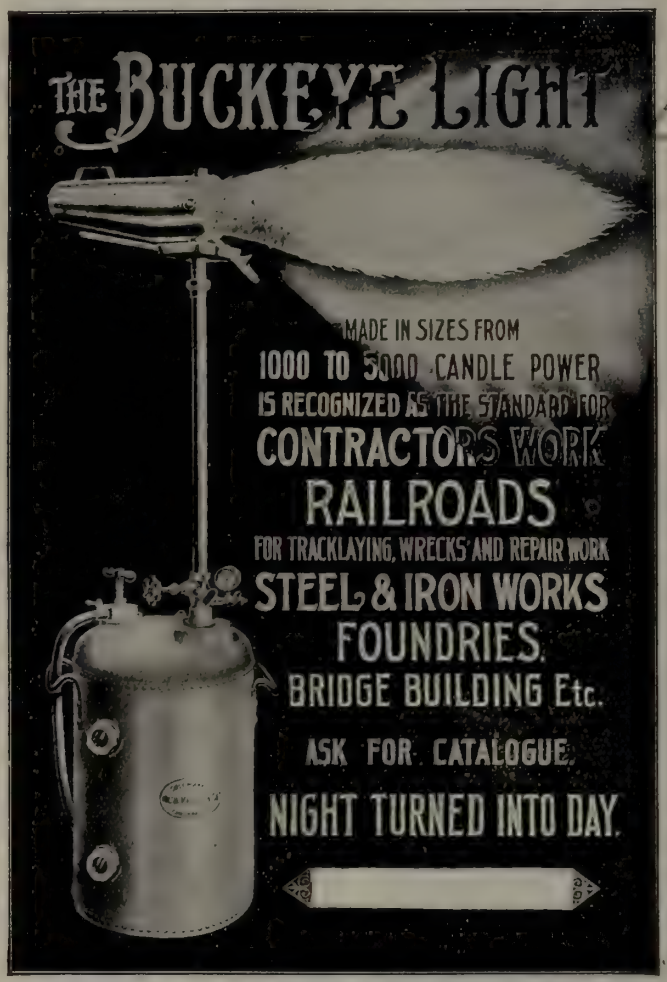
Where there is sufficient l.c.l. business to warrant the building of separate sheds for incoming and outgoing freight, the latter should be not more than from 35 to 40 ft. wide. All the outbound shipments should be trucked direct from the drays to the cars through the shed, as the shorter the distance to be trucked the faster can it be done. Storage room in this shed is unnecessary, as no outgoing freight should be held on hand over night, but all should be shipped out on the day on which it is delivered at the shed. The freight should be stowed in cars in the order in which the consignments for the various destinations will be unloaded, and the shed plan should be so arranged as to provide for all freight for an intermediate station loaded during the day to go forward in one car. The stower should know from which side of the car the freight will be unloaded at its destination, and be governed accordingly. In order to ensure consignments being loaded in the right cars, one of the up-to-date systems in vogue for checking the work of the men should be adopted. Under these systems the freight checker, who is an experienced man, can be held solely responsible for the correct loading of cars, even when working with new and inexperienced truckers, and when any freight is loaded into the wrong car the mistake is discoverable before the car leaves the shed, and the checker responsible can be identified.

At certain terminals, preferably where lines converge or diverge, a transfer platform with tracks on either side should be provided, and freight arriving from the various lines grouped and classified according to destination and character. All shipments for the different stations and sections should be consolidated and loaded into separate cars so as to reduce to the minimum the number of cars to be handled by train crews over the way-freighting sections. When loaded the cars should be attached to fast trains and handled on such to the initial terminal of the section to which the freight is consigned.

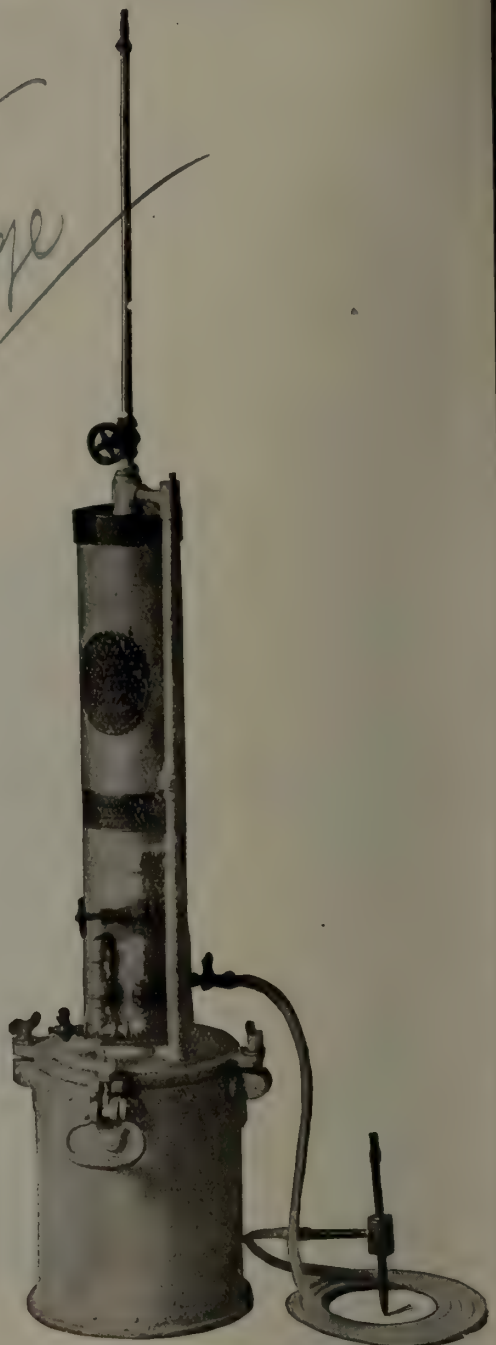
On sections where there is sufficient freight to warrant it, way-freight trains

PORTABLE LIGHTS

Pay well when the days get short. Let us send you our illustrated catalogue.



BUCKEYE KEROSENE LIGHTS.
2,000 to 10,000 Candle Power. We carry in stock the popular sizes.



HOLLAND ACETYLENE LIGHTS.
For smaller work. In stock. Generate their own acetylene gas.

MUSSENS LIMITED

Head Office,
MONTREAL

Branches { ***Toronto, 73 Victoria St.***
Cobalt, Hunter Block
Winnipeg, 259-261 Stanley St.
Vancouver, 614 Hastings St., W.

should be run six days per week in both directions, and the best practice is to assign crews with small engines to the service, running them on ratings sufficiently reduced to ensure, if possible, getting them over the sections in daylight.

Conductors of all freight trains should at the end of their trip be required to furnish the yard office with a list of all cars they take into the terminal, showing contents, destination, etc., so as to save delay on the part of the yard staff in beginning switching operations.

The prompt placing of cars at destination is important. The consignee should be promptly advised of the arrival of his goods, and when it is in order to make delivery, the car should be listed to the yard staff and the freight agent should then be held responsible to see that there is no unnecessary delay in having the car placed.

A common cause for the slow movement of freight at certain seasons of the year, is shortage of locomotive power. There is very little doubt that during recent years, when there was such an outcry throughout Canada and the United States because of a shortage of cars, the real difficulty in many cases was not that the railway companies did not have the cars, but rather that they did not have the power with which to move them. The building of additional cars, therefore, was not a remedy, but where the increases in such equipment were made the serious condition was intensified rather than relieved. It is not at all times possible to preserve an even balance between locomotives and cars, but a simple fact worth remembering and one which should be emphasized is, that, if either are to remain idle waiting upon the other, it is infinitely better that engines should always be available for cars, than that cars should be delayed for the want of power with which to move them. Apart from the necessity of promptly handling the freight which the cars contain, and many considerations of less importance, the relative amount of money invested in the engine and a train of say 50 cars should be taken into account when one or the other is forced to remain idle. There can be no doubt that the cry for more power is a chronic complaint, for very often an appeal is made when a little quicker movement at terminal and turn-around points would make such an appeal unnecessary. One having to do with the distribution of power might very well be reminded of the old negro in a protracted religious meeting who prayed fervently and lustily, "O Lor'! send down more power!" "O Lor'! send down more power!" when a nearby worshipper shouted, "Say brudder, 'tain't more power you need, its ideas!"

In order that the very best results in the movement of traffic may be secured it is of paramount importance that there exist between the transportation officers and the men under them the most perfect confidence. The superintendent should be the operating unit, and he should be held responsible not only for the movement of the traffic of his district, but as well for the maintenance of the track and bridges over which it is to run and the upkeep of locomotives that are to haul it. His staff of subordinate officers should be practical men, able to lead and to direct the operating forces. They must all be made to appreciate the fact that the railway company is doing a transportation business, and that its customers are the travelling and shipping public. They have to do with the quality of the goods the company has to sell. It is their part of the work to see that the traffic the company charges for handling is safely, speedily, and economically moved from its origin to its destination.

Inasmuch as the greatest delays to traffic occur in the terminal yards, the position of yardmaster is an important one. Someone has very aptly and truly said that yardmasters, like poets, are born and not made, and those who have had much experience in transportation matters will appreciate the statement that if freight is to be handled with any kind of system and dispatch through a large terminal, and disorganization, congestion, and sometimes profanity avoided a yardmaster of the heaven-born type, must be in command.

In this western country the railway officer is often hampered by the scarcity of experienced men. The demand for men of all kinds is so great that frequent changes take place, and it is a most difficult matter to secure and retain competent staffs. The opinion also prevails that there is not much to learn about railroad operation. W. F. Allen, the efficient Secretary of the American Railway Association, in referring to this fact, and in illustration of it tells of a farmer's son in Illinois who conceived a desire to shine as a legal light. Accordingly, he went to Springfield, where he accepted employment at a small sum from a fairly well known attorney. At the end of three days study he returned to the farm. "Well, Bill, howd 'ye like the law?" asked his father. "It ain't what it is cracked up to be," responded Bill gloomily. "I'm sorry I learned it."

There are many difficulties of a like nature to be encountered and overcome by the transportation officer. In these, however, the patron of the railway company is not interested. What he wants is an adequate service, and the officer who possesses the requisite qualifications will be able to provide this in spite of the difficulties which are inseparable from his position.

The foregoing paper was read before the Western Canada Railway Club recently.

An Australian Tribute

Thomas Tait, Chairman of the Victorian State Railway Commission, is well known in Canada, on account of his service with the C.P.R., in which he rose to one of the highest positions. As the chief official of the Victorian railway service, he has achieved marked success in his six years' work, having stopped the yearly deficits which previously occurred and turned the system into a paying one, which is now yielding a good rate of interest on the State's investment. He has been a subscriber to the Railway and Marine World ever since its inception, and we therefore highly appreciate the following letter from him to our Managing Director:—

Victorian Railway Commissioner's Office,
Melbourne, Australia,
August, 1909.

Dear Mr. Burrows,—

I look forward always to receiving your journal, and highly appreciate it, for it contains so much news and information about Canadian railway affairs and men, and generally about transportation matters in the Dominion.

Indeed, I do not know of any railway journal that gives so much information of the kind in respect of Canada or any other country.

You are to be complimented and congratulated on the Railway and Marine World and I hope that you are meeting with the financial success with it that it merits.

Yours faithfully,
THOS. TAIT.

Mr. Tait's opinion, coincides with that of our other subscribers, hundreds of whom have expressed in writing or verbally, the value they place on our paper, and their appreciation of the accuracy and the comprehensiveness of its information on every branch of transportation service. The thoroughness with which our paper is edited, and the great care exercised to ensure accuracy, has secured a circulation throughout the whole of Canada and Newfoundland of which we are extremely proud, and we have no hesitation in saying that no other transportation paper in the world has as subscribers so large a percentage of all the transportation officials in its particular field.

G.T.R. Semi-Annual Meeting.

The semi-annual meeting was held in London, Eng., Oct. 21, when the report for the half-year ended June 30, was presented. The following summary shows a comparison of the revenue for that period with that for the corresponding half-year, 1908:—

1908.		1909.
£2,854,787	Gross receipts	£2,866,468 8 7
	Deduct—	
2,069,144	Working expenses, being at the rate of 72.54%, as compared with 72.47% in 1908	2,079,196 14 10
785,643	Net traffic receipts ...	787,271 13 9
Dr. 3,738	Balance of income from rentals, outside operations and car mileage	*Cr.* 58,092 7 0
781,905	Total net revenue	845,364 0 9
	Add—	
16,013	Amount received from the International Bridge Co..	16,012 16 7
6,507	Interest on Central Vermont Ry. bonds	6,506 14 3
60,310	Interest on securities of controlled lines and on St. Clair Tunnel bonds acquired by the issue of G. T. 4% debenture stock....	60,320 17 9
40,936	Balance of general interest account	33,997 2 4
£905,671	Net revenue receipts ..	£962,201 11 8

Following are the net revenue charges, compared with the corresponding period:

1908.		1909.
£77,603	Rents (leased lines)	£77,603 0 9
494,441	Interest on debenture stocks and bonds	503,481 1 8
37,667	Interest on debenture stock and bonds of lines consolidated with the G. T.R.	34,332 5 11
68,892	Canada Atlantic Ry. deficiency	41,103 5 5
46,574	D., G. H. & M. Ry. deficiency	25,749 4 10
725,177		682,268 18 7
180,494	Leaving a surplus of	279,932 13 1
£905,671		£962,201 11 8

Adding the balance, £12,226, 7s. 9d. at the credit of net revenue account, Dec. 31, 1908, to the above surplus of £279,932 13 s. 1 d., the total amount available for dividend is £292,159 0s. 10d., from which the directors recommend the payment of the following dividends, viz.:

Half-year on the 4% guaranteed stock.	£196,800 4 3
Half-year on the first preference stock	85,420 15 0
	£282,220 19 3

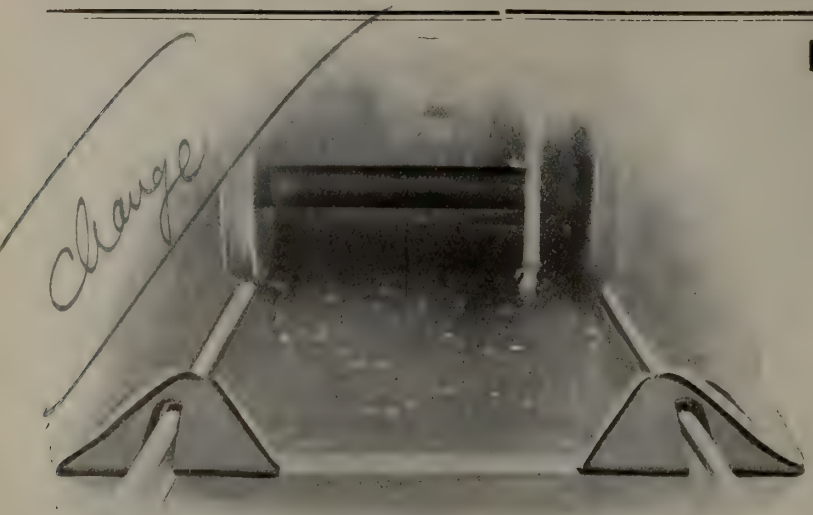
leaving a balance of £9,938 1s. 7d. to be carried forward to next half-year's account.

The actual expenditure on capital account, was as follows:

	£ s. d.
New works	215.432 13 5
Double track	22.922 0 8
Land purchased	128,888 8 2
	£367,243 2 3

This amount of £367,243 2s. 3d. was reduced by £85 15s. 10d., representing the premium on 4% debenture stock sold less accrued interest, thus making the total charges to the capital account, £367,157 6s. 5d.

During the half-year the cost of 15



"JOHNSON" Wrecking Frogs

will replace wheels on both sides of the rail at one setting

— ADVANTAGES —

The Johnson Frog never forces the ties down from the rail when the road bed is soft.
It always gives perfect electric connection to motors when rerailing.
It requires no bolts, clamps, spikes, wedges, or other fastenings to hold it in place while in operation.
It does not require skilled labor to set it in working position.
It has three points of contact for support, which at all times insure a solid bearing under any conditions of track.
The frog is entirely supported at small end by the rail, while the broad end is supported by the rail and tie.
Straddles the rail and is prevented against flying from under the wheels in any direction.
It fits all sections of T rail from 6 inch down.

"Alexander" Car Replacers

will re-rail the heaviest locomotives

We do not offer to give you a derrick, but a device that can be used by a train crew in re-railing a car or engine without calling out the wreck car.

ALL TYPES IN STOCK

INSIDE REPLACER. OUTSIDE REPLACER.

F·H·Hopkins & Co

SUCCESSOR LATE JAMES COOPER

Montreal

baggage cars, £5,175 17s. 6d., has been debited to the engine and car renewal suspense account, and £92,117 3s. 2d. has been charged to revenue in reduction, leaving the balance £457,208 5s. 1d., of which £204,931 5s. 6d. was in respect of engines, and £252,276 19s. 7d. in respect of cars. No additions to rolling stock on capital account were made.

Following table is a comparison of the receipts for the half-years ended June 30, 1909 and 1908:

TRAFFIC STATISTICS

Description of receipts.	1909.	1908.	Increase.	Decrease.
Passengers	£789,162	£810,846	.....	£21,684
Mails and express	134,823	136,584	.....	1,761
Freight and live stock	1,861,785	1,836,838	£24,947	.....
Other receipts	80,698	70,519	10,179	.....
	£2,866,468	£2,854,787	£11,681	.....

	1909.	1908.	Increase.	Decrease.
Passengers carried	4,817,156	4,800,036	17,120	.....
Average fare per passenger	39.32*d.*	40.54*d.*	.....	1.22*d.*
Tons of freight and live stock	7,506,806	7,223,000	283,806	.....
Average rate per ton	59.52*d.*	61.03*d.*	.....	1.51*d.*
Tons carried one mile	1,374,618,422	1,299,206,532	75,412,890	.....
Earnings per train mile	75.77*d.*	72.42*d.*	3.35*d.*	.....

The average rate per ton per mile on the entire freight business was 0.66c., compared with 0.69c. in the corresponding half-year.

The working expenses, excluding taxes, amounted to £2,037,014 or 71.06% of the gross receipts, as compared with £2,027,910 or 71.03%; an increase in amount of £9,104, and in the proportion to the gross receipts of 0.03%.

Revenue expenditure, including taxes, for half-years ended June 30, 1909 and 1908:

Description of expenditure.	1909.	1908.	Increase.	Decrease.
Maintenance of way, and structures	£272,176	£240,668	£31,508	.....
Maintenance of equipment	449,110	380,453	68,657	.....
Traffic expenses	91,407	86,343	5,064	.....
Conducting transportation	1,135,172	1,236,121	.....	£100,949
General expenses	89,150	84,324	4,826	.....
Taxes	42,182	41,235	947	.....
Total	£2,079,197	£2,069,144	10,053	.....
Percentage of gross receipts	72.54	72.47	0.07	.....
Expenditure per train-mile	54.96*d.*	52.49*d.*	2.47*d.*	.....

The train mileage compares with that for the half year ended June 30, 1908, as follows:

Description of mileage.	1909.	1908.	Increase.	Decrease.
Passenger	4,086,109	4,304,902	.....	218,793
Freight	4,752,765	4,929,803	.....	177,038
Mixed trains	240,528	226,051	14,477	.....
Total	9,079,402	9,460,756	.....	381,354

CANADA ATLANTIC RAILWAY.

The following shows the results of the half-year's working of the Canada Atlantic Ry., compared with the corresponding period of 1908:

1908.		1909.
£163,054	Gross receipts	£168,073
175,834	Working expenses	161,482
*Dr.*12,780	Net traffic receipts	6,591
5,991	Balance of income from rentals, outside operations and car mileage	12,419
Dr.£6,789	Total net revenue	£19,010

The interest charges for the half-year were £60,113, against £62,103, so that there was a net revenue deficiency of £41,103, compared with £68,892 in 1908.

GRAND TRUNK WESTERN RAILWAY.

The following summary shows the results of the half-year's working of the G.T. Western Ry., compared with the corresponding period of 1908:

1908.		1909.
£514,793	Gross receipts	£553,847
423,437	Working expenses	440,093
91,356	Net traffic receipts	113,754
Dr. 55,423	Balance of income from rentals, outside operations and car mileage	*Dr.* 39,996
£35,933	Total net revenue	£73,753

The net revenue charges for the half-year were £95,860, reduced by credits for rentals in Chicago to £87,641, so that there was a net revenue deficiency of £13,883 for the half-year, as compared with a deficiency of £2,846 for the corresponding half-year of 1908. Deducting this deficiency from the surplus for the half-year ended Dec. 31, 1908, of £24,323, there remains a surplus for the year to June 30, of £10,440, and adding to this amount the balance of £7,539 carried forward June 30, 1908, the net revenue balance amounts to £17,979 which will admit of the payment of the full interest on the second mortgage income bonds for the year, and leave a balance of £5,650.

DETROIT, GRAND HAVEN, AND MILWAUKEE RY.

The following summary shows the results of the half-year's working of the D.G.H. and M. Ry., compared with the corresponding period of 1908:

1908.		1909.
£143,586	Gross receipts	£160,223
143,215	Working expenses	136,955
371	Net traffic receipts	23,268
Dr. 8,443	Balance of income from rentals, outside operations and car mileage	*Dr.* 12,072
Dr. £8,072	Total net revenue	£11,196

The net revenue charges for the half-year were £36,945, against £38,502 in 1908, so that there was a net revenue deficiency of £25,749, as compared with £46,574 for the corresponding period of 1908.

GRAND TRUNK PACIFIC RAILWAY.

The present condition of construction work on the Western Division is as follows:—Of the total distance of 916 miles from Winnipeg to Wolf Creek (the Prairie Section), 793 miles between Winnipeg and Edmonton are completed and ready for operation, and it is expected that the remaining 123 miles west of Edmonton to Wolf Creek will be completed by the end of the present season. Of the remainder of the line west of Wolf Creek to Prince Rupert (the Mountain Section), the 100 miles from Prince Rupert east to Copper River will be completed early next year, and contracts have been let, and the work will be put in hand at once, for 135 miles east of Copper River and 179 miles west of Wolf Creek, leaving only about 425 miles still to be contracted for.

The Board regrets that owing to the backward condition of the work on the Government Section of 245 miles from Winnipeg to Lake Superior Jct., it is unable to report the completion of the connection between the Lake Superior Branch (which has been completed some time) and the Prairie Section at Winnipeg.

The President having intimated his intention of resigning his position at the end of the year, the Board has taken advantage of the opportunity to make an alteration which will bring the company into line with other Canadian and American railways. Mr. Hays, as the Chief Executive Officer, has hitherto held the title of Second Vice President and General Manager; the duties he has performed are those to which the title of President is now attached by Canadian and American railway companies, his subordinates being designated as First, Second, Third, Fourth, and Fifth Vice Presidents. The Board feels it is in the interests of the company and due to Mr. Hays that the Chief Executive Officer in Canada should have the same rank as is accorded to the similar office on other railways, and it therefore proposes to give him the title of President. In order to carry out this arrangement he has been elected a director of the company in place of M. G. C. Glyn, who has resigned his seat. The Board will continue to have the same control as before over the administration of the company, and will in future elect a Chairman and Vice Chairman, who will exercise the powers and perform the duties hitherto discharged by the President and Vice President. The necessary by-laws have been passed.

The Board has decided, on the retirement of Sir C. Rivers Wilson, to elect the present Vice President, A. W. Smithers, to be Chairman of the Board. He has been a director of the company for over 14 years, and Vice President for five years.

The resignation of Sir Charles Rivers Wilson requires more than a passing notice from his colleagues. He was elected to his present office in 1895, and his administration has been one of the most remarkable in the history of the company. During this period an immense improvement has taken place in the value of the property and in the service rendered by the railway in Canada. In addition, the great extension to the Pacific coast has been commenced, following the incorporation of the Grand Trunk Pacific Railway Company, and some 1,100 miles of the new road have been built. The directors consider it is only fitting that the great services rendered by Sir C. Rivers Wilson should be recognized in a material way, and a resolution asking the proprietors to sanction an allowance of £1,500 a year to him on his retirement will be sumitted to the meeting.

REPORTS OF OFFICIALS.

The Chief Engineer, H. G. Kelley, states that the expenditure for maintenance was $153,334.19 more than during the corresponding half-year, 1908.

The Superintendent of Motive Power, W. D. Robb, reports expenditure, mileage, etc., as follows:

Half-year-ended	Total expenditure.	Train mileage.
June, 1909	$4,150,751	9,079,402
June, 1908	4,337,989	9,460,756

Half-year ended	Rate of expense per mile. Train.	Engine.	Car.
June, 1909	45.72c.	35.91c.	2.83c.
June, 1908	45.85c.	35.65c.	2.94c.

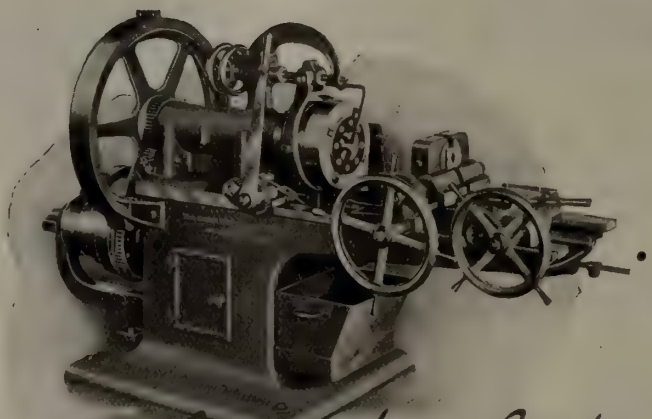
A decrease in expenditure of $187,238 or 4.32%, compared with a decrease in train miles of 381,354 or 4.03%.

	Passenger trains.	Freight trains.	Mixed trains.
The average number of cars moved per train was	4.5	26.7	6.8
And for the corresponding period	4.3	25.8	6.6

During the half-year, four locomotives were scrapped, leaving 49 old light capacity locomotives set aside to be scrapped. The actual stock at June 30, was 875 locomotives, against the official figure of 803.

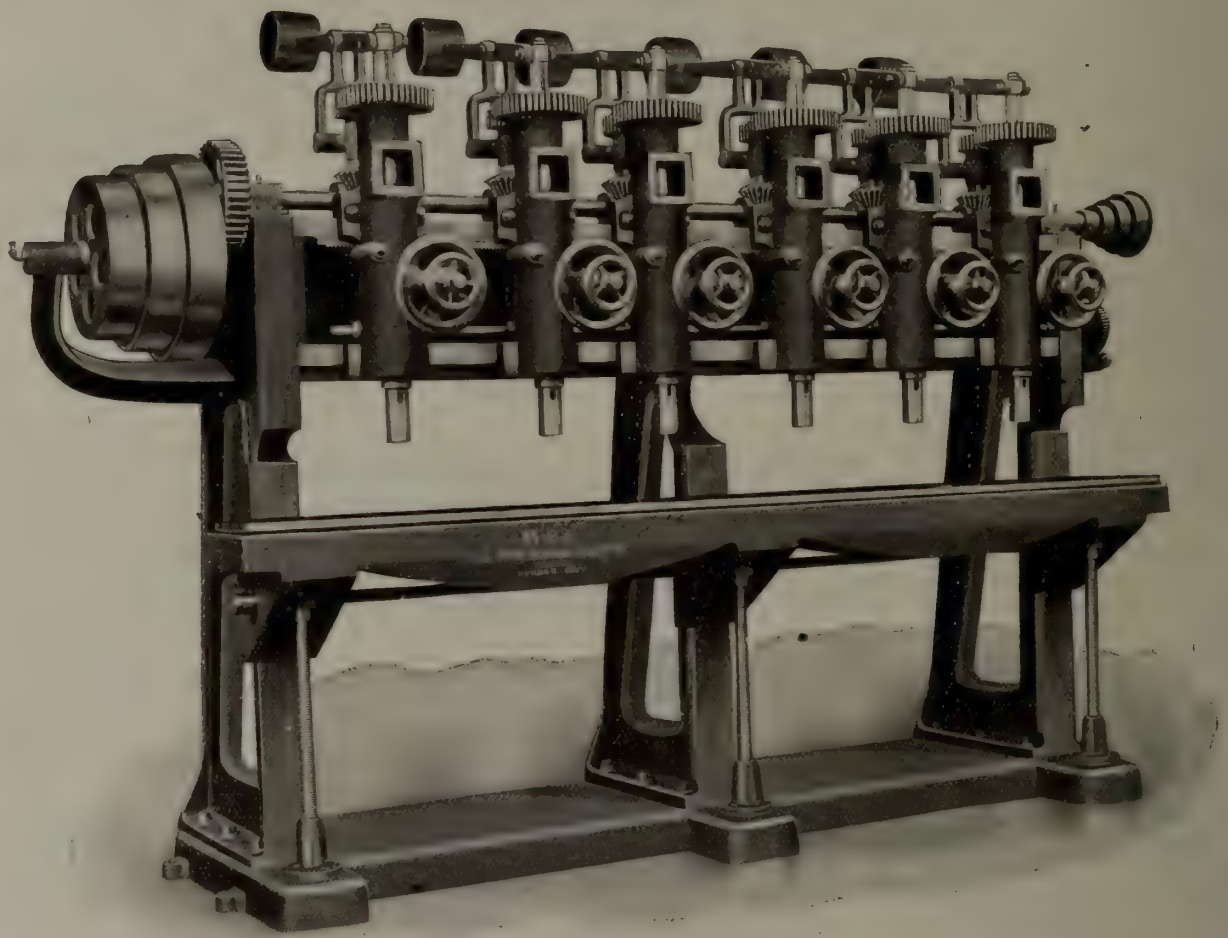
BERTRAM MACHINE TOOLS

Machine Tools of every description Hydraulic, Railway and Boiler Shop Machinery.



We install complete equipments for Machine Shops. Write for Photographs and Descriptions.

3-INCH ACME SINGLE BOLT CUTTER



BERTRAM SIX SPINDLE MULTIPLE DRILLING MACHINE

THE JOHN BERTRAM & SONS CO., LIMITED

DUNDAS, ONTARIO, CANADA

AGENTS—The Canadian Fairbanks Company Limited

OFFICES: Montreal Toronto Winnipeg Vancouver Calgary St. John

The comparative cost of repairs per train, engine and car mile was:

Cost per mile	Repairs and renewals of locomotives		All repairing charges, including shop, machinery, tools, and marine equipment, &c.	
	1909	1908	1909	1908
	Cents	Cents	Cents	Cents
Train	11.37	7.85	12.98	11.12
Engine	8.94	6.11	10.19	8.65
Car	0.70	0.50	0.80	0.71

J. Coleman, Superintendent Car Department, reports expenditure, mileage, etc., as follows:

Half-year ended	Total cost of repairs and renewals	Total miles run by cars			Cost per mile		
		Passenger	Freight	Total	Car	Train	
	$				Cents	Cents	
June, 1909	1,034,178	18,817,467	127,871,131	146,688,598	0.705	11.39	
" 1908	833,452	19,026,991	128,552,987	147,579,988	0.565	8.81	

An increase in expenditure of $200,726, or 24.08%.

With a decrease in car miles of 891,390, or 0.60%.

The revenue account for the half-year, is as follows:

RECEIPTS.	£	s.	d.	£	s.	d.	£	s.	d.
Freight				1,944,511	11	8			
Less—									
Cartage, etc.	46,256	7	10						
International Bridge tolls.	13,347	14	10						
St. Clair Tunnel tolls	22,621	19	0						
				82,726	1	8			
							1,861,785	10	0
Passenger				796,062	10	5			
Less—									
International Bridge tolls.	816	7	4						
St. Clair Tunnel tolls	6,083	16	8						
				6,900	4	0			
							789,162	6	5
Mail and express							134,822	12	5
Other revenue from transportation							52,532	17	2
Revenue from operations other than transportation							28,115	2	7
							2,866,468	8	7

EXPENDITURE.

On account of—		£	s.	d.
Maintenance of way and structures	9.50%	272,175	18	8
Maintenance of equipment	15.67%	449,109	15	2
Traffic expenses	3.18%	91,407	5	8
Conducting transportation	39.60%	1,135,171	16	0
General expenses	3.11%	89,149	14	8
Total operating expenses	71.06%	2,037,014	10	2
Taxes	1.48%	42,182	4	8
	72.54%	2,079,196	14	10
Cr. Net income from rentals		57,956	17	11
		2,021,239	16	11
Dr. Dining car service balance		1,794	2	4
		2,023,033	19	3
Cr. Hire of equipment balance		1,929	11	5
		2,021,164	1	10
Balance to net income account		845,364	0	9
		£2,866,468	8	7

In moving the adoption of the report, the President said:

"The effects of the serious commercial depression during 1908 extended over into the first half of 1909, and therefore, you will not be surprised if the results of the working of last half-year show no great advantage over those of the corresponding half-year in 1908; but, as I ventured to predict upon the occasion of our meeting in April, the crisis has been of comparatively short duration, as compared with other cases of American business convulsions. The clouds have already lifted; there has been a great improvement in business. Since the beginning of the present half-year—up to the 14th of this month, that is for three and a-half months—the receipts of our company have increased by no less than £234,000, and there seems every expectation that the result of the year's working will prove to be satisfactory to the shareholders. Before coming to an examination of the accounts, I must point out that some modifications have been made in the form in which they have been usually presented, caused by the necessity of bringing them into agreement with the classification adopted by the Board of Railway Commissioners of Canada. The chief alterations are the elimination from the general receipts of the rentals received from other companies for the use of portions of our line and stations, and from the working expenses of the amount paid for the hire of equipment and car mileage, and the debit balance of the cost of the dining-car service; and the inclusion of those items specially in the income account. The figures of the corresponding period have been revised in the same way for the purpose of comparison. There are other minor alterations in the classification to which it is not necessary specially to refer. The gross receipts—which are now included under the heads of freight, passenger, mail and express, other revenue from transportation—amounted to £2,866,468, compared with £2,854,787, an increase of only £11,681. The receipts from freight traffic amounted to £1,861,785, compared with £1,836,838, an increase of £24,947. The tonnage moved was 7,506,806 tons, compared with 7,223,000 tons in 1908, an increase of 283,806 tons, but the average receipt per ton declined by about 1½d. a ton, or 2.47%. The average rate per ton per mile shows a reduction of 4.35%, and the disparity between the reduction in the rate per ton moved and the rate per ton per mile is owing to the fact that of the increased tonnage moved 206,000 tons was in through traffic, which is more competitive, and is hauled longer distances at somewhat lower proportionate rates. The ton mileage of the through traffic was 41% of the total ton mileage, as compared with only 36% in the corresponding period, and this, naturally, has the effect of reducing the rate per ton per mile. The receipts from passengers amounted to £789,162, compared with £810,846, a decrease of £21,684, although the number of passengers carried increased from 4,800,036 in 1908 to 4,817,156 in 1909. The falling off in receipts was due to the shorter average fare received, a decrease of 1.22d. per passenger. The receipts from mails and express freight showed a slight reduction of £1,761. The receipts from other revenue from transportation, which include the receipts from parlor and chair cars, excess baggage, milk traffic, special trains, and other passenger train revenue, previously, to a considerable extent, included under passenger traffic, amounted to £52,583, compared with £38,264, an increase of £14,319, and the revenue from operations other than transportation, previously included under miscellaneous receipts, amounted to £28,115, compared with £32,254, a decrease of £4,139. The classification of the working expenses has also been slightly modified, the principal alteration in addition to the diminution before referred to of the hire of equipment, being the inclusion under a separate heading as, traffic expenses, of certain items which were previously included under the head of conducting transportation. The total working expenses, including taxes, amounted to £2,079,197, compared with £2,069,144 in 1908, an increase of £10,053, the ratio of expenses to receipts being practically the same in both periods. There was an increased expenditure under the head of maintenance of way and structures, and maintenance of equipment, but it must be borne in mind that in 1908, owing to the great falling off in receipts, the expenditure under these heads had to be greatly reduced, or postponed, and the expenditure during the past half-year, although showing increases, can only be considered as of a normal character. The amount expended on maintenance of way and structures amounted to £272,176, compared with £240,668 in 1908, an increase of £31,508. The charges on account of maintenance of equipment amounted to £449,110, of which £236,608 was in respect of the locomotive department, and £212,502 in respect of the car department, and showed an increase of £68,657. The amount actually expended during the half-year was £23,460 less than in the corresponding period, but there was included in this account, £92,117 in reduction of the engine and car renewal suspense account, for which no charge was made in the corresponding period of 1908: I explained fully at the meeting in April, the position of that account, and the reasons for it, as also the advantages which the company had obtained in consequence of the renewal in advance of engines and cars, and I also stated that although, owing to circumstances at the time, we were unable to make any charge to revenue in respect of that account in 1908, it would be liquidated within the period originally intended, namely, the end of 1910, and the amount of £92,000 is the proportion chargeable in the June half-year in order to carry out that object. The items now included under traffic expenses show an increase of £5,064. The principal increase is £8,916, under outside agencies, and there were other small increases. There were decreases of about £1,600 for superintendence, and about £6,000 in respect of fast freight lines. I now come to what I consider the most satisfactory feature in the accounts, and that is the expenditure under conducting transportation. That expenditure, more than one-half of the total, showed a reduction of £100,949, having been £1,135,172, compared with £1,236,121 in 1908, and even this reduction would have been considerably increased had the accounts been made up under the old classification, as under that classification the expenditure on account of the balance of car mileage and hire of equipment was included under conducting transportation, whereas it is now included specially in the income account, and that item shows a credit of £1,929, compared with a debit of £51,804 in 1908, a saving of £53,733, or a total decrease of £154,682 in the cost of handling the business, and this notwithstanding that the tons carried one mile increased by 75½ millions, or practically 6%. The principal decrease is in fuel for road locomotives, which amounted to £354,731, against £411,088, a saving of £56,357. Of this saving about £16,000 is due to the lower price at which we were able to obtain our supplies, and the remainder, £40,000, to a decrease in fuel actually used, which showed a decrease of over 80,000 tons, notwithstanding the increase in the tonnage moved.

Galena-Signal Oil Company

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

STREET RAILWAY LUBRICATION A SPECIALTY

Galena Railway Safety Oil

Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

Please write to home office for further particulars.

CHARLES MILLER,

PRESIDENT

This decrease in fuel is one of the direct results of the policy of renewing as rapidly as possible the rolling stock, thereby obtaining increased haulage capacity of engines, and enabling more work to be lone at less cost. The wages of enginemen showed a decrease of £12,300, and the other items generally showed appreciable reductions. Of the items dealt with specially in the income account, the net income from rentals—which was the amount received from other companies for the use of our lines and stations, less amounts paid for the use of other companies' property—showed an increase of £6,900; the loss on dining cars was reduced by £1,200, and the hire of equipment showed a saving of £53,700, this latter being in a great measure due to the policy adopted in connection with the rolling stock. The result of the operations was a balance of £845,364 to be carried to the net income account, compared with £781,904 in 1908, an increase of £63,460, although the gross reecipts only showed an increase of £11,681. The net revenue credits amounted to £116,837, bringing the amount of net revenue to £962,201, and the net revenue charges were £615,416, leaving a surplus on the working of the G.T.R. proper of £346,785. From this there have to be deducted the deficiencies on the C.A.R. and D.G.H. and M.R. of £41,103 and £25,749 respectively, together £66,852, which was about £50,000 less than for the corresponding period, and leaving a balance of £279,932, compared with £180,494 in 1908, an improvement of practically £100,000. Adding the balance brought forward from the previous half-year, we arrive at a sum of £292,159 available for dividend, and a resolution will be submitted authorising the payment of dividends for the half-year on the 4% guaranteed stock and first preference stock, which will absorb £282,221, and leave £9,938 to be carried forward to the current half-year. The net expenditure on capital account was £367,157. The principal item was £189,310 for the new elevator at Tiffin. For some time past the elevator accommodation at our Georgian Bay ports has been inadequate for the storage and efficient handling of the large quantity of grain passing through them, and in view of the great increase in the traffic which will follow the opening of the G.T.P.R., it was necessary that increased accommodation should be provided, and it was decided to erect an elevator of 2,000,000 bush. capacity on the company's property at Tiffin, adjoining Midland, the company's principal port on Georgian Bay. The elevator has been completed, and is now working, and has already proved of great service, which will be greatly increased when the G.T.P.R. is opened to Lake Superior. The only other items of importance are those in respect of the purchase of the site and the erection of the new building in Cockspur st. It had long been felt that, as regards the traffic department, the company had been inadequately represented in London, and the construction of the G.T.P.R. rendered it imperative that the company should be placed in a position equal to that of its competitors. I may say that it is not intended to occupy the whole of the building for the purposes of the company. The lower portion will be so occupied, and the upper portion will be let in apartments or chambers or for offices, and the receipts will go largely in diminution of the interest on capital raised for the erection of this building. I daresay many of you have already passed before the building, or have, perhaps, visited it, and if you have done so I think you will agree with me that it is in every respect an admirable building, doing the greatest possible credit to the architect who designed it.

With regard to the subsidiary lines, the G.T. Western Ry., as usual, has earned the whole of its interest charges, and the C.A.R. and D.G.H. and M.R. have shown considerable improvement, in the case of the former to the extent of £27,000, and of the latter £21,000.

I will now turn to some subjects which are, perhaps, of more general interest, and I should like, first of all, to convey to you the impressions which I have formed from my recent visit to Canada of the progress and prospects of our great undertaking in the Northwest. In the first place, I will tell you what the mileage covered, or to be covered, by the railroad is. In the first place, starting from Lake Superior to Fort William, we have already built 188 miles northwest to join on to the National Transcontinental Ry., together with an additional 12 miles which have been taken over by the Canadian Government, making altogether about 200 miles. That constitutes the Lake Superior branch. I pass over the interval of 245 miles which separates the junction point with Winnipeg, as to which I shall have to say a few words by and by. Those 245 miles, as you may remember, are being constructed on behalf of the Canadian Government. Going thence on to our own line again at Winnipeg, we have completed the whole of the 793 miles between that city and Edmonton, and I cannot speak too highly of the manner in which it has been constructed. Passing west from Edmonton, the first contract of 123 miles is nearly completed; it will probably be ready for operation at the end of the present year. Then there has been let west of Wolf's Creek, which is the termination of that 123 miles and also the termination of the Prairie section, a further 179 miles. Then comes an interval through the mountains of 425 miles, the contracts for which have not yet been given out. At the end of that interval of 425 miles we again pick up a portion let under contract recently of 135 miles. Then we complete the Mountain section by the 100 miles from Copper River to Prince Rupert, which are practically constructed, and which will be ready for operation early next year. Now I will begin from the western portion of the road, and I will take you to Prince Rupert, which is the terminus of our new railroad. You have read and heard, I have no doubt, a great deal of this site and of the advantages which it presents. Well, I can assure you that nothing that has been said or written upon the subject can adequately describe its great advantages. It has been chosen with excellent judgment, and I may say it has been the greatest piece of good luck that it has fallen into our own hands and not into the hands of any of our possible competitors. Already the land has been cleared; it has been laid out in what I may call a most artistic manner. It has got already a population—it may appear to you to be a very small thing, but it is the beginning of big things—of 3,000 inhabitants. City lots have been sold at prices far exceeding what was expected, and altogether there is no doubt that this city of Prince Rupert is destined to be one of the great Pacific cities of the future. I could dilate for a long time upon the natural beauties of the situation, of the magnificent appearance which is presented when you approach Prince Rupert from the sea, of the picturesque appearance of the harbor, of the extensive accommodation which it possesses; I could also refer to the beauties of the Skeena River, the mouth of which is close to Prince Rupert. We ascended the river for 120 miles, and it is impossible to exaggerate the beauties of the scenery. The land in the immediate vicinity of Prince Rupert is not, at the present time, very well adapted for agricultural occupation, but it is surrounded by magnificent forests, and the sea teems with fish of every description. I must add that the comparatively small population that already occupies it are keenly alive to the advantages of their city. They are, all and everyone of them, impressed not only with its present advantages, but also with the great future which it presents, and they are zealous hard-working people. I proceeded then from Prince Rupert by way of Vancouver and Calgary to Edmonton. As regards the portion of the road from Edmonton west I told you just now about 123 miles of it are very nearly completed. I went over 60 miles of it, and found somewhat to my surprise, instead of an arid desert, a large portion of it taken up and farmed, and the harvest in process of being reaped. I then proceeded east from Edmonton to Winnipeg—793 miles—and I assure you that words fail me to express the magnificence of the country through which our road passes. For hundreds of miles, hundreds of thousands of acres were under harvest when I passed through in the month of September. The whole landscape is dotted already with farms and homesteads, and when you think that about only two years ago this land was an arid desert, I think you will agree with me that the transformation is something miraculous. There is, however, one unfortunate blot upon that otherwise happy state of things, which particularly affects our railway construction, and that is, the absence of labor. At the present we are under an obligation to complete our road through to Prince Rupert by Dec. 1, 1911. In consequence of the want of labor I am afraid there is very little chance of that being accomplished. When I was in British Columbia I had the advantage of an interview on this subject with the Premier, and I tried to impress upon him the desirability, under the peculiar circumstances of the case, of allowing us to introduce a certain amount of Oriental labor, but unfortunately I touched on a very delicate point, and I found little sympathy and little chance of assistance in that quarter. I tried to impress upon him the great advantage it would be to his province to see this road completed as speedily as possible. I pointed out to him that the introduction of a few thousand Japanese or Chinese would be no danger to the province if we would enter, as we were prepared to enter, into a bond to return these men to their own country at the termination of their work. I promised him that no single white man should be displaced from his labor, and that every white man should have priority over the colored man. Unfortunately, this is such a strong party question that I fear it would be difficult for any Government to give the permission which I asked for. Now, if as at the present time our road is being built chiefly by Italians and Scandinavians, you may ask, as I asked, where is the British navvy? Why is he not out there working, not only for the good of the province, but for his own advantage? Here is an opportunity for the capable and honest unemployed laborer of this country to go out there and earn his 10s. or 12s. a day. I saw foreigners of every sort and description, but somehow or other the Englishman was conspicuous by his absence. I think there is something wrong in this, and I think it is a matter which might fairly be taken up between the two Governments or by some of those benevolent and excellent institutions which are established for the benefit of the unemployed. There is work waiting for the laborer, but the laborer does not present himself, and I cannot help thinking that some strong efforts ought to be made in this country to point out to the unemployed laboring man the great advantages which emigration offers in that favored country.

New York Central and Hudson River R. R., Buffalo, N. Y. Three fast plants.

THE BROWN HOISTING MACHINERY CO.

Engineers, designers and builders of hoisting machinery of all descriptions.

Write us stating your requirements and ask for catalogues.

Main Office and Works:

CLEVELAND, OHIO

Branch Offices:

PITTSBURG AND NEW YORK

I need say no more, I think, about that wonderful land which constitutes the Prairie section. I will return to our Lake Superior branch. I went over that branch, and I was pleased to find that the road itself was as well built and as well equipped as the best portion of the road through the prairie. I cannot say that the country through which the road passes affords the same advantages as the road to which I have alluded, but I am bound to say that I was rather agreeably disappointed in what I saw. For some distance out from Fort William the land is already taken up and being farmed. Further on there is little occupation, and I doubt very much whether it will ever maintain much of a population. On the other hand, there are prospectors at work all through the country, and there is every expectation that considerable deposits of minerals will be found. Now I come to what is an unpleasant matter to speak of, and that is, that while we have built the Winnipeg line on the one hand, and the Lake Superior junction on the other, there remains an unfortunate link of no less than 245 miles to complete the junction. I told you on previous occasions that there was little doubt that that link would be completed this autumn, and that we should be able to carry the grain from the prairies down to Lake Superior so as to ship it across to our Georgian Bay ports, to the great advantage of the Grand Trunk System. I told you that, and I told you it upon information I had received from the other side. I am sorry to say I misled you, but if I misled you I was grossly misled myself, and I may say more than that, the Government of Canada were also misled in its expectations that the road would be so completed. I tried to find out what were the reasons for this extraordinary delay in the completion of this portion of the road, and I am bound to say that the excuses and explanations offered me were altogether unsatisfactory. It is not for me to probe the real reasons for these laches.

But there the matter remains. During three or four years, while we have built some 1,200 miles of road—some portion of which was at least as difficult of construction as that which I have spoken of—these 245 miles remain unfinished. I have some delicacy in speaking of this subject, because I do not wish to imply for one single moment that there has been any laches on the part of the Canadian Government. I saw the Premier on the subject, and took the liberty of saying that he had been badly served. That is absolutely the case. The Dominion Government has done all it possibly could. It put pressure upon the contractors, but the contractors did not do their duty, and, as I have said, the work is uncompleted, and we are the sufferers. I have been asked whether the road will be completed next year. I am very chary of making a prediction on the subject after what has taken place, but I should surmise, after all the pressure which has been put upon the contractors, that it will be finished next summer. I wish to be perfectly frank with you. I am sorry I have misled you, but it is no fault of my own. I received the strongest possible assurances that the road would be completed. It has not been completed, and we have to bear the loss, subject to any claim we may be able hereafter to establish against the Canadian Government. I should like also to mention this. Of course, our object is to link up the West with our eastern system. That will be done during the summer by the road going down to Lake Superior, which will enable us to communicate by water with our Georgian Bay ports, and during the winter, when navigation is closed, by the road the Government is building from Lake Superior Jct. to Cochrane, 540 miles, where we shall obtain communication with North Bay, and be brought in touch with our own Ontario road. That we are within measurable distance of communication by Lake Superior there is no doubt whatever. As regards the completion of the road, the 540 miles to Cochrane, I am afraid we shall have to wait for some time. I am afraid that there again there is not that activity and anxiety to progress which ought to characterise the contractors who are working under the Government.

This is the last occasion on which I shall have the pleasure of addressing you as President of this company. At the end of the year I shall resign the position to which you did me the great honor of electing me 14 or 15 years ago. It has been to me a period full of interest, not without frequent moments of anxiety, no doubt, but much has been achieved, and in resigning my trust into your hands I have the satisfaction of reflecting that the company to-day stands, as regards the material condition of the property, its financial position, its credit, and its future, on a far higher level and on a very much firmer basis than it did in 1895. With your permission, I will in a short retrospect, summarise some of the work which has been accomplished; and first of all let me say that the road itself has been, so to speak, entirely rebuilt and re-equipped. Beginning with our double track, in 1895, 404 miles of double track had been completed. To that we have added since, 636 miles, making 1,040 miles. You have now a magnificent straight road of double track running from Ste. Rosalie, 32 miles east of Montreal to Chicago, no less than 880 miles, and which I believe is the longest double track in the world. As regards bridges, a question which has been frequently brought under your notice, we have spent no less than £1,600,000 since we have been in office in strengthening, improving and reconstructing the bridges. You will remember that we have entirely rebuilt the superstructure of the Victoria Bridge and double tracked it; we have rebuilt the International Bridge across the Niagara River to Buffalo. That fine single-arch bridge on the Niagara River has been built, and all the bridges, in fact, have been rebuilt or strengthened, so that at the present time engines of the highest capacity and drawing the heaviest load can run direct from Portland to Chicago, 1,140 miles. We have added enormously to our yard accommodation at Toronto and Montreal. We have built shops up to date and well equipped at London, Stratford, and Battle Creek. When I come to the rolling stock you will see that the improvement has been almost greater. I find that in 1895 the number of our locomotives was 1,036. We have only added 75, making the total 1,111; but the haulage capacity in 1895 was only 1,947,000 tons, whereas it is now 3,577,000 tons, an increase of 1,630,000 tons, or 33%; and that has been done without any charge to capital. As regards cars, we have increased the number by 6,500. The number in 1895 was 25,515; it is now 33,019; but the tonnage capacity of those cars in 1895 was only 473,000 tons, and it is now 896,000 tons, an increase of 422,000 tons, or about 89%, and the average capacity per car, which in 1895 was about 18½ tons, is now 28 tons, an increase of 9.43 tons, or 50%.

I should like to say a word also upon what has been done with some of our subsidiary companies. In 1899 the Central Vermont Ry. was in considerable difficulty. It was greatly in debt to our company, and in a very bad condition. It was one of the first operations of our general manager, Mr. Hays, when he took hold of the situation, to reconstruct that company. We received valuable bonds for its indebtedness, it was placed in an excellent financial position, the road was put into good condition, and it continues to be one of our best connections. Then, you have not forgotten what took place in 1900 with regard to the reorganisation of the old Grand Trunk and Chicago line. At that time the mortgage expired, and a new mortgage was contracted, by which not only were we relieved from the heavy burden to which we had been subject three or four years previously, but sufficient money was obtained for rebuilding the road and double tracking it. The G. T. Western not only now pays, but has a considerable surplus, which has enabled it to build at a cost of $900,000 the new Battle Creek shops. It is no charge upon the G.T.R., and it remains one of the most important feeders of the system. With regard to the Canada Atlantic Ry., which we acquired in 1904, I will only say that we had very good reason for the acquisition of that property. It has already proved, and will prove hereafter, to be a most valuable adjunct to our system, and I may say that it was as much for strategical as for financial reasons that we found it necessary to acquire that road. We have had to put a good deal of money into it since we acquired it, but the expenditure is nearly completed, and every year is showing an advance. With regard to the G.T.P.R., I need say no more than what you are acquainted with. As proprietors, I hope you are satisfied with what has been done, and with the physical situation of the company's property.

I will now appeal to you as shareholders rather than as proprietors, and here, too, I think, you will say that our record is not an unsatisfactory one. In 1895, when the present board came into office, as you will remember, the company was on the verge of bankruptcy. A sum of very nearly £200,000 had been advanced to meet the fixed charges. We came into office in May, 1895, and it was not until the end of 1897 that we emerged from that condition of insolvency, and were able to begin to pay our way. In 1898, for the first time, we resumed the payment of dividends, and in that year the whole interest on the 4% guaranteed stock was paid, and also 3% upon the first preference. Since then we have had a continued progression of prosperity, with an occasional set-back, no doubt, until we have arrived at what I may consider our present flourishing condition. Beginning with 1898, when we resumed the payment of dividends, I find that we have paid up to the present time in dividends no less than £6,672,000, and we have also distributed in fixed charges, in interest, upon our bonds, £14,750,000, that is to say we have emerged from a state of absolute insolvency since 1898, and have distributed amongst the proprietors a sum of over £21,000,000. I should like, going back to that period, to recall to you that it was proposed, and was strongly urged upon me, that we should take advantage of the depression of the company and of the feeling of disappointment amongst the proprietors to reconstruct the capital, the result of which would have been to sacrifice to a large extent the interest of the holders of the senior securities. The proposal, no doubt, had its attractions, and I believe that at the moment, the shareholders having trust and confidence in the board they had just called into office—I believe it is possible that the shareholders might have accepted that proposal. I was strongly opposed to it. I thought it was our duty to try and extricate the company from its difficulties without having resort to what I may call a policy of despair. I thought we were in honor bound to take that course, and I had that faith in its recuperative powers to make me believe that the thing was unnecessary. I was supported by my colleagues in that view, I am happy to say, and I think we are thoroughly justified in the result, and at the termination of

LOCOMOTIVES FOR ALL CLASSES OF SERVICE

Consolidation Type Freight Locomotive, Built for Eastern British Columbia Railway.

Total weight of engine in working order, 186,310 pounds. Weight on driving wheels, 166,100 pounds. Diameter of driving wheels, 51 inches. Boiler pressure, 210 pounds. Cylinders, 20 x 28 inches. Maximum tractive power, 39,200 pounds.

ATLANTIC STEAM SHOVEL

Direct wire rope hoist with but one sheave, instead of chain hoist with from five to seven sheaves, reduces delays and loss of time due to breakdowns, increases the efficiency of the engines, and reduces repair bills as well as fuel consumption.

Finished, interchangeable spare parts always on hand at works.

MONTREAL LOCOMOTIVE WORKS, LIMITED

BANK OF OTTAWA BUILDING, MONTREAL, CANADA

my period of office I should look back with deep regret had I accepted such a policy as was pressed upon me at the time. Of course, these improvements to the property have not been carried out without a considerable expenditure of money. The improvements and developments, however, have been carried out with the greatest possible regard to economy, but you will not be surprised that some increase to the capital has been made. Our capital has been increased to the extent of about £7,500,000. But here again, I may mark a note of satisfaction, there has been practically no increase whatever on our fixed charges, and I only ask you in the future to keep your eye strictly and severely upon that question of capital expenditure, and see to it that we are not likely to fall into such a position as that which we occupied in 1895. As regards the receipts, which indicate in a very striking manner the progress of the company. I find that the gross receipts in 1895 amounted to £4,417,000. In 1907, which was, of course, a very good year, the gross receipts were £9,224,000, and in last year, which was a bad year, they were £8,106,000. The proportion of fixed charges to gross receipts in 1895 was 27.57%. In the bad year of 1908 they were 16.49%, and in the good year of 1907 they were 14.32%. I may also mention that, taking the present market prices, which are lower than they were a couple of years ago, the increased value of your securities is something like £20,000,000. I find that the ordinary stock when we took office was quoted at 5½, and now it stands at between 23 and 24, and it has been very much higher. The 4% guaranteed stock stood at 42½ in 1895 in the market, and it now stands at 95. The third preference, a very favorite security for our shareholders, which stood at 12, is now at 57, and our 4% debenture stock, which was then at 75, stands now at 101½, and has been very much higher. I think, therefore, I am justified in looking back with some satisfaction upon the financial record of the past few years. In 1853, when the company was formed, a board was constituted in Canada, consisting of 12 members, with a financial committee of six in London, and the head of the board in Canada was designated the President, and the chief executive officer was known as the General Manager. After the board, for very good reasons, was removed to London in 1862, no change was made in the designation of those officers, and that remained the case from that time to this. It has been thought, however, that the present opportunity should be availed of to change the designation of the President and General Manager respectively, and to place Mr. Hays, our General Manager, as regards title, upon the same footing as that of the executive officers of all other American and Canadian railways. Mr. Hays is so well known and so much appreciated throughout the railway world on the other side of the Atlantic, that it may not appear to be a matter of very great consequence what his designation may be; but at the same time, we think that it is due to him, and it is only fair that he should be placed upon the same status as all his brother chief executive officers; and, therefore, we think it is only right that he should, like all those officers, have the title of President. My successor will be known by the more familiar title in this country of Chairman of the Board, and you will understand that in making these titular changes no change whatever is contemplated in the relative responsibilities, either of the executive officer or of the board. The executive officer will not have greater power or authority or responsibility, and the board will not have less authority and control than at present.

I shall lay down my work with regret, but the regret will be softened and diminished if I may be allowed to indulge the hope that I may sometimes be remembered as having taken part in the regeneration and development of your company—and especially as an earnest promoter of that great undertaking now rapidly approaching completion which will have so great an influence upon the future of our company, and will at the same time contribute in so large a measure to the welfare and prosperity of Canada."

After some little discussion, during which an amendment was proposed, but not seconded, relative to the appointment of an advisory committee to act in Canada, the report was adopted.

A resolution was also adopted granting a retiring allowance of £1,500 a year to the President.

Railway Lands Patented.—During Aug., letters patent were issued in respect to railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

	Acres.
Calgary and Edmonton Ry.	6.55
Canadian Northern Ry.	.03
Canadian Pacific Ry. grants	68.59
Grand Trunk Pacific Ry.	19.23
Manitoba and North-Western Ry.	2.10
Total	96.50

The Western Trunk Lands Building and Development Corporation, Ltd., has recently been incorporated at Winnipeg, by a number of railway employes, with the chief object of building homes and engaging in real estate business on a co-operative plan, at divisional points where they are obliged to reside. The stock, which is in shares of $100, is to be sold, two-thirds to railway employes, and the remainder to the public.

C. P. R. Pacific Type Locomotives.

The C.P.R. has received recently from the Montreal Locomotive Works 30 Pacific type (462 class) locomotives of the railway company's G-2d class. They are equipped with the Vaughan-Horsey superheater and Walschaert valve gear. The boiler is of the extended wagon top type, 67⅜" outside diameter at the front end. The barrel is built with three rings, the second of which is tapered, with the dome on the third ring. The horizontal seams are butt jointed, sextuple riveted with welt strips inside and outside. The circumferential seams are double riveted. The fire box has a sloping throat and back head and is radially stayed. Flexible staybolts are located in the breaking zone of throat, sides and back head. Flexible staybolts are also used for the four rows at the front of fire box crown sheet. The fire box ring slopes from front to back and is supported at each end by an expansion sheet and brackets. The fire box ring is 5" wide at the front, 4½" at the sides, and 3½" at the back. The injector check valve is located on the top of the first ring of the boiler under the bell stand. The water is discharged from the valve direct without any internal pipes. A deflecting plate prevents the cold water from striking the dry pipe. The smoke box is of a self cleaning type. The superheater is the Vaughan-Horsey type with two cast iron headers in the smoke box, one being for saturated steam and the other for superheated steam. The five inch boiler tubes contain four seamless steel superheating pipes 1¼" diameter, arranged in pairs, the two pipes in each being connected at the rear end by cast steel return bend. The pipes on emerging from the tubes are carried to the connections at the headers. The superheater pipes reach within 30" of the fire box tube sheet. Cast iron steam pipes connect the superheated header with the cylinder. The passage of the gases through the five inch tubes is controlled by a damper, which is automatically operated by steam cylinder located on the outside of the smoke box. This cylinder is directly connected to the steam passage of the cylinder and is operated by the pressure in the cylinder. When the throttle is open the pressure in the cylinder opens the damper, but when the steam is shut off a counterweight closes it. The cylinder is the railway company's standard pattern and has a bushing ¾" thick. The piston valves are 11" diameter, inside admission. For the Walschaert valve gear an auxiliary reverse shaft is used. A cast steel crosstie supports the link bearers.

The main frames are cast steel, 4½" wide with double front rails and single rear sections of wrought iron. The main frames and rear sections are bolted to

CANADIAN PACIFIC RY. PACIFIC TYPE LOCOMOTIVE.

KILINDO
NON-ROTATING WIRE ROPE

"Kilindo" Wire Rope

Kilindo Wire Rope is absolutely free from any tendency to rotate with or without the load. Kilindo Wire Rope, being constructed throughout of entirely round wires, thereby embodying the advantages of the manufacture of a smooth surface rope, presenting the very largest wearing surface to wear. Kilindo Wire Rope does not kink.

"Kilindo" Wire Rope

Cannot be excelled for

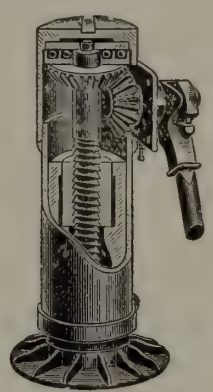
Cranes, Derricks, Elevators, Collieries, Hoists, Cargo Falls, Etc.

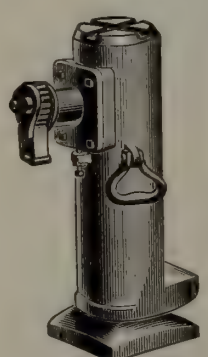
ALL SIZES IN STOCK—PRICES UPON APPLICATION

THE DOMINION WIRE ROPE CO., LIMITED
Montreal

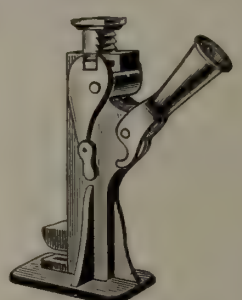
NORTON JACKS

Are Made in Canada and Save You Delay and Duty on American Made Jacks.

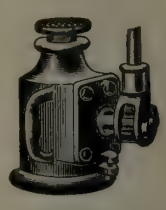

Sectional View


Foot Lift Jack

50 Styles 8 to 100 Tons Capacity
Carried in stock for IMMEDIATE DELIVERY


15 Ton Track Jack

Traversing Jack


Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

a cast steel crosstie just back of the rear pedestals. The frames are braced in a very substantial manner by cast steel crossties. The trailing truck, which has outside boxes, requires but a single slab section frame 2" thick. The boxes are of cast steel fitted in cast steel pedestals. The load is transferred to the truck by semi-elliptic spring connected at one end to an equalizing beam from the rear driving spring, and at the other end to a steel casting bolted to the frame. The spring rests in a cast steel spring seat, which has projecting ends fitting into the top of the front and back pedestal. The load is transferred from the spring seat to the box by means of three point bearing swing links, which are also used to bring the truck back to the normal centre after passing a curve The front truck has a swing centre casting with three point hangers. Two cab turrets are used and each one has a separate dry pipe extending to the dome. The driving boxes are cast steel with bronze gibs in the shoe and wedge fit, and are equipped with hard grease lubricator. The driving wheels are the railway company's standard cast steel centre and have cast iron hub liners. The front truck is equipped with steel tired wheels having cast steel spoke centres and the tender with steel tired wheels having wrought iron disc centres.

A 5,000 Imperial gallon semi-water bottom tank is applied to the tender and space provided for 10 tons of coal. The frame is built of 13" channels for centre sills and 10" channels for side sills. The tender trucks are the equalized pedestal type with a cast steel bolster and semi-elliptic springs. The leading particulars are as follows:

Service	Passenger
Fuel	Bituminous coal
Tractive effort	33,460 lbs.
Weight in working order	214,200 "
" on drivers	135,000 "
" on leading truck	42,700 "
" on trailing truck	36,500 "
" of tender (loaded)	133,200 "
" of engine and tender in working order	347,400 "
Wheel base, driving	13' 0"
" total	33' 7"
" total engine and tender	60' 0¾"
Cylinders, kind	Simple
" diameter and stroke	21"×28"
Valves, kind	Piston
" greatest travel	5¾"
" steam lap	15-16"
" inside clearance	⅛"
" lead constant	5-16"
Wheels, driving, diameter over tires	69"
" " thickness of tires	3"
Driving journals, diam. and length, M.	9½"×12"
" " " F. & B.	9"×12"
Engine truck wheels, diameter	31"
" " journals	6"×10"
Trailing wheels, diameter	44"
" " journals	7"×14"
Boiler, style	Extended wagon top
Working pressure	200 lbs.
Outside diameter of first ring	67⅜"
Outside diameter of third ring	75½"
Fire box, length and width	94⅛"×69⅞"
" water space,	front 5", sides 4½" back 3½"
Tubes, number fire tubes	193
" number superheater fire tubes	22
" diameter fire tubes	2¼"
" diameter superheater	5"
" length	19' 6"
Heating surface, tubes	2,765 sq. ft.
" " fire box	176.6 "
" " total	2,941.6 "
Superheater heating surface	542.5 "
Grate area	45.67 "
Smoke stack, diameter	14½" at choke
" " height above rail	15' 1 3-16"
Tender, tank	Semi water bottom
" frame	13" and 10" channels
" wheels, diam., 34" on 15 engs.;	36¼" on 15 engs.
" journals, diam. and length	5½"×10"
" truck	four wheel pedestal type
" water capacity	5,000 imp. gallons
" coal capacity	10 tons

E. A. Walberg, contractor, Montreal, has been awarded $53,205 by the Exchequer Court, in the settlement of his claim of $105,940 for extras in connection with the construction of the I.C.R. shops at Moncton, N.B.

December Birthdays.

Many happy returns of the day to—

E. Alexander, Assistant Treasurer C.P.R., Montreal, born in Yorkshire, Eng., Dec. 8, 1862.

J. H. Barber, Engineering Department C.P.R., Montreal, Que., born at Cobourg, Ont., Dec. 20, 1856.

N. E. Brooks, C.P.R. Division Engineer, Calgary, Alta., born at Sherbrooke, Que., Dec. 25, 1866.

J. C. M. Buntzen, Director British Columbia Electric Ry. Co., Copenhagen, Denmark, born there Dec. 16, 1859.

T. C. Burpee, Engineer of Maintenance of Way, Intercolonial Ry., Moncton, N.B., born at Sheffield, N.B., Dec. 11, 1852.

W. W. Butler, Vice President Canadian Car and Foundry Co., Ltd., Montreal, born at Danville, Ohio, Dec. 9, 1862.

H. P. Dwight, President Great Northwestern Telegraph Co., Toronto, born at Belville, Jefferson Co., N.Y., Dec. 23, 1828.

R. Forget, M.P., President Richelieu and Ontario Navigation Co., Montreal, born at Terrebonne, Que., Dec. 10, 1861.

W. H. Gardiner, City Freight Agent C.P.R., and District Freight Agent Esquimalt and Nanaimo Ry., Victoria, born there, Dec. 6, 1859.

H. H. Gildersleeve, Manager Northern Navigation Co. of Ontario, Collingwood, born at Kingston, Ont., Dec. 15, 1865.

A. J. Gorrie, ex-General Superintendent Canadian Northern Quebec Ry., now Managing Director Geo. Hall Coal Co., Montreal, born at Raith, Kirkcaldy, Scotland, Dec. 10, 1868.

W. H. Grant, Manager of Construction, Mackenzie, Mann and Co.'s Eastern Lines, Toronto, born at Acton, Ont., Dec. 8, 1858.

F. P. Gutelius, General Superintendent Lake Superior Division C.P.R., North Bay, Ont., born at Mifflinburg, Pa., Dec. 21, 1864.

D. B. Hanna, President Quebec and Lake St. John Ry., Third Vice President Canadian Northern Ry., Toronto, born at Thornliebank, Scotland, Dec. 20, 1858.

S. P. Howard, General Freight Agent Eastern and Lake Superior Divisions C.P.R., Montreal, born there Dec. 30, 1865.

B. B. Kelliher, Chief Engineer Grand Trunk Pacific Ry., Winnipeg, born in Ireland, Dec. 26, 1862.

J. T. McGrath, Master Mechanic, G.T.R., Battle Creek, Mich., born at Toronto, Dec. 6, 1869.

A. T. McKean, Soliciting Freight Agent C.P.R., Winnipeg, born at St. John, N.B., Dec. 18, 1886.

L. Macdonald, Division Freight Agent G.T.R., Toronto, born at Montreal, Dec. 10, 1871.

J. Niblock, ex-Superintendent C.P.R., Calgary, Alta., born in York County, Ont., Dec. 21, 1849.

A. Price, General Superintendent Western Division C.P.R., Calgary, Alta., born at Toronto, Dec. 6, 1861.

G. D. Robinson, Assistant Export and Import Freight Agent C.P.R., Toronto, born at St. John, N.B., Dec. 7, 1877.

C. Schreiber, C.M.G., Consulting Engineer Department of Railways and Canals, Ottawa, Ont., born at Bradwell, Essex, Eng., Dec. 14, 1831.

F. P. Smith, Secretary Richelieu and Ontario Navigation Co., Montreal, born there, Dec. 23, 1873.

C. E. E. Ussher, Assistant Passenger Traffic Manager C.P.R. Western Lines, Winnipeg, born at Niagara Falls, Ont., Dec. 29, 1857.

H. H. Vaughan, Assistant to Vice President C.P.R., Montreal, born at Forest Hill, Essex, Eng., Dec. 26, 1868.

W. Wood, locomotive foreman C.P.R., Megantic, Que., born at Montreal, Dec. 6, 1863.

Canadian Northern Ry. Stock Issue.

Sperling & Co., of London, Eng., issued recently a prospectus of £850,000 Canadian Northern Ry. 4% perpetual debenture stock, at 93. This stock is perpetual and irredeemable, and ranks pari passu in all respects with the 4% perpetual consolidated debenture stock now officially quoted on the London Stock Exchange. The trust deed provides that the total amount of debenture stock shall not exceed £2,000 per mile of line for the time being open and operated, and an amount not exceeding the cost price of securities of independent corporations from time to time deposited with the trustees, but the company cannot issue any debenture stock against such securities without the consent of the trustees. The debenture stock is secured by a general charge upon the undertaking, property and assets (other than land and money subsidies) of the company, subject to £1,180,600 of bonds primarily charged on the Ontario division of the railway (287 miles), and to charges created, or to be created, not exceeding $10,000 per mile of line, other than the above-mentioned 287 miles of line in Ontario, or $15,000 per mile if guaranteed by the Dominion Parliament, or any of the Provinces, and is a specific first mortgage upon certain securities deposited with the trustees. We are advised that the issue was largely over subscribed.

A Railway to Hudson Bay.—The Governor General in his speech at the opening of Parliament, Nov. 10, said: "The exploratory surveys for a railway from the western wheat fields to Hudson Bay were pushed energetically during the whole of last summer. It is hoped that a report of the operations will be placed before you at an early date." The Railway Department's report for the year ended March 31, 1909, contained the preliminary report of the engineers who made the survey, the most important details of which have already been published in these columns. The report which is expected to be laid before Parliament shortly will cover the special surveys made in connection with the selection of a terminal—Port Nelson and Fort Churchill both being advocated—and the more detailed estimates as to the cost of the line. Reports from Pas Mission, Sask., Nov. 3, state that 20 miles of the final location of the line from that point had been completed. (Nov., pg. 821.)

Railway Subsidy Contracts.—A subsidy contract was entered into, Oct. 20, between the Dominion Government and the Atlantic, Quebec and Western Ry., for the construction of 26 bridges on the company's line under construction between Paspebiac and Gaspe, Que.

Further evidence was taken during Nov., in the case of the Government against the C.P.R., for recovery of $239,000, alleged to be due for customs duties in connection with the false invoices passed some time ago, by D. M. Hobbs, who was convicted and sentenced to a term of imprisonment, and has since died.

The Secretary of the Board of Railway Commissioners has issued a circular stating that it is the present practice for the Board's inspectors to forward to the superintendent or other official of the railway company interested a copy of report made by the inspector re station buildings and safety appliances. Hereafter, the railway official receiving the inspector's report is to acknowledge receipt direct to A. J. Nixon, the Board's Chief Operating Officer, advising him what action is being taken in connection therewith.

ADDITIONAL SAFETY AND ECONOMY IN

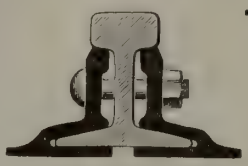
TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence.

HIGHEST AWARDS

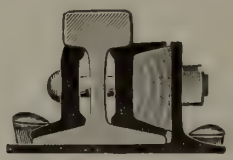
Paris, 1900;

Buffalo, 1901; St. Louis, 1904



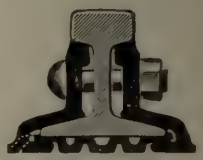
Continuous Joint

Over 50,000 miles in use



Weber Joint

Rolled from Best Quality Steel



Wolhaupter Joint

Catalogues at Agencies

Baltimore, Md. Boston, Mass. Chicago, Ill. Denver, Colo. Pittsburg, Pa.
San Francisco, Cal. Seattle, Wash. St. Paul, Minn. St. Louis, Mo. Troy, N.Y.
London, E. C., Eng. New York City.

THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES: BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, Frog and Switch, and Insulating Rail Joints, protected by Patents.

SILLIKER CAR COMPANY, LIMITED, HALIFAX, N. S., CANADA

STREET RAILWAY CARS

HEAVY FORGINGS AND CASTINGS

RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments.

Alaska Northern Ry.—A company with this title has been formed to take over and complete the Alaska Central Ry., whic was recently sold by orders of the courts. The Sovereign Bank of Canada held practically the entire bond issue, and the line was bought at the sale in the interests of the bank, which itself is in process of being wound up. The line is in operation from Seward, 72 miles inland, and it is intended to continue it to the Tanana River, 370 miles further. It is also proposed to construct a branch line from mileage 146 to the Matauooska coal fields, 38 miles; and a branch from Susitna through the Kuskumin country to the gold fields at Itidarod. The present southerly terminus at Seward is to be changed to Resurrection Bay. O. G. Larebee, Spokane, Wash., is President of the new company. (Nov., pg. 829.)

Alberta and Great Waterways Ry.—The Deputy Attorney General and the Deputy Treasurer of Alberta reached Toronto, Nov. 9, on their return from New York, where they had been in connection with the placing of a provincial loan to aid in the construction of this railway. They stated that they had succeeded in placing the loan upon satisfactory terms. It was announced from London, Eng., Nov. 12, that the issue of £1,500,000 of 5% fifty year first mortgage bonds of this company had been over subscribed. The arrangement for the placing of this issue on the market was made by the Province of Alberta with J. P. Morgan & Co., New York. The amount of the issue represents the amount of bonds which the province agreed to guarantee in order to secure the construction of the line. The guarantee is at the rate of $20,000 a mile of railway, and $400,000 for terminals in Edmonton, the whole not to exceed $20,000 a mile on 350 miles. (Nov., pg. 829.)

Alberta Central Ry.—The organization of this company has recently been completed, the officers being:—President, J. T. Moore, Red Deer, Alta.; Chief Engineer, J. G. MacGregor, Red Deer; acting Secretary, H. W. Raphael, Montreal. The shareholders authorized the directors to go on with surveys for the first 75 miles of the projected lines, for which there is a Dominion subsidy. The line will start at Red Deer and proceed westerly. It is intended that this westerly line will be extended to a junction with the G.T. Pacific Ry. in the Yellow Head Pass country. The company has power also to construct a line easterly from Red Deer to Moose Jaw, and a branch thereform, from near the Battle River to Saskatoon or Warman, Sask. The present surveys show that the construction work will be fairly difficult. The maximum gradient is to be 0.4% and the maximum curvature three degrees. There will be three steel bridges on the line, at the crossing of the Red Deer, Medicine, and Saskatchewan rivers. (Oct., pg. 743.)

Algoma Central and Hudson Bay Ry.—Application is being made to the Dominion Parliament for an extension of time for the construction of the line authorised by chap. 50 of the statutes of 1899, as amended by chap. 49 of the statutes of 1900.

We are advised that three survey parties have been locating a line between the Michipicoten branch and the C.P.R. transcontinental line, and that it is expected to have this work under contract in the near future. The company has under consideration the question of starting work upon the completion of the section of the line between the present end of steel on the main line and the Michipicoten branch. (Nov., pg. 829.)

Athabasca Ry.—The Canada West Construction Co. has been incorporated under the Dominion Companies Act with a capital of $500,000 and offices at Winnipeg, Man., to carry on a general construction and development business, and particularly to acquire any rights and interests under the provisions of the act to incorporate the Athabasca Ry., being chap. 58 of the statutes of Canada of 4 and 5 Edward VII. The provisional directors are:—G. D. Minty, C. S. Tupper, H. W. Hollis, W. F. L. Edwards and A. D. Smith, of Winnipeg. (July, pg. 473.)

Atlantic, Quebec and Western Ry.—We are advised that excellent progress has been made during the present season of construction on this line, which is yet in the hands of the general contractors, the New Canadian Co. Twenty miles, from Paspebiac, the terminus of the Baie des Chaleurs Ry, or the Atlantic and Lake Superior Ry. as it is also called, to Port Daniel, is open for traffic, and it is expected to open a further 20 miles in Dec. This will bring the line to Pabos, but it is possible that a further 10 miles, to Grand River, may be opened this year. The whole of the line to Gaspe Harbor, mileage 102, is under construction, with rails laid most of the way. Foundations of bridges, etc., are in most cases completed; some of the 28 steel bridges to be erected are of considerable size. The contract for their supply and erection is held by the Dominion Bridge Co., Montreal. Arrangements have been completed for the transfer of the Baie des Chaleurs Ry., extending from Matapedia to Paspebiac, with which the company will have a through line, from the Intercolonial Ry. at Matapedia to Gaspe Harbor, of over 200 miles. As soon as the transfer is made the Baie des Chaleurs Ry. will be put under repair and brought up to the standard of the line now being constructed. (Sept., p. 649.)

British Columbia and Manitoba Ry.—A meeting of shareholders has been called to be held at Lethbridge, Alta., Dec. 18, for the purpose of receiving the report of the provisional directors, organizing the company, electing directors, and transacting all other business which may properly be brought before such meeting. The notice is signed by H. Roy, F. W. Rolt, J. J. Fleutot, J. B. T. Caron, E. Hoffman, and J. J. B. Gosselin, for the provisional directors. (May, pg. 355.)

Central Ontario Ry.—We are advised that the balance of the extension from Lake St. Peter to Whitney, on the G.T.R. Canada Atlantic line, has been surveyed and located. Considerable grading has been done this season and one mile of track laid. No new contracts have been let. It is expected that the extension will be completed enxt season. (May, pg. 355.)

Cheticamp to Port Malcolm, N.S.—A press report says a railway will soon be constructed to be known at the St. Rose Ry., to run from Cheticamp to Port Malcolm, which is an all the year round harbor, and that it will tap the Intercolonial Ry. at Orangedale. (See Cape Breton railways, June, 1908, pg. 401.)

Chicago, Milwaukee and Puget Sound Ry.—A press report from Missoula, Mont., says that work on a line from that point to the Crow's Nest Pass country in Canada will be commenced in the spring, and continued until completed. The directors returned to Missoula recently, from a trip to Kalispell, Swan River and Swan Lake. They report that they are pleased with the country which the line will open up. Surveys have already been made on the Canadian side of the boundary. It is stated that tenders will be called for at an early date. (July, pg. 475.) (See also Canada Western Ry.)

Chicago, Milwaukee and St. Paul Rd.—A press dispatch from Grand Forks, N.D., Nov. 12, said F. D. Hughes, of Larimore, N.D., had returned there from Chicago, where he had been in consultation with the President of the C.M. and St. P. Rd. in connection with the route of the proposed extension from Fargo to Winnipeg. He stated that there was no doubt that it was the company's plan to start the construction of the extension in the spring. As to the exact route which would be taken, it was a little early to state definitely, as it had not been all gone over carefully. The idea was that the line would start from Fargo, running midway between the Casselton branch and the main line into Grand Forks, then west to Larimore, and from there directly north into Winnipeg. (July, pg. 475.)

Detroit River Tunnel.—We are advised that all the sections of the subaqueous work are in position and surrounded by exterior concrete. All of the water has been removed and 75% of the lining of the two tubes, forming the tunnel, completed. The approach tunnel work on both sides of the river is practically done. There is some little work to do in the vicinity of the shafts on both sides of the river, but this will not in any way interfere with the progress and completion of other sections. A very large amount of preliminary work in connection with electrification has been done, but work has not been actively commenced at the tunnel itself. (Oct., pg. 743.)

Dominion Atlantic Ry.—The question of the construction of a line connecting with the D.A.R., through its Cornwallis Valley Branch at Centreville, N.S., and touching the main line at some western point, has been under consideration for years. A public meeting was held at Woodville recently, when it was stated that the Dominion and Provincial subsidies on the usual terms were available for any company which would construct the line, and the Minister of Militia said he had been given to understand when in London, Eng., recently, by the President of the D.A. Ry. that that company was ready to arrange with the company now holding the charter to construct this line, and was prepared to enter upon the construction of a ten mile section from Centreville. A committee was appointed to take up the matter with the various interests concerned. (Sept., pg. 649.)

Dominion Central Ry.—Application is being made to the Dominion Parliament for authority to increase the bonding powers to $50,000 a mile, to extend the time for the commencement and completion of the projected railway. Smith and Johnston, Ottawa, are the solicitors. (July, pg. 475.)

Farmers Ry.—A press dispatch from Prince Albert, Sask., Nov. 10, said D. W. Hines, President of the Company, was brought into that city the previous day from Melfort charged with being insane, and was placed in jail, pending his removal to the asylum at Brandon, Man. The company has completed five miles of grading on its line from Melfort towards Regina. It is intended to elect a new President at once. (Sept., pg. 649.)

Graham Island, B.C.—Application is being made to the B.C. Legislature to incorporate a company with power to construct railway lines, to be operated by steam, electricity or other motive power, from Skidegate Inlet, near lot 15a, northeasterly to Miller Creek, thence northwesterly to Stewart or Kundis Bays, Masset Inlet, with branches, not to exceed 20 miles in any one case.

MONTREAL STEEL WORKS, LIMITED

POINT ST. CHARLES, = = MONTREAL

MANUFACTURERS OF

Steel Castings
(Acid Open Hearth System)

Switches and Track Work
for Steam and Electric Roads

Springs
of all kinds

Manganese Steel Castings
for wearing Parts, insuring Great Hardness and Durability

Interlocking Plants

Trucks for Electric Cars

Agents for Canada for

THOS. FIRTH & SONS, LIMITED, Sheffield, England
"Speedicut" High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc. A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO., Barrow-in-Furness, England
Quotations for Tee Rails, Fish Plates, etc., promptly furnished. Catalogues sent on application.

Pintsch Light Steam Heat

Most brilliant illumination made possible by the Pintsch System using perfected Mantle Lamps and Safety Axle Driven Dynamo Electric System a product of sixteen years experience and now operating successfully on leading roads

The Safety Car Heating and Lighting Co
2 RECTOR ST., NEW YORK.

Car Heating Systems guaranteed to meet all conditons of service. Controllable Direct Steam, Hot Water or Thermo Jet System where pressure not desired. Steam tight couplers, traps, trainpipe valves and other appliances.

CHICAGO. BOSTON. ST. LOUIS. ATLANTA. PHILADELPHIA. MONTREAL. BERKELEY, CAL.

Power is also asked to own and operate steam and other vessels, wharves, docks, etc., including water power for railway and other use. Barnard and Robertson are solicitors for applicants.

Ha Ha Bay Ry.—The construction of this line is being proceeded with, and it is expected, will be completed and in operation by Sept., 1910. It starts at St. Alphonse and proceeds to Jonquieres, Que., where it connects with the Quebec and Lake St. John Ry. A branch will also be constructed from St. Alphonse to Grande Bay. The main line will be 24 miles long, and the branch three miles. At St. Alphonse the Government has constructed a wharf providing for a deep water harbor with 60 ft. of water, so that there is excellent berthing for large steamers. The railway will provide an outlet for the lumber mills of Chicoutimi county. It is estimated that it will cost $24,000 a mile. The Dominion and Quebec Governments have given subsidies towards construction. Senator Choquette is President of the company, and Mr. Dubuc, of the Chicoutimi Pulp Mills, Vice President. (Sept., 1908, p. 615.)

Hudson's Bay and North Western Ry.—Application is being made to the Dominion Parliament for an act authorizing the company to amalgamate with the Manitoba and Keewatin Ry., and for an extension of time for the construction of the lines authorized in connection with the said companies. S. S. Martin, Toronto, is solicitor for the company. (July, pg. 477. See also Manitoba and Keewatin Ry., July, pg. 479.)

Intercolonial Ry.—The annual report of the Department of Railways for the year ended Mar. 31, states that a remeasurement of the line was carried out during the year, with the result that the length was found to be 1,447.13 miles, instead of 1,448.62 miles, and the revised figures are now being used. There are 17.67 double tracked. The total mileage is irrespective of spur lines and sidings and tracks in yards, the aggregate length of which is 364.04 miles. (Oct., pg. 745.)

International Ry. of New Brunswick.—At Montreal Nov. 3, T. Malcolm, general contractor for this railway, stated that if the weather held good the line from Campbellton to St. Leonards, N.B., 114 miles, would be completed by Nov. 30. Track has been laid, and the ballasting completed, on 80 miles, while the grading has been completed on the remaining 34 miles. As soon as the line is finished preparations will be made for the construction of the bridge across the Restigouche River, to connect with the Atlantic and Lake Superior Ry. and its extension the Atlantic, Quebec and Western Ry. (Sept., pg. 649.)

James Bay and Eastern Ry.—Application is being made to the Dominion Parliament to incorporate a company with this title to construct a railway from the Canadian Northern Ontario Ry.'s authorized line near Lake Abitibi, easterly and southeasterly, passing south of Lake St. John, to the mouth of the Saguenay River, with a branch from Chicoutimi county to Ha Ha Bay on the Saguenay River. G. F. Macdonnell, Toronto, one of the Canadian Northern Ry.'s assistant solicitors is solicitor for the applicants.

Kettle Valley Lines.—Application is being made to the Dominion Parliament by the Kettle River Valley Ry. Co. for authority to construct an extension of its line from its authorized railway near Coldwater River, to the navigable waters of the Fraser River, and for an extension of time for the construction of its various lines, and for other purposes.

The provisions of the agreement between the B.C. Government and the Kettle River Valley Ry. Co., whereby the province agrees to bonus a line from Midway, in the Boundary country, to Merritt, in the Nicola valley, 150 miles, are embodied in a signed document which requires ratification by the Legislature to make it effective. The Attorney-General in explaining the contract at a meeting in Vancouver said, the new company was the successor to the Midway and Vernon Ry., to which the Legislature granted a bonus of $5,000 a mile, and which the courts had determined the Province should pay. The new company having acquired this bonus, had represented to the Government that it would not be profitable to construct and operate the line between Vernon and Midway in face of the competition of the steamers running on Okanagan Lake, and agreed for $550,000 to construct a line from Midway to Penticton, and on to Merritt in the Nicola Valley, 150 miles. The company also agreed to construct a line up the north fork of the Kettle River and down the Coquihalla River to the Fraser River. By winding through the passes of the Hope Mountains this would bring Midway within 325 miles of Vancouver, or about 12 hours run by train. The company also agreed to employ no Asiatics, and pay a fair wage, and to have the service between Midway and Vernon in operation within four years. The company further agreed to pay the debts left by the Okanagan Construction Co. on the Midway and Vernon Ry.; to pay a tax of $90 a mile to the Government, and to put up a deposit of $250,000. The lines to be constructed according to the signed agreement are as follows:—from Grand Forks up the north fork of the Kettle River, not less than 30 miles; from Midway to Penticton; and from Penticton to a junction with the Nicola, Kamloops and Similkameen Ry. near Nicola. Merritt, which was mentioned in the Attorney General's speech as the terminus of the line in the Nicola valley, is a station on the Nicola, Kamloops and Similkameen Ry., seven miles from Nicola. The agreement provides that the lines to be constructed are to be practically uniform with the C.P.R. or Great Northern Ry. lines when first constructed. The company is to have a free right of way through provincial lands, and also the right to take from all public lands adjacent to the lines, stone, gravel and other material which may be necessary for construction. A press report states that surveys made over the route show that the maximum gradient will be 1.5% in crossing the summit between West Fork and the Okanagan valley, and for the remainder of the distance less than 0.5%. (July, pg. 477.) See also Midway and Vernon Ry. (Nov., 1908, pg. 793.)

Manitoulin and North Shore Ry.—Application is being made to the Dominion Parliament for an extension of time, for the completion of the part of the line between Sudbury and Little Current, Ont.; for the commencement and completion of the part of the line between Owen Sound and Meaford, Ont., and for the commencement and completion of the lines authorized by the company's various acts, except those portions particularly mentioned above; and declaring the company's lines to be works for the general advantage of Canada. (Sept., pg. 651.)

Margaree Coal and Ry. Co.—In 1907 an agreement was made between the company and the Nova Scotia Government for the construction of this line in Inverness county, which was ratified by chap. 13 of the statutes of the same year. Under an order in council of March 27, of the present year, a new agreement was made changing certain of the conditions, and granting an extension of time within which the railway may be constructed. This new agreement was ratified and confirmed at the last session of the Nova Scotia Legislature.

The county of Inverness in 1905 made an agreement with the company by which aid was to be given towards the construction of the line through the county, the construction to be completed by Jan., 1908. An extension of time to Jan., 1909, was granted subsequently, and a further extension last session.

A third act affecting the company authorised the increase of its capital stock from £500,000 to £600,000, and the number of its directors from five to seven. (Sept., 1908, pg. 617.)

Maritime Coal, Ry. and Power Co.—We are advised that the extension of this company's line from Joggins Mine to the Bay of Fundy Shore, 1.5 miles, has been completed. The extension has a maximum gradient of 1.5% and a maximum curvature of four degrees. There are no special features of construction on this piece of line. (Oct., pg. 745.)

Michigan Central Ry.—The subway on Ross St., St. Thomas, Ont., under the M.C.R. tracks, has been completed, and the company is now grading the sides of the track at the subway in preparation for sodding them in the spring.

A recent press dispatch from St. Clair, Mich., stated that the company was contemplating the establishment of a car ferry service between that point and Courtright, Ont., and that some of the car ferries released from the Detroit-Windsor service will be used on it. We are officially advised that nothing of the kind is at present contemplated by the company.

It is stated that a site has been secured for a new terminal station south of Michigan Ave., Detroit, Mich., between Fifteenth and Twentieth streets. The plans for the new building are under consideration, but details are not sufficiently advanced to allow of any description being given. (Oct., pg. 744.)

Midway and Vernon Ry.—See Kettle Valley Lines. (Nov., 1908, pg. 744.)

Montreal Central Terminal Co.—Application is being made to the Dominion Parliament to authorize and confirm agreements with other companies, to authorize the company to amalgamate with other companies whose property or undertaking it is authorized to acquire, and to increase the capital stock of the company. F. E. Came, Montreal, is Secretary of the company. (See Montreal Bridge and Terminal Co., June, pg. 415.)

New Brunswick Coal and Ry. Co.—We are advised that the work for the payment of which the New Brunswick Legislature authorized a loan at its last session, including some additional ballasting, fencing, new tanks, and a new steel bridge at Washademoak, has all been completed by the staff employed by the Commissioners. The line is operated for the New Brunswick Government by a commission, A Sherwood, Norton, N.B., being the Manager. (Oct., pg. 745.)

Nickel Range Ry. Co.—Application will be made to the Ontario Legislature to incorporate a company with this title for the purpose of constructing a railway from near Onaping station, on the C.P.R. transcontinental line, through the northerly part of Dowling tp.; thence northeasterly through Laveck, Morgan, Lumsden or Foy and Bowell tps.; thence easterly through Wisner tp., connecting with the C.N.O.R. in the easterly part of Wisner tp.; thence easterly and southeasterly to a connection with the C.P.R. near Falconbridge tp. Power to construct branch lines is also asked, also the right to connect with the C.P.R., the C.N.O.R. or other railways at points other than those named, and to operate the lines by steam, electric or other motive power. Masten, Starr, Spence and Cameron, Toronto, are solicitors for applicants.

Northern Empire Ry.—A metting of of shareholders is to be held at Edmonton, Alta., Dec. 15, for the purpose of receiving the provisional directors report organizing the company, and tran-

CANADA CAR COMPANY

MONTREAL, QUE. **LIMITED**

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS CASTINGS FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS:
BOX 2286, MONTREAL

Works: TURCOT

Inside Pump Type

Quick Action Hydraulic Jacks

Joyce-Cridland Hydraulic Jacks have a speeding device whereby they can be run quickly up to load, where the speeding device automatically cuts out, leaving only the power pump in action This device adds no extra pump or complicated parts to the jack. These jacks are so built that they may be used in any position and the filling liquid will not escape. The outside pump type has a short barrel, adapting it for use in cramped quarters.

Full description and explanation of the working parts of the Joyce-Cridland Hydraulic Jacks are given in Bulletin 33.

Outside Pump Type

A. R. Williams Machinery Co., Limited

Toronto, Winnipeg and Vancouver. WILLIAMS & WILSON, Montreal

sacting other business. The notice is signed by H. Roy, R. Balfour, J. J. Fleutot, E. Hoffman, and J. J. Gosselin. (July, pg. 479.)

Ottawa Valley Ry.—The Dominion Parliament is being asked to authorize and confirm agreements with other companies, to increase the bonding powers and to acquire, use and dispose of electric and other power. A Langlois, Montreal, is Secretary. (May, 1909, pg. 145.)

Pacific and Atlantic Ry.—The Dominion Parliament is being asked to extend the time for the construction of the lines authorized by sec. 1, chap. 138 of the statutes of 1906. (April, 1908, pg. 245.)

Prince Edward Island Ry.—We are advised that a contract was let to Whitehead Bros., Fredericton, N.B., for the construction of the branch line from Harmony to Elmira. The right of way has been cleared, and the culverts, which are of concrete, have been completed. Some little grading has been done, but owing to heavy rains construction has been closed down for the winter. The branch will be 10 miles long, mostly through a heavily wooded country. The maximum gradient is 1.2% and the maximum curvature four degrees. H. F. Laurence is engineer in charge of construction. (Aug., pg. 575.)

Prince Edward Island Tunnel.—The Premier of Prince Edward Island returned to Charlottetown from a visit to Ottawa, Nov. 5. In an interview he said the Dominion Government had promised to make a survey to determine the feasibility of a tunnel between the island and the mainland, and to estimate the cost. This was the next step, and the result of the enquiry was being awaited. The tunnel would have far-reaching consequences and advantages. The Island was pressing for it, and it should be constructed if the cost was reasonable. He did not believe it should be constructed if the cost was found to be unreasonable. (July, pg. 479.)

Quebec Central Ry.—The construction of the extension from St. George, Beauce, to Ste. Justine, Dorchester County, Que., is being energetically pushed forward. We were advised Nov. 6 that 12 miles of track had been laid and fully ballasted. A large bridge over the Black Stream, mileage 13, is being erected by the Dominion Bridge Co. It was expected that this would be completed Nov. 10, when the laying of track would be continued on to Ste. Justine, thus completing 30 miles in one season. The management expects to have the line in condition to operate a train service over about Jan. 1. It is, however, so late in the season that the final section of the line cannot be completely ballasted, but this will be done in the early spring, and with the summer change of time the new 30 miles will be added to the company's regular train service schedule. There will be four stations located on this new line, the first, 10 miles from St. George, will probably be called Morisset Bridge; the second, 15 miles from St. George, called Racquette River; the third, 20 miles from St. George, called Le Detour, and the fourth, at the end of the line, Ste. Justine. This extension follows the valley of the Famine River, through a rich lumber and agricultural country with reported indications of asbestos and copper. A considerable quantity of gold has been washed from the gravel of the Famine River. Ste. Justine is located seven miles from the boundary line of the State of Maine, on the watershed of the St. John river. It has not been decided when further construction beyond Ste. Justine will be commenced, but engineers are now making the location surveys. (Nov., pg. 829.)

Regina Southern Ry.—The Saskatchewan Legislature is being asked to incorporate a company with this title to construct a railway from Regina southwesterly to Rouleau, and on to tp. 12, r. 23, w. 2nd mer., thence southeasterly to the International boundary in tp. 1, r. 11 or 12, w. 2nd mer.; from tp. 12, r. 23, southwesterly to Willow Bunch, thence southerly to the International boundary in tp. 1, r. 1, w. 3rd mer. The company will also ask for considerable powers as a general development company, among them being the right to construct tramways for the transportation of coal, ore, minerals and other freight to or from the company's lines. A. Ross, Regina, Sask., is solicitor for applicants.

Reid Newfoundland Co.—Some information as to the contract between the Newfoundland Government and the Reid Newfoundland Co., with respect to the construction of branch lines, has been made public. It is stated that several branch lines are to be constructed, and that the company is to receive a subsidy of $15,000 a mile.

Of the lines to be constructed, that to Bonavista is now under way. A report from St. Johns, Nov. 3, stated that 10 miles of grading had been completed, and that as 1,400 men were at work there was every reason to hope, that with favorable weather conditions, the line would be completed early next year. (Nov., pg. 831.)

St. John Valley Ry.—The question of the construction of this projected line was brought before the House of Commons, Nov. 16, through a question asked by O. S. Crockett, as to the deputations which waited on the Dominion Government during the last session of the New Brunswick Legislature. The Minister of Public Works stated in reply that no proposition was made to the N.B. Government, but a proposition was made by a company to the Dominion Government. It was stated by the delegation that the company had that it would ask the Legislature for authority to guarantee the company's bonds up to $25,000 a mile, provided the Dominion Government would agree that the Intercolonial Ry. would operate it as a part of the Government lines, and pay to the province 40% of the gross earnings. The Government took the matter into full consideration, and subsequently the company was informed that before a definite reply could be given, detailed information as to the proposition was required. The Mayor of Fredericton, who is President of the company, was subsequently told of the position the Government took. The company had recently asked for a conference, and a reply had been sent to the effect that when a definite proposition, giving full details as to the route, gradients, curvature, bridge structures, etc., was submitted, the Government would give it the fullest consideration. (Oct., pg. 745.)

Temiskaming and Northern Ontario Ry.—A contract has been let to the Canadian Contracts, Ltd., Toronto, for the construction of a spur line of about a mile to connect the main tracks in New Liskeard, Ont., with the wharf at the mouth of the Wabis River. The work is to be proceeded with at once.

J. H. Black, Superintendent, stated in Cobalt, Nov. 3, that it was the intention of the Commissioners to construct a second track between Cobalt and North Cobalt in the spring.

The new station at Cobalt is expected to be completed early in Dec. A 650 ft. siding is being laid in front of the freight sheds and extending to the right of way siding at the north end of the yard. Additional sidings are being laid along the Kerr Lake branch. Supt. Black was in Cobalt, Nov. 8, inspecting the various works in progress, including the construction of a second track between Haileybury and North Cobalt. The portion of this work between Haileybury and North Cobalt has been completed, and progress is being made on the remaining distance between North Cobalt and Cobalt. There is a good deal of rock work to be done on this section, which will be gone on with during the winter. It is expected that the whole of the work will be completed early in the spring. (Nov., pg. 831.)

Vancouver and Coast-Kootenay Ry.—The Dominion Parliament is being asked to incorporate a company with this title for the purpose of constructing a railway from Vancouver, southeasterly to New Westminster and across the Fraser River, thence easterly to Midway, in the Boundary Creek district; from the main line of railway south of the Fraser River to its mouth; from the main line east of Hope to Nicola Lake; and from the line near Vancouver northerly across Burrard Inlet to North Vancouver, thence westerly to the mouth of Capilano River. The company is also asking power to construct and operate telegraph and telephone lines along its railway. D. G. Macdonnell, Vancouver, B.C., is solicitor for applicants.

A company was incorporated in 1902 by the B.C. Legislature, and subsequently by the Dominion Parliament to construct a line following a similar route. Extensions of time for construction were granted by both Legislature and Parliament. When the application was last made to Parliament for an extension of time for construction, in 1907, the applicants withdrew, and the charter lapsed. The present application does not disclose whether the applicants are in any way connected with the holders of the old charter.

Vancouver and Nicola Valley Ry.—The B.C. Legislature is being asked to revive, ratify and confirm this company's act of incorporation, to extend the time for the commencement of construction, and for expending 10% of the capital, and to give other powers. The company was incorporated by the B.C. Legislature in 1908, with a capital of $5,000,000 and office in Vancouver, to construct and operate a railway from Nicola Lake, along the Nicola River valley to the junction of the Nicola and Coldwater Rivers, and following the Coldwater River to the divide of the Coquihalla River, thence down the Coquihalla Valley to the junction with the Fraser River near Hope, and along the south shore of the Fraser River to the railway bridge, crossing the river at New Westminster and continuing to Vancouver, with power to construct branch lines, bridges, ferries and other works connected with railway operation. The provisional directors named in the act of incorporation were: H. W. Armstrong, J. Hendry, L. N. MacKechnie, R. P. McLennan, F. R. Stewart, and F. H. Lantz, Vancouver, B.C.

Vancouver Island, B.C.—Application is being made to the B.C. Legislature for the incorporation of a company to construct and operate railway lines, from near Robson Bight or Beaver Cove on the east coast westerly across the island, with power to construct and operate all necessary bridges, ferries, wharves, docks, telegraph and telephone lines, steam and other vessels, etc. Taylor, Hume and Innes are solicitors for the applicants.

Vancouver Island and Eastern Ry.—Application is being made to the Dominion Parliament to authorize the company to construct a railway from Seymour Narrows on Vancouver Island northerly to Quatsino Sound, in extension of the line authorized by its act of incorporation, and to apply the provisions of that act to the extension; to continue the act of incorporation, and to extend the time for the construction of the lines authorized. R. C. Lowe, Victoria, B.C.,

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from_____the Master Mechanic here, that an engineer running between_____ and_____discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.

MONADNOCK, CHICAGO

The Hamilton Steel & Iron Co.

HAMILTON, CANADA LIMITED

PIG IRON

RR. AXLES **ANGLE BARS**

TRACK SPIKES **TIE PLATES**

Marine and Railroad

FORGINGS

In Rough, Rough Turned or Smooth Finished

BAR IRON **BAR STEEL**

Plain, Cold Twisted or Deformed

STEEL BARS

For

CONCRETE REINFORCEMENT

is the company's solicitor. (July, pg. 481.)

Vancouver, Westminster and Yukon Ry.—The Dominion Parliament is being asked to extend the time within which the company may construct the various lines authorized. It is also desired to change the route of the authorized line from Squamish Valley to Hazleton or some other point in the Skeena River valley to a route, as follows: from Vancouver or some other convenient point on the shore of Burrard Inlet to New Westminster (such line being in addition to the railway authorized by the act of incorporation), and from New Westminster to the south side of the Fraser River, and thence through the New Westminster district and easterly and northerly through the Yale, Lillooet and Cariboo districts to the branch line from Willow River to Edmonton, authorized by chap. 176 of the statutes of 1906, at or near Tete Jaune Cache; thence north easterly following the railway authorized by chap. 196 of the statutes of 1906, along the south fork of the Fraser River to between Fort George and Fort McLeod; thence to Hazleton or some other point on the Skeena River. The company also asks for power to enter into agreements with other railway companies. (July, pg. 483.)

The Western Canadian Collieries, which was empowered by the Dominion Parliament to take over the properties of the United Gold Fields of British Columbia, owning the Frank and Grassy Mountain Ry., is making considerable extensions to its coal mining plant at the Lille and Bellevue mines, near Frank, Alta. It is also opening a new mine at Blairmore. The shipping plant at the Bellevue mines is also being added to, and for the accommodation of the new facilities a new railway yard is being laid out. There will be 8,000 yards of sidings, and the line at the pit mouth will be double tracked. Two tracks will be laid in the upper yard for empties, and three in the lower yard for loads, giving accommodation for 60 empties and 75 loads. The company is handling 1,200 tons of coal a day, and with the increased facilities will be able to handle 2,000 tons. It is expected that the new handling plant and the increased accommodation in the yards will be ready for use by Jan. 1. (See United Gold Fields of British Columbia, Aug., pg. 577.)

Winnipeg and Northern Ry.—At the last session of the Manitoba Legislature an act was passed extending the time for the commencement of the construction of the line authorised by the act of incorporation, chap. 122 of the statutes of 1906, for one year, and for seven years the time within which the line is to be completed. (April, pg. 251.)

Winnipeg, Salina and Gulf Ry.—United States press reports state that a British syndicate has agreed to finance the construction of this projected railway. The company plans to construct a line from Winnipeg, Man., south to the Gulf of Mexico. The first section to be constructed, it is reported, is from Superior, Wis., via Beloit, Grand Bend, Kan., Woynoka, Okla., and Matheford, Tex., to Wichita Falls, with an extension from Woynoka to Oklahoma city, Okla. Among those interested are F. H. Taylor, G. E. Graves, Philadelphia; and J. W. Wagner, formerly connected with the Milwaukee Southern Rd. The company proposes to open offices at St. Louis, Mo., Kansas City, and Salina, Kan. In 1908 a company with the title of the Winnipeg, Yankton and Gulf Rd. was formed to construct a line over the same route. There have been numerous proposals to construct such a line as projected above, reference to them will be found under the heading of American Midland Ry., Aug., pg. 573, and Sept., 1907, pg. 663.

Pending Legislation Affecting Railways.

The House of Commons gave the first reading, Nov. 16, to three bills introduced by E. A. Lancaster. The first one is for the purpose, as he explained, of making it clear and distinct that it was the intention of Parliament that section 340 of the Railway Act should make absolute the Board of Railway Commission's jurisdiction in regard to certain freight contracts. The section provides that the shipper shall not be bound to accept anything less than his ordinary and actual damages unless he signs a contract which must be approved of by the Commission. The Ontario Court of Appeal held in a case that the shipper was bound by the contract he had signed notwithstanding the fact that it had not received the Commission's sanction. The bill also includes a section providing that where the railway company insists on a higher rate of freight in order to guarantee against full loss, but wants the shipper to take the lower rate and lower liability the company must allow the shipper the choice of paying the higher rate of freight, and being fully protected against loss if he wants to, and not compel him to accept a reduced liability without any option.

The second bill has for its object the limiting of appeals from the Board of Railway Commissioners' decisions. At present, he explained, it was very doubtful if any time limit existed. The bill provides that the Board shall not grant leave to appeal after 30 days from the making of the order; that leave to appeal to the Supreme Court shall not be given unless some doubtful question of law is involved and unless serious loss and injury will result from immediate compliance with the order sought to be appealed from, and that no appeal, even should leave have been granted, should lie if it is not prosecuted within 60 days, that is within 30 days after leave to appeal has been granted.

The third bill deals with the question of level crossings, and was introduced for the purpose of changing the amendment to sec. 238a passed last session. The proposed amendment reads:—"And where the railway has been constructed before the passing of this Act and is permitted by the Board to pass over any highway crossing at rail level, the municipality shall not be ordered to pay any portion of the cost or expense of protecting such crossing unless and except it is othewise provided by agreement, approved by the Board, between the company and the municipal corporation." The Minister of Railways said the proposed amendment was subversive of one of the principles of the Act passed last session.

Great Northern Ry. Lines in Canada

Crow's Nest Southern Ry.—The G.N.R. annual report makes reference to the extension of this line from Fernie to Michel, B.C., 20.98 miles, which was substantially completed by May 1, 1908. The line had not been formally opened for operation when it was seriously damaged by the fire at Fernie, on Aug. 2. The damage was repaired and the line opened Nov. 30, 1908.

New Westminster Southern Ry.—In the G.N.R. annual report reference is made to the opening of the new line between Blaine, Wash., and South Westminster, B.C. The completion of this line, the report says, will permit of the abandonment and removal of the larger portion of the old heavy grade line, the Canadian portion of which is owned by the New Westminster Southern Ry., between the same points. (See also Vancouver, Victoria and Eastern Ry. and Navigation Co.).

Vancouver, Victoria and Eastern Ry. and Navigation Co.—The Dominion Parliament is being asked to pass an act extending the time within which the company may complete its railway and extensions.

The G.N.R. annual report says the extension from Cloverdale to Sumas, B.C., 29.29 miles, has been completed, but is not yet formally opened for traffic. Work on the extension from Keremeos to Princeton, B.C., 41 miles, has been continued during the year. The grading had been completed and 1.5 miles of track laid to June 30. It was expected that the line would be completed to Princeton about Nov. 1. On March 15 the V. V. and E. Ry. and N. Co.'s line from South Westminster, via Olivers, to the International boundary, 21.05 miles, was put in operation. On the same day the new line from Blaine, Wash., to the International boundary, 2.96 miles, was put in operation. This gives a new through line between these points and does away with the New Westminster Southern Ry.'s old line. In connection with the new line from Blaine to the International boundary a new passenger station, custom house and water station was erected at Blaine, and the freight station enlarged. On June 4 the company completed the laying of track on its branch line at Vancouver to Baurrard Inlet. This takes the company's tracks to the shipping district of Vancouver, where it has valuable property which will shortly be developed.

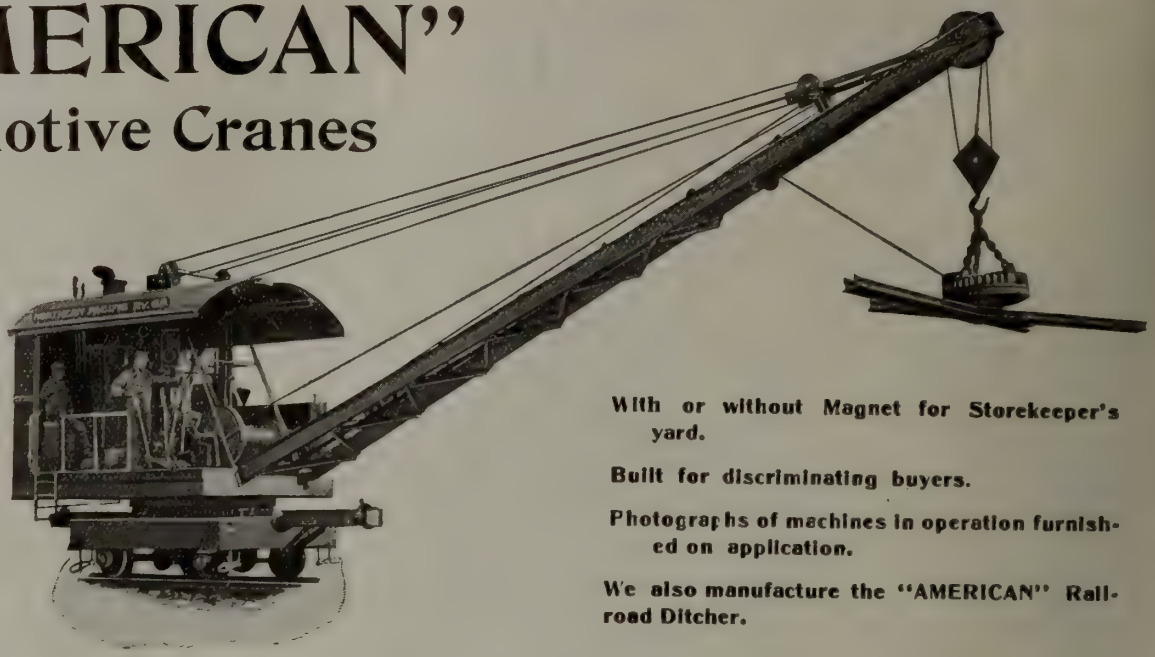
We were advised Nov. 5 that track laying had been completed into Princeton, thus completing this year 45 miles of new track on this line. The tracklaying work for the year was commenced at Keremeos. The company will complete a spur to the V.M. coal mine, 0.75 mile. The surfacing and bridging on the Keremeos-Princeton section was expected to be completed by Nov. 25. No further tracklaying will be gone on with this year. The question of the proposed tunnel from Tulameen to Coquihalla river, 7.49 miles, is still under consideration.

Recent reports from Hedley, B.C., state that the track laying gang had reached close up to Princeton at the end of October, and that ballasting and surfacing was being carried on with all the help available. It was expected that the regular train service would be put on by Dec. 1. The line has been fenced to Hedley; a station building and tank have been completed at Bradshaw, and the wires for the telegraph-telephone line have been strung between Keremeos and Hedley. Survey parties are still at work on the revision survey of a route from Otter Flat to the summit. The question of further construction between Princeton and the coast has not been decided. Chief Engineer Hogeland, of the Great Northern Ry., was in Hedley recently and made an inspection of certain portions of the proposed new route through the Hope Mountains. He made no statement as to when work would be gone on with beyond Princeton, but said that the men would shortly be engaged on new contracts. (Nov., pg. 851.)

The Temiskaming and Northern Ontario Ry. has increased the demurrage charges on freight cars from $1 to $3 a day, and the storage charges on package freight from 5c. to 10c. per package a day.

The British Government, a London, Eng., cable of Nov. 11 states, has decided to grant £135,000 towards the construction of the Collooney and Blacksod Bay Ry. in Ireland. The construction of this piece of line is a part of the project for the establishment of a fast All-Red rail and steamship line round the world, via Canada and Australia.

"AMERICAN"
Locomotive Cranes



With or without Magnet for Storekeeper's yard.

Built for discriminating buyers.

Photographs of machines in operation furnished on application.

We also manufacture the "AMERICAN" Railroad Ditcher.

AMERICAN HOIST & DERRICK CO.
ST. PAUL, U.S.A.

CHICAGO NEW YORK PITTSBURG NEW ORLEANS

Sheffield-Johnson Flexible Spout Standpipe installed on the C.P.R. at St. Clet, P.Q.

SHEFFIELD-JOHNSON
—THE—
IDEAL STANDPIPE

It meets with the approval of practical railway men and its popularity is assured. It has a range of flexibility of 5 ft. or over as desired and can be introduced directly into the highest as well as the lowest tender. Nothing could be simpler, more easily operated or more convenient than the type of telescopic spout shown. This, in connection with our horizontal main valve and other special features, makes a combination that is far ahead of all other standpipes on the market.

THE CANADIAN FAIRBANKS CO., LTD.

Fairbanks Standard Scales—Fairbanks-Morse Gas Engines

Montreal Toronto St. John, N.B. Winnipeg Calgary Vancouve

C.P.R. Betterments, Construction, Etc.

An Entrance to Halifax.—The council of the Halifax Board of Trade appointed a committee Nov. 2 to go to Montreal and interview the C.P.R. Executive. They were instructed to ask the company two questions, first if the company wants to come to Halifax, and second on what terms. The committee had a conference with Sir Thos. G. Shaughnessy, President, and D. McNichol, Vice President, Nov. 10. The matter was thoroughly discussed and an arrangement was made for a further conference after the company's officials have looked into the plans in detail. The question has been discussed by the Board of Trade at great length and several plans have been considered. In summarizing the suggestions of the Board, A. Johnson, the President, said after the conference:—"It is calculated that a line from St. John, N.B., to Halifax, 275 miles, could be built without equipment for $20,000 a mile. This would mean $5,500,000. It was reported some time ago the C.P.R. was willing to give $135,000 for running rights over the Intercolonial. Suppose they are willing to give $160,000. Capitalized this would amount to $4,000,000 at 4%, so that the C.P.R. should be willing to contribute $4,000,000 towards the building of this line. The question is, where would the balance, $1,500,000, come from? In my opinion it could be readily raised. Cumberland should give $150,000; Colchester, $150,000, and the Province of Nova Scotia at least $5,000 a mile for 141 miles, which is the distance from Halifax to the New Brunswick line. This would amount to $710,000. Halifax city should give $400,000 and Halifax county $100,000. This would make $1,510,000, which, added to the capitalized $4,000,000, would build a road from St. John to Halifax. The road between Painsec and Amherst could be shortened 12 miles. Sir Sandford Fleming informed me on one occasion that probably the greatest mistake made in locating the I.C.R. was not adopting this route rather than the one via Dorchester. The new road from Amherst to Truro would pass through prosperous country containing coal mines, great lumber interests, and producing large quantities of agricultural products. It, however, would be about as much longer than the present road as, say, the distance saved between Painsec and Amherst, but it would pass through the prosperous Stewiacke Valley and a better route could be secured than the present I.C.R. one."

Place Viger Extension.—The Road Committee of Montreal City Council adjourned the further consideration of the C.P.R. proposal to stop up certain streets in the vicinity of the Place Viger station until the Dec. meeting, in order that D. McNicoll, Vice President, could be present to fully explain matters.

Northern Colonization Ry.—The extension from Nomining to L'Orignal Rapids, Que., now called Duhamel, 35 miles has been completed, and passed by the Department of Railways inspecting engineers. A train service has been placed in operation. It is intended to construct a further extension to a junction with the old Gatineau Valley Colonization Ry. (Ottawa Northern and Western Ry.) now terminating at Maniwaki.

St. Marys and Western Ontario Ry.—The bylaw granting aid for the construction of this railway through Blanshard tp. was resubmitted to the taxpayers Nov. 19. This is the third time it has been voted upon; on the last occasion it was carried by a majority of 76, but owing to some informality it is being submitted a third time at the company's instance and cost.

Fort William Station,—A contract has been let to J. McDiarmid & Co., Winnipeg, for the erection of a station building at Fort William, Ont., to cost about $100,000. It will be of fireproof construction, 50 by 105 ft., three stories high, with a train shed 34 by 167 ft.

New Western Lines.—Application is being made to the Dominion Parliament to extend the time within which the following lines of railway may be constructed:—from Osborne to between Cartwright and Boissevain, Man.; from Otterburn to Stuartburn, Man.; from Killam or some point in tp. 44, ranges 13 and 14 west of the 4th meridian, to Strathcona, Alta., with power to commence in range 12; from Napinka, westerly to a junction with the northwest extension of the Souris branch, with power to terminate at Griffin on the Weyburn-Stoughton branch. Power is also asked to construct the following additional lines:—from tp. 22, range 2, east of the principal meridian northerly and northwesterly for 100 miles, to tp. 34, ranges 5, 6, or 7, west of the principal meridian, and from the Pheasant Hills branch near Asquith, Sask., northerly or northwesterly to tp. 38 or 39, range 10, 11 or 12, about 20 miles.

Brandon, Man.—Estimates have been prepared for the construction of a subway under the C.P.R. and the Brandon, Saskatchewan and Hudson Bay Ry., to cost $120,000, and for a bridge over the same tracks at a cost of $105,000. No decision has been reached as to which will be constructed by the city.

Birtle to Brandon.—Local press reports state that the company is considering the desirability of constructing a line from Birtle, via Hamiota, to Brandon, Man.

Saskatoon to Wetaskiwin.—The first train over the newly completed line connecting up the line running westerly from Saskatoon to a junction with the branch running easterly from Wetaskiwin to Hardisty, was run Oct. 26. W. Whyte, Second Vice President, together with a number of officials and public men were on the train. Mr. Whyte explained that there was yet 40 miles of skeleton work to be completed between Wilkie and Hardisty. This means that the rails have been laid on the dump for this distance, and that the ballasting and surfacing work has to be done. Every effort would be made to have this done before the freeze-up. It would, he added, depend wholly upon the weather whether it would be possible to put on a regular train service this year.

Lacombe Branch.—Tracklaying on the extension of the branch running easterly from Lacombe, Alta., is being proceeded with from Stettler, and it was expected that the extension of 35 miles would be completed by Nov. 30.

Weyburn Westerly.—Track has been laid on the line under construction from Weyburn, Sask., westerly for 30 miles. Two towns—Trossachs, 15 miles out, and Forkard, at the present end of the line—have sprung up. Hon. A. Buchanan recently stated that W. Whyte, Second Vice President, had informed him that it was intended at an early date to start construction at Lethbridge on a line easterly to meet the line coming from Weyburn. Mr. Whyte, at Lethbridge, Oct. 30, stated that no decision had been reached as to the construction of the line easterly from Lethbridge, but the question of its construction would be taken up in Jan., when the construction programme for 1910 was under consideration.

Lethbridge - Macleod Cut - off.—W. Whyte, Second Vice President, arrived in Lethbridge, Alta., over the new cut-off, Oct. 30. It was reported to be in good condition although the ballasting has not yet been fully completed.

Carmangay Branch.—The branch line northerly from Lethbridge was expected to be completed into Carmangay, Nov. 30. It was not intended, said W. Whyte, Second Vice President, at Lethbridge, Oct. 30, to continue the construction of this branch any further this year. The work northerly from Carmangay would probably be started in the spring.

Electrification of Boundary Lines.—G. J. Bury, General Manager Western Lines, Grant Hall, Superintendent of Motive Power, Western Lines, and F. F. Busteed, General Superintendent Pacific Division, recently completed an inspection of the lines in the Boundary District. It was stated that the object of their inspection had to do with the proposal to adopt electricity as a motive power. The sugestion is that the power will be obtained from the West Kootenay Power and Light Co., and that the line upon which the experimental work will be done will be that extending from Phoenix to the Granby smelter.

Hotel at Nelson, B.C.—Plans are reported to be in preparation for the construction of a tourist hotel at Nelson, B.C.

Hartford Junction to Wellington Camp.—A contract is reported to have been let to W. P. Tierney & Co., for the construction of a spur line from Hartford Junction to the Athelston and Jackpot mines of the Wellington camp. G. Tierney, one of the contractors, said the route is a very rough one, but he expected that the three mile stretch to the two mines would be completed by Feb. 1, 1910. There are a number of mines further on, and when necessary the spur will be extended to them, ultimately becoming a branch line of about 20 miles.

Esquimalt and Nanaimo Ry.—R. Marpole, Vice President, recently completed a trip of inspection over the line under construction from Nanaimo to Alberni. He stated that it was expected to have the extension completed and in operation by the spring of 1911. But for the heavy gradients which prevail in the Cameron Lake district the work could be completed at an earlier date. All the surveys had been completed for the Cowichan branch, but it had not been decided when work would be started on it. The company's operations in clearing land were being pushed, and it was expected to have 800 acres in the neighborhood of French Creek and Parksville ready for occupation in the spring, when the first batch of 12 families were to arrive for settlement.

The contractors for the last 27.5 miles of the line into Alberni have let a number of sub-contracts and work is being gone on with at various points between Cameron Lake and New Alberni. Track laying is being proceeded with from the Nanaimo end, and the material for the steel bridge work is being brought in.

Location surveys for the projected line to the north end of Vancouver Island are in progress, the work for the section of the line from Parksville to Union Bay having been completed. The remaining sections under survey are from Union Bay to Campbell River, and thence to the north coast of the Island.

An unconfirmed press report says the C.P.R. will in the near future operate its trains between Montreal Jct. and Windsor St. station, Montreal, by electric locomotives.

The Court of Appeal gave judgment recently in the cross suits of the C.P.R. and the city of Montreal, in which the latter claims $8,888.08 for assessments and taxes, and the former claims $9,422.50 for land taken by the city. The decision gives the city $8,711.97, with certain interest and costs, and the C.P.R. appeal from the decision of the Superior Court was dismissed.

NOVA SCOTIA STEEL AND COAL CO.

LIMITED

MANUFACTURERS OF

Railway and Electric Car Axles, Angle Bars and Tie Plates, Railway Spikes

Tee Rails 12, 18, and 28 lb. per yard

ALL SIZES BAR STEEL FOR CAR-BUILDERS' USE. Spring, Machinery, Tire, Angles, and Merchant Bar Steel. Heavy Forgings of all Descriptions.

SCOTIA PIG IRON Also Miners and Shippers of the Famous Old Mines "SYDNEY" **COAL**

High in Carbon—Low in Ash. The best Steam Coal for Locomotive, Steamship, and Stationary Boilers.

Works at
NEW GLASGOW AND SYDNEY MINES, NOVA SCOTIA.

Collieries at
SYDNEY MINES

FOR PRICES AND OTHER PARTICULARS APPLY TO

Head Office: NEW GLASGOW, N. S.

POLSON IRON WORKS

LIMITED

TORONTO, CANADA

Steel Shipbuilders, Engineers and Boilermakers

Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers. . . . .

Agents for Quebec: Watson Jack & Co., 709 Power Building, Montreal

OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO

Canadian Car and Foundry Co., Ltd.

This company was incorporated recently under the Dominion Companies Act with the following capitalization:—Six per cent. bonds, redeemable in 30 years with sinking fund of 2% per year and interest on bonds redeemed beginning on July 1, 1911, authorized and issued, $3,500,000; preference stock, 7% cumulative, authorized $7,500,000, issued $5,000,000; ordinary stock, authorized $5,000,000, issued $3,500,000. The preference stock is preferred as to dividends and assets, participating equally with the ordinary shares in all dividends after payment of a 7% dividend on the ordinary shares. The prospectus states that the company was incorporated for the purpose of acquiring the properties and business, or capital stock of the following companies, all free from debt and unencumbered:—Rhodes-Curry Co., Ltd., Dominion Car & Foundry Co., Ltd., Canada Car Co., Ltd.

N. Curry, who becomes President of the new company, states as follows:—"The Dominion Car and Foundry Co. is located at Blue Bonnets, Montreal. Its works were erected less than three years ago; buildings constructed of reinforced concrete and steel, equipped with the most up-to-date machinery for the construction of steel cars, also for the manufacture of bolsters, brake beams and other railway specialties; these specialties being standard on all Canadian railways. The Canada Car Co. is located about a mile from the Dominion Car and Foundry Co. This plant was erected less than five years ago; construction similar to the Dominion Car and Foundry Co.; equipped with the most up-to-date machinery for the manufacture of wood passenger and freight cars, including wheel foundry, grey iron foundry, forging shops, machine shops, etc. The Rhodes-Curry Co. is located at Amherst, N.S., the geographical centre of the Maritime Provinces. This plant started the manufacture of cars in a small way 17 years ago, but has grown to be a large concern. It is equipped for the manufacture of wood, passenger and freight cars with a wheel foundry, grey iron foundry, forging and machine shops, etc.; also rolling mills, malleable iron foundry and axle shop. This company also owns 20,000 acres of timber lands, and operates saw mills and planing mills with branches at Halifax and Sydney. The Dominion Car and Foundry Co. has a capacity of 30 steel freight cars a day, and also for the manufacture of bolsters, brake beams and other specialties for 100 cars a day manufactured under valuable patents. The Canada Car Co. has a capacity for the manufacture of 100 passenger cars a year, and 25 freight cars a day. The Rhodes-Curry Co. has a capacity for the manufacture of 60 passenger cars a year and 20 freight cars a day. Rolling mill capacity, 80 tons a day of bar iron and steel. Axle shop capacity, 200 axles a day. Malleable iron foundry capacity, 20 tons of finished malleable castings a day. The present capacity of these combined works is sufficient to take care of the requirements of the railways for several years to come, but it is the intention of the management to add to the capacity of the works when necessary to keep pace with the demands of the railways for additional rolling stock. It is the general policy of railways in Canada to buy all new rolling stock, doing repairs only in their own shops. The combined capacity of all other car companies in Canada is probably not over 10 cars a day. The net earnings of these three companies for the past two years have averaged $1,000,000 per year. This period has been a very dull one for car builders, and business was obtained under keen competition, with plants running at only half capacity. The savings in buying, selling, freight, administration and manufacture with these three concerns combined should add at least 40% to the net earnings without charging any more for the output. Car builders in Canada are protected from foreign competition by a duty of 30% on rolling stock and parts thereof. In my opinion the replacement value of these properties is over $7,500,000."

Accountants and auditors certify that the net earnings of Rhodes-Curry Co., the Canada Car Co., and the Dominion Car & Foundry Co., after making adequate provisions for depreciation and after paying all interest charges were as follows: 1907-8, $1,091,037.23; 1908-9, $962,456.33 The prospectus adds that on this basis of earnings, after paying bond interest and preferred dividends, the surplus would amount to over 11% upon the Canadian Car and Foundry Co.'s common stock. It is estimated that, as a result of this consolidation and the present improvement in trade, the earnings for next year will amount to at least $1,500,000. The net liquid assets of the combined companies are certified as $2,880,115.02. Prior to the transfer of its assets the Dominion Car and Foundry Co. will pay a dividend to its shareholders, and subsequent to the transfer of the Canada Car Co.'s assets a further payment will be made to its shareholders, both such payments amounting to $651,090. After making these payments the Canadian Car and Foundry Co.'s net liquid assets will be $2,229,025.02.

The directors of the Canadian Car & Foundry Co. are as follows:—President, N. Curry, heretofore President Rhodes-Curry Co.; VicePresident, W. W. Butler, heretofore Vice President Dominion Car & Foundry Co.; Second Vice President, N. S. Reeder, heretofore General Manager Canada Car Co.; W. M. Aitken, G. E. Drummond, T. J. Drummond, H. S. Holt, J. Redmond, Montreal; I. H. Benn, London, Eng. Mr. Curry will remove from Amherst, N.S., to Montreal, where the company's head office will be located. Mr. Butler, who has spent most of his time in Montreal for the past few years, will continue to reside there, and will have charge of sales. Mr. Reeder will have charge of manufacturing. Other officers have been selected as follows:—Secretary-Treasurer, F. A. Skelton, heretofore Secretary-Treasurer Canada Car Co.; Purchasing Agent, A. H. Chave, heretofore Secretary-Treasurer Dominion Car & Foundry Co. The superintendents of the various plants are:—Canada Car Co., S. King; Dominion Car & Foundry Co., F. Ditchfield; Rhodes-Curry & Co., — McCollum.

W. W. Butler, in a recent interview, said:—"The consolidation of these car plants makes the business more self-contained, as before the consolidation each plant was more or less handicapped by reason of certain features of manufacture contained in the other plants that were not contained in the individual plants. For instance, the Rhodes Curry plant at Amherst has a rolling mill, axle forge and malleable iron plant, which the Canada Car plant at Turcot and the Dominion Car and Foundry plant at Blue Bonnets have not had, but which they will now have the benefit of. The Dominion Car and Foundry plant has also been handicapped by reason of not having its own grey iron foundry and wheel foundry. Both the Canada Car and the Rhodes Curry plants have grey iron foundries and wheel foundries sufficient to take care of the capacity of the combined plants, as well as having a surplus capacity of wheel manufacturing for outside customers. We have in mind the building of an open-hearth cast steel plant on our property at Blue Bonnets, which will make our plants still more self-contained, and will enable us to manufacture our couplers, truck frames,

G.T.R. Betterments, Construction, Etc.

Kingston, Smiths Falls and Ottawa Ry.—Application is being made to the Dominion Parliament for an act extending the time within which the company may commence and complete the railway it was authorized to construct by its act of incorporation, chap. 88 of the statutes of 1887 and amending acts.

Toronto Terminals.—C. M. Hays, Second Vice President and General Manager, accompanied by a number of officers, visited Toronto, Nov. 1, and made an inspection of the terminals. It is said that as a result it has been decided to remove all the shops in the yard between John and Bathurst Streets as early as possible. When these buildings are removed all the locomotives will be housed at Mimico, only two being kept at Toronto, one for making up passenger trains, and the other for shunting freight cars in and out of the John St. freight yard.

Port Credit Yards.—The company has purchased several acres of land south of its present tracks at Port Credit station for yard extensions. Surveys have been made for laying out several new tracks, and it is expected that grading operations will shortly be started.

Brantford Improvements.—U. E. Gillen, Superintendent Middle Division, was in Brantford, Ont., Nov. 3, in connection with the laying out of the station park, and the construction of the proposed subway at Market St. The park work he said would be completed in the spring, and plans would be prepared for the subway and submitted to the city council. The subway would do away with the Market St. level crossing, and he pointed out to the council that under the act passed last year the Dominion Government would contribute towards the cost.

Guelph, Ont.—Vice President Fitzhugh told the chairman of the Railways Committee of the Guelph City Council, Nov. 12, that the construction of the overhead bridge over the company's lines at Metclafe St. would be taken in hand at once, and pushed forward to completion.

Electrification of Lines.—At a meeting of the Berlin Board of Trade, Nov. 12, the railway committee was instructed to enter into negotiations with the G.T.R. regarding the electrifying of its Galt and Elmira branches.

London Improvements.—The Chief Railway Commissioner wrote to the Mayor of London, Ont., Nov. 12, asking as to the present condition of the negotiations between the city and the G.T.R. for an elevation of the tracks in the city. The Mayor informed the council that it would not obtain such favorable terms as were offered in 1906, when it declined to entertain the company's offer. He understood that the company was not at all unwilling that the matter should go before the Commissioners. (Nov., pg. 811.)

The Canadian Railway Club held its regular monthly meeting at Montreal, Nov. 2, when a paper was read on Maintenance Regulation Cars, by R. W. Burnett, General Master Car Builder C.P.R.

During Sept., 16 employes were killed and 11 injured, in the course of their work on Canadian railways. Of the fatalities, six were due to being run over, four to falls, two to a derailment and one each to being struck by an object when passing, to being caught between cars, to falling material and to machinery; while of the other accidents, three were due to falls, two each to being run over and to falling material, and one each to a collision, to machinery, to an explosion of dynamite and to being caught between cars.

N. CURRY, President
N. A. RHODES, Vice-President

CAPITAL $1,000,000

J. M. CURRY, Sec.-Treas.

RHODES, CURRY COMPANY, LIMITED

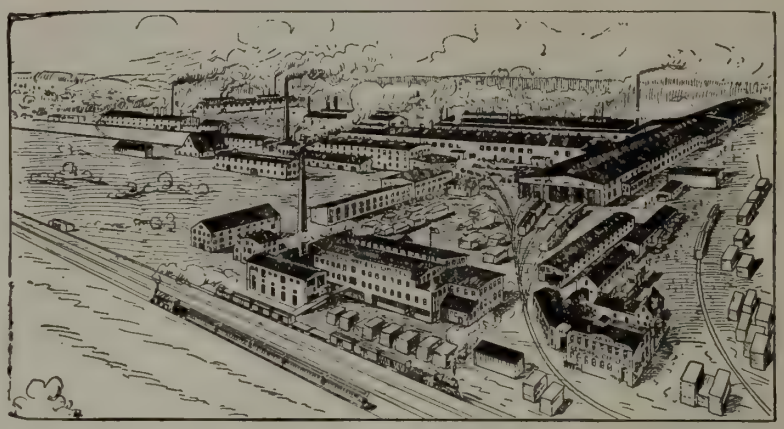
AMHERST, NOVA SCOTIA

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

300 Freight Cars
4 Passenger Cars
4 Snow Plows
3,000 Car Wheels



Capacity per Month

2,500 Car Axles
500 Tons Castings
1,000 Tons Forgings
1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

MAKERS OF
BOLTS OF ALL KINDS

NUTS

RIVETS

TORONTO BOLT AND FORGING CO. LIMITED
TORONTO, CANADA.

National Transcontinental Railway.

Quebec Bridge.—Tenders were received to Nov. 15 for the removal of the wreckage of the Quebec Bridge on the anchor arm, and on that portion of the cantilever arm down to low water mark. The Minister of Railways also received tenders to Nov. 30 for the building of the substructure of the Quebec Bridge. The general specifications and forms of tender were given out by the Quebec Bridge Board of Engineers. Contractors putting in tenders had to deposit an accepted bank cheque for $120,000. The work to be done under this contract will include the removal of one of the piers on the north side of the river, and to replace it by one going down to the solid rock 25 ft, below the gravel bed on which the present pier rests. The pier on the Levis side of the river will be enlarged.

As to the superstructure it is said that the Board of Engineers has reported that the question of whether or not the new bridge shall be of the suspension or cantilever type is simply a matter of cost, both plans being feasible.

Quebec Union Station.—A suggestion has been made that the site of the Quebec union station should be in close vicinity to the Point-a-Carcey wharf instead of the Champlain market site, previously decided upon.

Moncton to Winnipeg Line.—The Minister of Railways in reply to questions in the House of Commons, Nov. 18, said the amount of money expended to date by the N.T.R. Commissioners, exclusive of sums paid to contractors having construction of roadbed under contract, was $18,118,133.58. The contract for the construction of the section of the line from Winnipeg to Lake Superior Junction was let to J. D. McArthur, Winnipeg, and the contract signed May 15, 1906. The estimated cost of the construction at contract prices was $13,000,000. All the work on the section is not finished, but track has been laid and trains have been run; the contractor expects to have the work all completed and to hand it over to the Commission in the spring. The first train went over the section Nov. 6, and among the freight hauled was 10 cars of grain. The Minister also gave particulars showing the date of letting of contracts and the date of completion as fixed in the contracts of 11 sections of line between Superior Jct. and Quebec. The time limit for three of these sections had expired before the work contracted for was completed. Upon the others the time limit expires on Sept. 1, 1910, in four instances, and on Dec. 31, 1910, in the remaining four instances.

The first train went over the newly completed section of the line from Winnipeg to Superior Junction, Nov. 6, and on Nov. 9 Commissioner Young reported that he had travelled over the line at the rate of 20 miles an hour. The traffic is being handled by the contractor, but it is said that arrangements will be made for a regular service to be operated throughout the winter. The line will not be transferred to the G. T. Pacific for operation until the spring.

GRAND TRUNK PACIFIC RAILWAY.

The Governor General in his speech at the opening of Parliament said the Western Division of the N. T. Ry. has been extended 66 miles beyond Edmonton, completing 861 miles west of Winnipeg. Contracts have been let for 399 miles in the Mountain Division, and good progress has been made on this work.

In an interview at Fort William, Ont., Nov. 12, E. J. Chamberlin, Vice President, said:—"The work of laying out the yards at the Fort William terminals will be commenced as soon in the spring as the weather will permit. As soon as the elevator men get out of the way the work will be gone on with. The conditions for the yard work are very favorable, as there will be practically little or no filling to do. The yards will have a capacity for 1,500 cars and will be ready for the fall traffic of 1910."

The work of fencing the line from Winnipeg westerly has been completed to Wainwright, Alta., and the work is being proceeded with as fast as possible. E. J. Chamberlin, Vice President, stated Nov. 4 that the work could not be completed this year and that it would be some time in the spring before a regular train service could be operated between Wainwright and Edmonton, as the regulations of the Board of Railway Commissioners had forbidden the running of through trains until lines were properly fenced.

It was expected that the erection of the steel superstructure of the bridge across the Pembina River, west of Edmonton, Alta., would be completed Nov. 30. Beyond this point about 70 miles of grading has been completed to the MacLeod River, and the substructures for a bridge are being built. As soon as the track is laid from the Pembina River crossing to the MacLeod River crossing, the steel work for this latter bridge will be got in. It is expected that the erection of this bridge will be started early in the spring.

Work has been started on the second section at the Prince Rupert end of the line, viz., from Kitsilas canyon to Aldermere, about 140 miles. G. A. McNicholl, Purchasing Agent, on his recent return to Vancouver, from Prince Rupert, stated that tenders would be asked for the supply of ties for this section at an early date.

A report from Prince Rupert, Nov. 1, gives a list of the construction camps at various points on the second 100 miles easterly from the ocean terminus. The subcontractors with the mileage where their work commences are as follows:—McDougall & Rankin, 102; D. A. Rankin, 112; M. Sheedy, 122; Moran & Chiene, 124; A. L. McHugh, 138; P. Salvus, 142; Bostrum & Kullander, 145; Sheedy & Paget, 155; Dan Stewart, 159; Norman McLeod, 162; Freebery & Stone, 8-172; Foley, Welch & Stewart, 5-175; Duncan Ross, 3-178.

The Dominion Parliament is being asked to authorize the Grand Trunk Pacific Branch Lines Co. to construct the following additional lines:—from near Watrous, Sask., to near Calgary, or to the line authorized to be constructed from some point on the line between the 111th and 113th degrees of longitude to Calgary; from the proposed line mentioned above within ranges 4, 5 or 6, west of the third meridian, southeasterly and easterly to Regina, Sask.; and from the first mentioned line within ranges 21, 22, 23, or 24, west of the third meridian, northerly or northeasterly to Biggar, Sask.

W. P. Hinton, General Passenger Agent, who returned to Winnipeg, Nov. 5, from a trip of inspection over the G.T.P.R. lines, said he found the branch from Melville to Balcarres in good shape. Track had been laid for 30 miles southerly from Melville, and grading had been practically completed to within 50 miles of Regina. It was intended to construct a bridge across the Qu'Appelle valley next summer, and it was hoped to have the line completed into Regina by the end of 1910. A report from Melville states that owing to the scarcity of labor the track laying plant has been idle for considerably over a month. The final surveys for the location of the branch are reported to be in progress between Qu'Appelle and Regina. Track has been laid northerly from Melville to Yorkton, and grading is in progress from that point towards Pas Mission. Surveys are in progress southerly from Regina to the International boundary at Portal.

Vice President and General Manager Chamberlin has written to the President of the Board of Trade, Saskatoon, with respect to the company's plans. Local reports state that a temporary agreement has been made with the Canadian Northern Ry. under which G.T.P.R. trains will enter Saskatoon over C.N.R. tracks.

Surveys are being made for a line from Watrous to Prince Albert, about 100 miles. The line would be an almost direct one, and would cross the south branch of the Saskatchewan River, about 18 miles from Prince Albert.

The Pacific Pass Coal Co. is developing coal areas on the Little Pembina River, 180 miles west of Edmonton. The coal fields of the district have been reported on by a mining engineer from Pennsylvania, to the G.T.P. Ry. management, which is considering the construction of a branch line, about 60 miles, to reach them.

C. C. Van Arsdol was in Kamloops, B.C., Nov. 5, to meet the engineers who have been making surveys for the projected line from west of the Yellowhead Pass to Vancouver. As a result of the conference it is reported locally that there is a probability of the location paralleling the Canadian Northern Ry. survey being abandoned in favor of a route via Nicola and the Hope Mountains. Another report states that there is a probability of adopting a line down the main Thompson River to Lytton, thence ascending the Fraser River to Lillooet, where a level country would provide access via Seatin and Anderson Lakes to Pemberton Meadows. From this point the company would have the choice of three routes into Vancouver, namely, via the Squamish and Howe Sound into Vancouver; Pemberton meadows via the low divide to Harrison Lake, and thence down the Fraser River to Vancouver; or via Pemberton Meadows and Slave River.

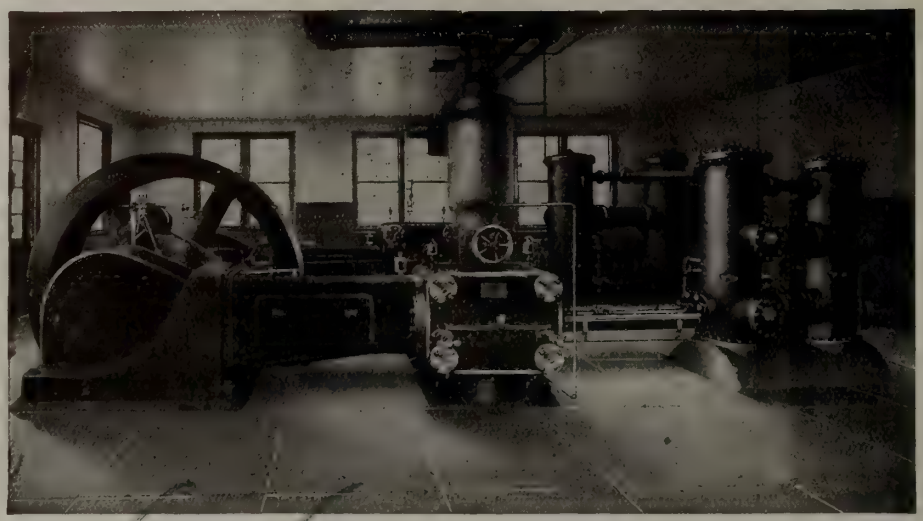
A Turbine Locomotive.

A press report says that the North British Locomotive Co. has under construction in Glasgow an electric locomotive on a self-contained principle—that is to say, it will generate its own motive power as it travels and be altogether independent of such familiar and cumbrous adjuncts as rail slots, storage batteries, or charged cables. This arrangement has been made possible by an ingenious application of the steam turbine to the work of generating electric energy while in motion. Steam will be got in the ordinary way from a copper-tubed boiler, but after doing its work in the turbines it will be condensed and pass direct again to the boiler instead of up the funnel. A great reduction in the coal bill will be the result. The turbine will work at a speed of 3,000 revolutions, and be directly coupled to a dynamo which will supply the electric energy. The engine is intended for express passenger main line work, and comparisons of its actual working alongside locomotives with ordinary reciprocating engines will be made.

The Quebec Transportation Club held its annual euchre party and dance, at the Kent House, Montmorency, Que., Nov. 9, to wind up the summer season.

A cable from London, Eng., Nov. 19, announces the incorporation in Paris, France, of the Canadian Coal Consolidated with a capital of £400,000. The details are not given, but French capital is invested in a number of coal properties in the vicinity of Frank and Blairmore, Alta., in connection with which there are charter powers to construct and operate railways.

Robb Power Plants



ENGINES

Corliss, Slide Valve
Horizontal, Vertical

BOILERS

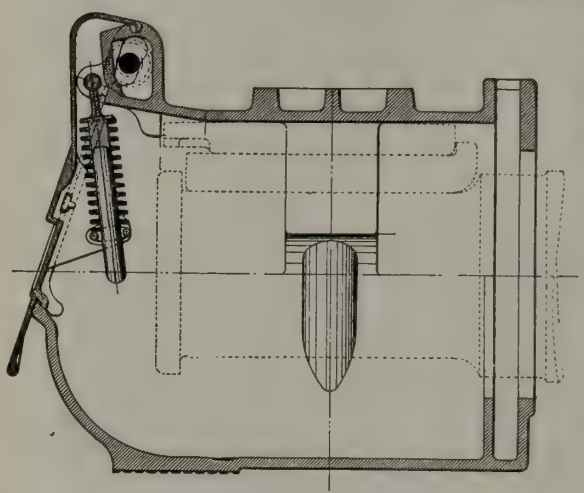
Return Tubular
Water Tube
internally Fired
Portable

ROBB ENGINEERING CO., LIMITED, AMHERST, N.S.

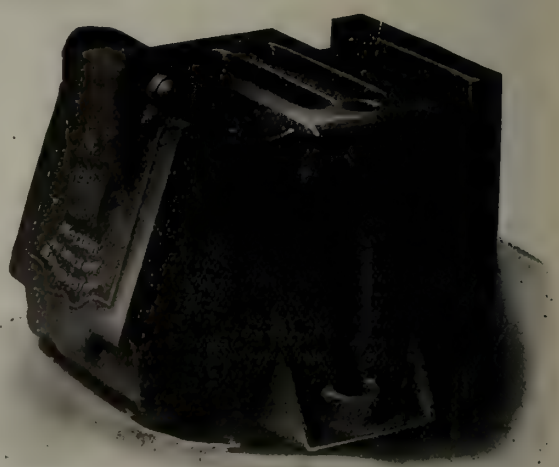
DISTRICT OFFICES:
607 Canadian Express Bldg. MONTREAL, R W. Robb, Mgr.
Traders Bank Building, TORONTO, Wm. McKay, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.
Calgary Block, Calgary, J. F. Porter, Manager.

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



The Strongest, Lightest, Tightest Box Made



The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCORD Force Feed Lubricator

McCORD & COMPANY
Old Colony Building, Chicago

THE HOLDEN CO., Limited
302 St. James Street, Montreal

Canadian Northern Ry. Construction, Etc.

Canadian Northern Quebec Ry.—The question of the reconstruction of the elevator at Quebec has been under consideration, and it is said that it has been definitely decided not to utilize the site of the burned structure. A proposition is under consideration to utilize a site at Cap Rouge, in connection with the laying out of the company's proposed new yards. The suggestion is that the elevator be constructed on the brow of the promontory with the loading spouts inclined toward the cove, which would be dredged so as to accommodate steamers of large tonnage. The question of the yards at Quebec is also under consideration, the general idea being to centralize the Quebec yards and freight stations at Cap Rouge.

In connection with the recent construction of a branch from the main line through Limoilou to the Montmorency River, the Board of Railway Commissioners, Nov. 10, ordered the demolition of seven miles of grading on the ground that work had been started without the Board's consent. The municipality of Beauport objected to some road crossings and brought the matter to the Board's attention.

Canadian Northern Ontario Ry.—The extension of the line from the C.N.Q.R. at Hawkesbury into Ottawa has been completed and it was announced that it would be opened for traffic Nov. 28. The completion of the line was considerably delayed on account of the difficulty of securing an entrance into Ottawa. All the questions involved in this matter have not been settled, but temporary terminal facilities have been arranged for. On Nov. 1, when the company's application for the approval of a route within the city came before the Board of Railway Commissioners, in the form of an agreement with the city council, it was refused owing to it involving a level crossing.

The construction of the section of the Toronto-Ottawa line, which is under contract, viz., from the Don Valley near Toronto to Trenton, Ont., is being proceeded with. Several subcontracts have been let, and work has been started at various points. The general contractor, Angus Sinclair, is getting his plant on the ground. A new steam shovel has been placed on the work.

The town of Orillia, Ont., has sold a portion of Lakeside park to the C.P.R., in order that it may construct a spur line from Atherley to Orillia, over which the Canadian Northern Ry. will get into the town. The Board of Railway Commissioners recently made an order directing the C.P.R. to construct this spur.

Canadian Northern Ry.—M. H. McLeod, General Manager and Chief Engineer, was in Port Arthur, Ont., Nov. 3, inspecting the terminal facilities, with a view to deciding on the extensions necessary. It is said that a new roundhouse to accommodate 40 locomotives, with the necessary repair shops, and storehouses will be started in the spring. The coal hoisting plant now in the yards is also stated to be inadequate to meet the present requirements.

The relaying of the track between Port Arthur, Ont., and Winnipeg with new and heavier steel has practically been completed. On Nov. 1, Superintendent Murphy (who has since resigned) made a trip of inspection over the line, and on his return to Port Arthur, stated that there was only the 15 miles between Banning and four miles west of Laseine to be relaid.

A contract has been let at Port Arthur for 350,000 ties for delivery at various points on the line.

The question of the construction of a subway at Pembina Ave., Winnipeg, is still delayed owing to the action of one of the property owners. The C.N.R. is ready to proceed with construction, but as an agreement cannot be made with this one property owner expropriation proceedings will have to be resorted to. General Manager McLeod informed the council, Nov. 10, that the company would let the contract for the subway as soon as it got possession of the Blackwood property. The company has done some work in the way of raising tracks and putting in a temporary crossing from Jessie Ave., east of Pembina Ave., to the track.

Application is being made to the Board of Railway Commissioners for a recommendation to the Governor in council to sanction an agreement amalgamating the Northern Extension Ry. with the C. N. Ry. The N. E. Ry. was incorporated by the Manitoba Legislature in 1904 to construct a line from Oakland northerly and westerly to the boundary of the province, with branch lines.

The Shell River branch, extending from Prince Albert to Shellbrook, Sask., is expected to be completed early in Dec. The bridge building gang started out from Prince Albert, Oct. 28, to construct the bridges, the largest of which is that over the Shell River.

Some difficulty is being experienced in the construction of the branch from Vegreville southerly to Camrose, Alta., with reference to the right of way through the Stettler townsite. The branch in this town site will cross the branch of the C.P.R. running easterly from Lacombe. The C.P.R. practically holds all the land which would be necessary to effect the crossing and it is said to be holding it at a high figure. A press report states that Stettler residents have offered to provide $12,000 for the land required by the C.N.R.

The tracklaying gang on the branch being constructed southwesterly from Maryfield, Sask., reached Carlyle, Oct. 28. A diamond crossing was put in at the C.P.R., and tracklaying is being proceeded with in the direction of Bienfait. This branch is to be extended to Lethbridge, Alta., which place it is expected to reach by the end of 1910.

The extension known as the Goose Lake branch is now in operation from Saskatoon to Rosetown, 72 miles. Grading has been completed for 126 miles further and several miles of track have been laid.

A press report states that the company is arranging for the starting of surveys from the line near the MacLeod River, southerly to the coal fields in the Brazeau valley, about 150 miles west of Edmonton.

Application is being made to the Dominion Parliament for an act authorizing the amalagamation of the Edmonton and Slave Lake Ry. Co. with the C.N.R. Co. and the extension of time for the completion of its railway from Edmonton to the Peace River.

D. D. Mann recently told a deputation from Kamloops, B.C., that the company's line would follow the north side of the Thompson River, and that a branch line would be constructed from Kamloops southerly concurrently with the construction of the line to New Westminster. Construction would be started in the spring, and would be proceeded with in both directions from Kamloops. Surveys for the line are being proceeded with in the Chilliwack valley. The route being followed enters the valley at Popcum, runs along the eastern side of the valley to Vedder Crossing, and thence parallels the B.C. Electric Ry. line to Abbotsford.

The agreement between the company and the B.C. Government, which requires ratification by the Legislature, provides for the construction of a railway to connect the C.N.R. main line through the province from the Yellow Head pass to the city of Vancouver, via the North Thompson River to Kamloops, thence down the South Thompson and Fraser Rivers to New Westminster, to Vancouver and to English Bluff, south of the Fraser River, the total distance not to exceed 500 miles; to establish a first-class passenger, mail, express and carrying service between English Bluff and Victoria; to construct a railway from Victoria to Barclay Sound, about 100 miles; construction work to be started within three months after the agreement has been ratified, and to be completed within four years thereafter. The Province agrees to guarantee the company's bonds to the amount of $35,000 a mile together with interest at 4%; to exempt the railway from taxation for 10 years after completion, and to give free right of way, free timber and gravel for construction purposes out of Provincial lands. The Province will hold a mortgage of the line within the province, and the general guarantee of the C.N.R. to indemnify as security for its guarantee.

A Vancouver, B.C., press report states that Mackenzie, Mann & Co., Ltd., have acquired the charter rights of the Portland Canal Short Line Ry. Co. T. F. Hopkins, Seattle, Wash., one of the provisional directors of the company, is quoted as having made the statement. The company was incorporated by the British Columbia Legislature last session, and was given power to construct a line from the head of Portland Canal along Bear River, 30 miles, and also up American Creek, with power to construct branch lines not exceeding 10 miles in length. Mr. Hopkins further stated that the new owners of the charter would start on the construction of the first 20 miles of the line in the spring. (Nov., pg. 839.)

Belleville and North Hastings Railway.

Replying to questions in the House of Commons, Nov. 16, the Minister of Railways stated it was hoped that the provisions of chap. 61 of the statutes of 1907-08, as amended by chap. 32, sec. 1, of the statutes of 1908-09, would provide an efficient remedy in preventing a recurrence of any such a grievance as complained of by W. B. Northrup, M.P., viz., the non-operation of the old Belleville and North Hastings Ry. branch from Madoc to Eldorado, Ont., by the G.T.R. To meet this and similar cases Mr. Northrup introduced a bill which was read a first time Nov. 16. He explained that under the existing law, if a contract is entered into between a municipality and a railway, and the railway receives subsidies under the contract but afterwards breaks the obligation entered into, the municipality can apply to the Board of Railway Commissioners and obtain relief. But as the law stands, if the railway which has received the benefit happens to have sold out to another railway, which then has the property and enjoys that benefit, there is no relief to be obtained through the Board, because it has no jurisdiction in relation to the matter over the company that did not make the contract. The object of the bill is to place it in the Board's power to consider such questions either at the instance of the railway, the Crown, the corporation or an individual.

M. Tatterinsky, who it is stated is the leader of a gang, who have been making bogus claims for personal injuries against several transportation companies, a number of which gang were recently sentenced to various terms in the penitentiary, has been committed for trial on charges of fraud and conspiracy against the C.P.R. and G.T.R. at Montreal.

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.
Wrought Iron Steel-Tyred Disc Wheels
Locomotive and Car Wheel Tyres.
Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING, 232 ST. JAMES STREET, **MONTREAL**

DOMINION IRON & STEEL CO. LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1910. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICES AND WORKS: **SYDNEY, CAPE BRETON, CANADA**

The Hudson's Bay Company

THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for Sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

Railway Commissioners' Traffic Orders.

Summaries of other traffic orders are given on another page under "Orders by Railway Commissioners":—

G.T.R. SWITCHING AT HESPELER, ONT.

8631. Nov. 10.—The order 6531, March 17, 1909, directing the G.T.R. to construct, maintain and operate a spur line of railway from its main line to Christie, Henderson & Co.'s premises between Hespeler and Guelph, Ont.; and order 6734, March 26, 1909, amending said order by adding a clause authorizing the railway company to collect such additional sum for switching and handling traffic to and from the spur line as shall be agreed upon between the parties, or, in the event of their failure to agree, as shall be fixed by the Board; and in the matter of the application of the G.T.R. for an order fixing the rate to be charged for such service; upon the hearing of the application in the presence of counsel for the G.T.R. and Christie, Henderson & Co., and upon its appearing that it has, for a number of years been the G.T.R.'s custom to perform such switching services without making an extra charge, it is ordered that, notwithstanding order No. 6734, the G.T.R. is not, and shall not be, entitled to make any extra charge for the switching performed by it at the said spur.

INTERCHANGE SWITCH AT BRAMPTON.

8636. Nov. 11.—Re application of town of Brampton, under sec. 228 of the Railway Act, for an order directing the G.T.R. and the C.P.R. to provide and construct a suitable interchange switch at the intersection of the two companies' lines at Brampton, upon hearing the application at the Board's sittings in Toronto, Oct. 16, 1909, in presence of counsel for the applicant, the railway companies, and interested shippers, the evidence adduced, and what was alleged by counsel, and upon the report and recommendation of the Board's traffic officers, it is ordered that the railway companies provide and construct a suitable interchange switch in Brampton; the companies to agree, if possible, upon the location and building of the connection, and if such an agreement is arrived at, to prepare and file a plan showing the track so agreed upon, for the approval by an engineer of the Board. If unable to agree, each company to file a plan showing its own proposal, and the Board will decide between the two, or try and locate a satisfactory connection. The railway companies to agree, also, upon the division of cost of the construction. In the event of their failure to so agree, the Board will apportion the cost. And it is further ordered that the plan agreed upon, or the plans of each as the case may be, be filed within 30 days from the date of the order; the Board at the same time to be advised of the agreement, or otherwise, of the division of cost, as the case may be; the said connection to be completed within 30 days after the location has been agreed upon or approved by the Board.

GREAT NORTHERN RY. SHINGLE RATES.

8683. Nov. 4.—Re complaint of Kootenay Shingle Co., Salmo, B.C., that the Great Northern Ry. has departed from tariffs fixed by Board with respect to rates, weights and shortage on shipments of shingles originating at Salmo and consigned to points in British Columbia, Alberta and Ontario; the complaint having been heard at Nelson on Nov. 4, the complainant company being represented by its manager and the Great Northern by Messrs. Kistler and Fortier, and upon the report of the Board's Traffic Officer, it is declared that on shipments from Salmo to Toronto and intermediate main line points in Ontario the legal rate was that of 67½c., as provided in Tariff C.R.C. A6, effective Sept. 15, 1906, and that the railway company be authorized to refund to the complainants on the basis of the 67½c. rate. That, in respect of shipments from Salmo to Ontario points, other than main line points, intermediate to Toronto, the rates complained of are in violation of the Railway Act in that a joint tariff has not been filed with the Board as required by sec. 335 of the Act. That the complaints respecting the allowance of 500 lbs. per car on shipments prior to Jan. 24, 1907, when Great Northern supplement 82 to C.R.C. 84 became effective, be dismissed. That the complaints in respect of weights on shipments from Salmo to Lethbridge be dismissed. That the rates charged by the Great Northern from Salmo to Fernie and to Lethbridge, being in accordance with the rates filed under tariff C.R.C. A70, the complaints in respect of departure from the legal rates from Salmo to the above mentioned points be dismissed.

Irondale, Bancroft and Ottawa Ry.

The I. B. and O. Ry., which starts from the G.T.R. Haliburton branch, at Kinmount Junction, and runs generally northerly and westerly for 50 miles to Bird's Creek, near Bancroft, has been acquired by Mackenzie, Mann & Co., in connection with the Canadian Northern Ontario Ry. The I.B. & O.R. Co. was incorporated in 1880 for the development of the northerly portions of Peterborough and Hastings counties. It was first operated to Irondale, nine miles from the junction with the G.T.R., in 1887, and by the construction of a few miles one year and a few miles again, Bird's Creek was reached in 1906. The gradients and curvature are considerable. The steepest gradient has a rise of 60 ft. to the mile, and the sharpest curve a radius of 1,000 ft. The track is laid with 56 lb. steel, and there are 2.640 ties to the mile. There are 2.50 miles of sidings. The company had power under its original charter to construct its line easterly across the G.T.R. to the Georgian Bay, and under the last amending act the Ontario Legislature granted a subsidy for the construction of the line easterly to Renfrew, a special condition being attached to the effect that the terminus of the line must be in Renfrew.

The line has never been a profitable one, although it has been of service in opening up a section of central Ontario and bringing it into connection with the G.T.R. The I. B. and O. Ry. bonds were held principally in New York, although Z. A. Lash, General Counsel for Mackenzie, Mann & Co., was largely interested. The I.B. and O.R. has outstanding $53,500 of common stock and $450,000 of bonds. It received $144,000 as aid from the Dominion Government, and $135,000 from the Ontario Government, and there is still available $180,000 of subsidies granted by the Ontario Legislature. The operation of the line for the year ended June 30, 1908, showed a loss of $3,329.

The acquisition of this line gives Mackenzie, Mann & Co. a charter from the vicinity of Ottawa to the Georgian Bay in the vicinity of Tiffin, Midland and Victoria Harbor, at which points the G.T.R. and the C.P.R. are developing ports for handling the grain traffic. The C.N.O.R. has power to construct a line from Udney into Orillia. L. B. Howland was President and General Manager of the I.B. & O.R. succeeding to that office some years ago on the death of his father-in-law, C. J. Pusey, the original promoter of the line. The offices of the company were at Irondale, Ont.

It is said that the line will be reconstructed and extended westerly to Georgian Bay and easterly to Renfrew and Ottawa. In this connection application has been made to the Dominion Parliament for an act to incorporate a company with the title of the Ontario and Ottawa Ry., with power to construct lines from the authorized line of the C.N.O. Ry. near Lake Couchiching generally easterly to the Snowdon tp.; and from near Bird's Creek or Bancroft, in Hastings county, generally easterly to or near Renfrew, thence crossing the Ottawa River generally southeasterly to Hull, Que., or recrossing the Ottawa River to Ottawa. Power is also asked to fix the amount of securities to be issued with respect to such lines, to authorize the amalgamation with other companies, acquire capital stock of other companies with which it may be authorized to amalgamate, and to consolidate the securities issued by other companies, with all the other usual and customary powers. G. F. Macdonnell, Toronto, one of the Canadian Northern Ry.'s Assistant Solicitors, is solicitor for the applicants. The points mentioned in this application are those necessary to connect up the I. B. and O. Ry. with the C.N.O. Ry. near Orillia, on the west, and the connecting link from Bird's Creek to Ottawa on the east. The I. B. and O. Ry. only had an Ontario charter. The concluding sentence of the application is in almost identical words with the C.N.O. Ry. application for power to amalgamate with other companies.

Intercolonial Ry. Branch Lines.

The Governor General in his speech at the opening of the Dominion Parliament, Nov. 10, said:—"In order to improve the facilities already afforded the public by the Government railways, and to enhance their value as part of the great transportation system of Canada, a bill will be submitted to you for the purpose of enabling the Minister of Railways, on the recommendation of the Government Railways Managing Board, and subject to the approval of Parliament, to lease any line or lines connecting with the Intercolonial Ry."

Hon. H. R. Emmerson, M.P., ex-Minister of Railways, has given notice that he will move the following reslution in the Commons:—"That in the opinion of this House it is desirable in furtherance of the transportation interests of this Dominion, that the sphere of influence of the Intercolonial Ry. as a Government operated railway should be widened and extended by securing by lease or otherwise such of the branch lines of railway now connecting the Intercolonial as will serve as direct and profitable feeders to the traffic of said railway."

The Minister of Railways introduced a bill in the Commons Nov. 19 empowering him to enter into negotiations for the lease of branch lines that may be considered by the I.C.R. Board of Management as likely to be benficial to that road. One of the provisions is that before a lease is entered into there must be a report by the Chief Engineer of the Department certifying that the line is in good condition, and there is an additional stipulation that no lease shall become operative until it is ratified by Parliament. The bill received its first reading.

The action of the Bay of Quinte Ry. against the C.P.R. for $2,189 for damage done to a locomotive and four cars in a collision at Tweed, Ont., in 1906, was dismissed, Nov. 10, on the ground that there was contributory negligence.

The appeal of the City of Toronto against the G.T.R. and the C.P.R. upon a case stated by the Board of Railway Commissioners upon what is known as the Toronto commutation tickets case, was argued before the Supreme Court at Ottawa, Nov. 19, and the court reserved judgment on the following day. In this connection the Toronto committee on suburban traffic is arranging for a deputation to discuss the whole question with the Minister of Railways.

Canadian Gold Car Heating & Lighting Co. Ltd.

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished. Improved System of Acetylene Car Lighting.

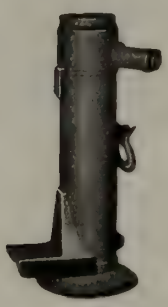
Send for Circular of our New Combination Pressure and Vapor Car Heating System

Largest Manufacturers in the World of Car Heating Apparatus

H & E Patent Ball-Bearing Lifting Jacks

For Railway and Bridge Work, Contractors' and Builders' Use

Foot-Lift



For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed. Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.

MANUFACTURED BY

Square Base

Journal Jack

Plain

H & E LIFTING JACK COMPANY = = WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

CANADIAN LOCOMOTIVE Co., LTD.,

KINGSTON, ONT.

Builders of Simple and Compound **LOCOMOTIVES** Adapted to every variety of service

MAINLY ABOUT PEOPLE.

F. C. Salter, European Traffic Manager G.T.R., London, Eng., is on a visit to Canada.

Lady Shaughnessy returned to Canada, Oct. 28, from England, where her daughters are at school.

Lord Strathcona has contributed $10,000 for Father Lacombe's home for aged and infirm people at Calgary, Alta.

G. M. Bosworth, Fourth Vice President C.P.R., has ben elected a director of the Crown Trust Co., Montreal.

Mrs. Weatherston, wife of N. Weatherston, Agent Intercolonial Ry., Toronto, died there Nov. 11, and was buried at Guelph, Ont.

Miss G. M. Camp, daughter of W. J. Camp, Electrical Engineer C.P.R. Telegraphs, Montreal, was married, Nov. 9, to L. Jackson, Westmount.

Sir H. Montagu Allan will spend the winter in England, where he has taken a house at Hatfield.

Janet Hume, infant daughter of W. H. Grant, Manager of Construction, Mackenzie, Mann and Co.'s Eastern Lines, died at Toronto, Nov. 2.

E. B. Osler, M.P., and W. D. Mathews, directors of the C.P.R., have been elected to the board of the Hamilton Steel and Iron Co., Ltd., Hamilton, Ont.

J. E. Hutcheson, Superintendent Ottawa Electric Ry., returned to Ottawa recently from the Black River district, where he and his party had a successful shooting trip.

H. M. Gower, Supervisor of Apprentices, C.P.R. Angus shops, Montreal, was married to Miss M. L. Brewster, Nov. 17. He was presented with a silver tea service and tray by the Angus shop staff.

Sir Thos. G. Shaughnessy, President C.P.R., was a guest at Government House, Ottawa, Nov. 9, on the occasion of a State dinner in celebration of King Edward's 68th birthday.

H. H. Vaughan, Assistant to the Vice President C.P.R., delivered a lecture recently to the Science Undergraduates Society of the McGill University, on Machine Design.

B. J. Coghlin, of B. J. Coghlin and Co., manufacturers of railway springs, etc., Montreal, died there, Nov. 10, of heart failure, aged 73. He was also a Canadian Agent of the White Star Line.

J. A. McLardy, Trainmaster G.T.R., Stratford, Ont., was presented with a gold watch, chain and locket by a number of G.T.R. local officials, recently, at St. Thomas, Ont., where he was formerly stationed.

J. S. Kennedy, one of the original syndicate, responsible for the construction of the C.P.R., who died Oct. 31, in New York, bequeathed about $25,000,000 to various charities, out of a total of about $60,000,000.

W. A. Cooper, General Superintendent Sleeping, Dining and Parlor Cars, C.P.R., Montreal, was elected President of the American Association of Dining Car Superintendents, at its recent annual meeting in Chicago, Ill.

We have been officially advised that the report that C. Murphy, General Superintendent Eastern Division, and J. Oborne, General Superintendent Ontario Division, C.P.R., will exchange positions is without foundation.

J. H. Gordon, G.T.R. Agent at London, Ont., was recently presented with a gold watch and chain and an address by the Board of Trade and a gold mounted cane by the office staff, on his appointment as Freight Agent G.T.R., Toronto.

E. W. Smith, Superintendent Sleeping, Dining and Parlor Cars, G.T.R., Toronto, was elected on the Executive Committee of the American Association of Dining Car Superintendents, at its recent annual meeting in Chicago, Ill.

L. Harold, who has been appointed G.T.R. Agent, London, Ont., was born in 1864, and has been in G.T.R. service since boyhood. Since 1889 he has been Agent at Hensall, Wingham and Brantford, Ont.

F. B. Nixon, formerly train dispatcher, Central Vermont Ry., St. Alban's, Vt., and latterly dispatcher for the Atchison, Topeka and Santa Fe Rd., at Cripple Creek, Colorado, has been appointed to a similar position in the company's service at La Junta, Colorado.

A. H. Brandon, G.T.R. Representative at North Bay, Ont., died there Oct. 31, after a few days' illness, aged 39. He had occupied the position in North Bay for about three years, prior to which he had occupied various positions in the same service.

A. T. Weldon, who resigned the position of Divison Freight Agent, Intercolonial Ry., Halifax, N.S., to enter the Black Diamond Steamship Line's service, was presented with a gold watch by a number of friends at Halifax, recently.

The rumored retirement of R. Kerr. Passenger Traffic Manager, and W. Stitt, General Passenger Agent Eastern Lines, C.P.R., has been officially denied.

F. H. Probert, who has been appointed Roundhouse Foreman I.C.R., St. John, N.B., was born at Acadia Mine, N.S., May 4, 1862, and entered I.C.R. service Jan. 6, 1882, since when he has been, to Feb., 1862, wiper; Feb., 1862, to Feb., 1885, fireman; Feb., 1885, to Nov. 1, 1909, engineer.

D'Arcy Tate, Assistant Solicitor G.T.P.R., Winnipeg, who was on an inspection trip over the line westerly to Edmonton, Alta., with E. J. Chamberlin, Vice President and General Manager, was compelled to return to Winnipeg, Nov. 3, owing to an attack of muscular rheumatism.

G. W. Vanderslice, at one time Superintendent Manitoba Division Northern Pacific Ry., and latterly Superintendent of a division of the NNational Railway of Mexico at Chihauhua, Chi., has been appointed Superintendent Western Division Chicago Great Western Ry. at Clarion, Iowa.

A. J. Roberts was presented with a gold watch, Nov. 6, by men employed at the G.T.R. shops at Stratford, Ont., on resigning his position as foreman of the erecting shops to remove to North Bay, Ont., where he will have charge of the erecting department of the Temiskaming and Northern Ontario Ry. shops.

R. J. Mackenzie, railway contractor; H. Sutherland, Executive Agent Canadian Northern Ry.; and W. Whyte, Second Vice President C.P.R., are among the provisional directors of the Manitoba Jockey Club, which was recently incorporated under the Dominion Companies' Act, with a capital of $500,000, and office at Winnipeg.

A W. Smithers, Vice President G.T.R., who will take the position of Chairman of the Board, Jan. 1, 1910, has been officially connected with the company since 1896, in which year he made his first inspection trip over the company's lines. He has been Chairman of the English Association of American Bondholders since 1904, having succeeded J. Price, a former G.T.R. Vice President.

E. G. Roussin, whose appointment as Travelling Agent Canadian Northern Quebec and Quebec and Lake St. John Rys. was announced in our last issue, was born at Rochester, N.Y., Aug. 3, 1873. During his railway career, all of which, prior to his present appointment, has been in the U.S., he has acted as clerk to his father, then C.P.R. Agent at Lowell, Mass.; clerk, Boston and Maine Rd., Boston, Mass.; and Travelling Agent under the District Passenger Agent C.P.R., Boston, Mass.

Sir R. W. Perks has announced that he will not seek re-election to the Imperial House of Commons, one of the reasons given being pre-occupation due to important contracting work in Canada. He is the principal promoter of the Montreal and Georgian Bay Canal project, and is also interested in the dry dock projects on the St. Lawrence River and at St. John, N.B., recently submitted to the Dominion Government. The other reason is that he does not approve of the Government's fiscal policy, which he considers to be socialistic.

F. X. Belanger, whose appointment as General Freight and Passenger Agent Temiscouata Ry., Riviere du Loup, Que., was announced in our last issue, was born at Chlorydormes, Que., Jan. 20, 1876, and from May, 1893, to Nov., 1896, was operator Great North Western Telegraph Co., there; Nov. 18, 1896, to Aug., 1901, consecutively telegraph operator, agent, relieving train dispatcher Temiscouata Ry.; Aug. 22, 1901, to Nov., 1904, Train Dispatcher; Nov. 1, 1904, to Mar. 15, 1908, chief clerk General Manager's office; Mar. 15, 1908, to Oct., 1909, General Freight Agent.

E. A. Wigren, who has been appointed Auditor of Disbursements M.C.R., Detroit, Mich., was born at Andover, Ill., July 20, 1876, and entered railway service Oct. 6, 1891, since when he has been, to June 1, 1898, in Freight Auditor's office, Chicago, Burlington and Quincy Rd., Chicago, Ill.; June 1, 1898, to Oct. 1889, in Treasurer's Department, same road; Oct., 1889, to Aug., 1901, in office of Auditor of Expenditure, same road; Aug., 1901, to Feb., 1906, in General Auditor's office, same road; Feb., 1906, to May 1, 1907, tariff clerk Traffic Department, same road; May 1, 1907, to Oct. 1909, Chief Clerk Audit Department, M.C.R., Detroit, Mich.

R. Creelman, whose appointment as Assistant General Passenger Agent C.N.R., Winnipeg, was announced in our last issue, entered railway service Sept., 1891, since when he has been to 1893, messenger City Freight Agent's office, G.T.R., Toronto; 1893 to 1897, ticket clerk G.T.R. city office, Toronto; 1897 to 1900, chief clerk District Passenger Agent's office, G.T.R., Toronto; Jan. 1, 1900, to Aug., 1901, in General Passenger Agent's office, C.P.R., Winnipeg; Aug., 1901. to Sept. 1, 1903, in Passenger Traffic Department C.N.R., Winnipeg; Sept. 1, 1903, to July 1, 1906, City Ticket Agent, Northern Pacific Ry., Winnipeg; July 1, 1906, to July 1, 1909, Travelling Passenger Agent C.N.R., St. Paul, Minn.; July 1 to Oct., 1909, Commercial Agent, C.N.R., St. Paul, Minn.

W. H. Gardiner, whose appointment as City Freight Agent C.P.R., and District Freight Agent E. and N.R., Victoria, was announced in our last issue, was born there Dec. 6, 1859, and entered C.P.R. service July 7, 1886, since when he has been, to Nov. 1, 1886, freight checker at Port Hammond, B.C.; Nov. 1, 1886, to July 1, 1897, shed foreman at New Westminster, B.C.; July 1, 1897, to July 1, 1900, Contracting Freight Agent, Vancouver, B.C.; July 1, 1900, to Oct. 1, 1901, Chief Clerk General Freight Department, Vancouver, B.C.; Oct. 1, 1901, to May 15, 1904, General Agent Freight Department, Seattle, Wash.; May 15, 1904, to Sept. 1, 1909, General Agent Freight Department, New Westminster, and latterly Contracting Freight Agent, Vancouver, B.C.

G. J. Desbarats, who has been Acting

THE CANADA IRON CORPORATION

Successors to: LIMITED

CANADIAN IRON & FOUNDRY CO., LIMITED
CANADA IRON FURNACE CO., LIMITED
ANNAPOLIS IRON CO., LIMITED
JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE — MONTREAL, P.Q.

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and Gas Pipe, Specials, Valves, Hydrants, Etc.
Castings of All Kinds

W. T. RODDEN, Managing Director J. F. JOHNSON, Secretary-Treasurer
T. L. GALLAGHER, Sales Manager

Standard Explosives
Limited

MANUFACTURERS OF

High Explosives and Blasting Powder, and Dealers in Safety Fuse Detonators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING - - MONTREAL
Works: L'ISLE PERROT, NEAR VAUDREUIL, P. Q.

CROSSEN CAR MFG. COMPANY
OF COBOURG, LIMITED

MODERN HIGH-CLASS
ROLLING STOCK

Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows

CAR CASTINGS, FORGINGS AND REPAIR PARTS

Deputy Minister of Marine since the retirement of Col. F. Gourdeau, has been appointed, by order in council, Deputy Minister of Marine. He is a native of Quebec City, and received his education in Montreal, graduating from the Polytechnic Institute in 1879, after which he entered Government service as an engineer of canal construction and other public works. For several years he acted as assistant to the Chief Engineer of Canals, and from 1892 to 1896 was Inspector of Railway Construction in British Columbia; 1896 to 1899, Engineer in charge of the Galops Canal construction; 1899 to 1901, employed on hydrographic survey work on the St. Lawrence River, and in 1901, he was appointed to supervise the work of re-building and enlarging the Government shipyards at Sorel, Que., and continued to act as Agent for the Department there until his appointment as Acting Deputy Minister of Marine in 1908. He is a brother-in-law of D'Arcy Scott, Assistant Chief Railway Commissioner.

C. M. Hays, Second Vice President and General Manager G.T.R., who will succeed Sir Charles Rivers Wilson as President, Jan. 1, 1910, was born at Rock Island, Ill., in 1856. He entered railway service in 1873, since he has been, to 1877, clerk, Atlantic and Pacific Rd. (now part of the Frisco Lines), St. Louis, Mo.; 1877 to 1884, secretary to Vice President and General Manager Wabash and Missouri Pacific systems; 1884 to 1886, secretary to Vice President and General Manager Wabash, St. Louis and Pacific Rd.; 1886 to 1887, Assistant General Manager same road; 1887, he was appointed General Manager Wabash Western lines, comprising all the lines west of the Mississippi River and that portion of the lines east, between Chicago and Detroit, and on the consolidation of the Wabash lines, he was appointed General Manager of the entire system. In 1894 he was elected also Vice President, and resigned Dec. 31, 1895, on his appointment as General Manager G.T.R., which position he resigned in 1901 to become President Southern Pacific Rd., but on that railway changing hands, he returned to the G.T.R., as General Manager, and was also elected Second Vice President in 1902.

John Niblock, who recently resigned his position as Superintendent District 3, Western Division C.P.R., with headquarters in Calgary, was born in York County, Ont., Dec. 21, 1849. He entered railway service with the G.T.R. Aug. 21, 1870, as switchman, served two years as brakeman and two years as conductor, resigning to go into fruit and ornamental tree business, in which he continued for five years. In 1880 he entered the Dominion Government railway service on the original C.P.R. as conductor, and as such made the first crossing of the Louise bridge at Winnipeg in August, 1880, and ran the first train between Winnipeg and Portage la Prairie, Dec. 1, 1880. He entered the C.P.R. service at its inception in 1881 as conductor; was appointed Trainmaster, Sept. 9, 1882, and Superintendent of the Port Arthur-Winnipeg section, Sept. 14, 1883. On May 21, 1887, he was transferred to Medicine Hat, Alta., as Superintendent, and in Oct., 1899, was transferred to Calgary, Alta., as Superintendent, in which position he remained until Nov. 1, 1909. During his superintendency west of Winnipeg he assisted in the building of about 1,000 miles of line. He will always be remembered as the founder of the Medicine Hat General Hospital, which proved a great blessing in the earlier days of settlement when there was no other hospital on the line of railway west of Winnipeg, and to which he contributed liberally personally, and raised a considerable sum by his persistent personal exertions. Mr. Niblock is already interested in fruit growing in the Okanagan Valley, B.C., and will settle there and engage in the fruit tree business.

Railway Finance, Meetings, Etc.

Alaska Northern Ry.—When the Alaska Central Rd. was sold recently at Valdez, Alaska, the purchaser was F. G. Jemmett, trustee for the shareholders of the Sovereign Bank, which held $2,500,000 of the $3,500,000 of bonds issued. The purchase price was $600,000. In order to take over and complete the line, a new company has been formed with the title of the Alaska Northern Rd. Co.

Alberta Ry. and Irrigation Co.—The report for the year ended June 30, presented at the annual meeting in London, Eng., shows a total revenue of $465,953.01, including balance brought forward from the previous year of $36,925.91; disbursements of $215,634.61, leaving a surplus of $250,318.40, from which it was proposed to pay a dividend of 5% on the share capital, absorbing $162,500, leaving $87,818.40 to be carried forward. The gross railway earnings for the year were $320,936.27, against $228,775.07 for the previous year. During the year land sales aggregated 131,000 acres, realizing $888,474, and the company also sold 11,386 acres in which it has an interest jointly with the C.P.R., its proportion of the profit being $37.712.40. At the end of the year, the company held 296,085 acres unsold, in addition to several lots in towns already located.

The directors for the current year are: President, E. T. Galt, Montreal; Vice President, Col. K. R. B. Wodehouse, London, Eng.; Managing Director, A. M. Nanton, Winnipeg; Sir E. S. Clouston, W. M. Ramsay, Montreal; J. Galt, Winnipeg; W. Burdett-Coutts, J. H. Dodgson, London, Eng.

Approximate net profits from all sources, exclusive of land sales for Sept., $39,020, against $35,468 for Sept., 1908. Cumulative net profits for three months ended Sept. 30, $108,556. Railway tramc receipts for Oct., $46,505, against $31,052 for Oct., 1908. Aggregate railway receipts for four months ended Oct. 31, $134,694.

Atlantic, Quebec and Western Ry.—We are officially advised that arrangements have been completed for the transfer to this company of the Baie des Chaleurs Ry. The line taken over extends from Matapedia, on the Intercolonial Ry., to Paspebiac, Que., 100 miles. The Baie des Chaleurs Ry. Co. was the original name of the company, and it constructed the line as far as New Carlisle, 98 miles. Then the Atlantic and Lake Superior Ry. Co. was formed to take over the line and some others, and to construct the connecting links, so that a line from Gaspe to Lake Superior would be completed. Under this latter title the line was extended to Paspebiac. The concern got into difficulties, the other lines were not taken over, and for a number of years the B. des C. Ry. was operated by the bondholders. There have been numerous appeals to the law to straighten out matters under both titles, but it is now said that all difficulties have been cleared out of the way. The A. Q. and W. Ry. was incorporated to complete the lines in the Gaspe Peninsula, and to take over the old B. des C. Ry. with its extension made by the A. and L. S. Ry. The remainder of the A. and L. S. Ry. Co.'s plans have been abandoned.

Bay of Quinte Ry.—Press reports state that Mackenzie, Mann and Co. have purchased the Bay of Quinte Ry. While it is not unlikely that the line will be acquired in the Canadian Northern Ontario Ry. interests, the purchase has not been made up to the present.

The Canadian Northern Ry. Co. is making application to the Dominion Parliament for power to amalagamate with other companies and to acquire the capital stock and securities of other companies with which it may be authorized to amalgamate, and declaring that the company has had the power to and may consolidate the securities issued by the company or such other companies, with all other usual and customary powers in that behalf.

Brockville, Westport and Northwestern Ry.—Following are the officers and directors for the current year: President, E. R. Thomas; Vice President and Treasurer, F. T. Lewis; Secretary and Manager, C. Heilshorn; General Superintendent, W. J. Curle; other directors, C. F. Holm, A. P. Van Tuyl, R. Bowie, W. S. Buell, W. H. Comstock, J. Cumming, W. C. Fredenburg.

Canadian Pacific Ry.—The Dominion Parliament is being asked to empower the directors to enact by-laws for the elevation or appointment of two or more Vice Presidents, and defining their powers, duties, qualifications and terms of office; amending the company's acts relating to the election of directors; and to further interpret or define the meaning of the company's act relating to the issue of preferred stock.

Central Vermont Ry.—The report for the year ended June 30 shows gross receipts $3,795,332.27; operating expenses, $2,883,624.31; net earnings, $911,707.96; receipts from parlor car service, $9,128.60; interest in securities held by the company, $22,980; total credits, $943,816.56. Taxes, $119,477.91; rentals, $11,488.01; hire of equipment, $96,706.86; fixed charges, $713,026.68; total debits, $940,699.46; net result, $3,117.10. There was an increase in the revenue from all sources of $70,045.86, and a net decrease in expenditure of $11,737.17. The amount spent in additions and improvements during the year was $30,274.92, which was included in the operating expenses. During the year, the control of the Central Vermont Transportation Co. was obtained, and the steamships NeNw York and New London placed in operation June 28. The additions and improvements mentioned comprised new tracks, sidings and spurs, $662.32; new fuel and water stations, engine houses and turntables, $2.984.33; new stations and warehouses, $7.976.111; steel rails (difference between the old and the new). $7.954.96; new tools and machinery, $2,081.21; ballasting. $2.837.80; new freight cars, $5.553.19; new crossings, $225. The company operates 702.4 miles of track, made up as follows:—main track, 203.2 miles; second main track, 6.2 miles; branch lines, 173.7 miles; yard tracks, sidings and spurs, 110.8 miles, all of which are owned, and main track, 123.5 miles; branch lines, 36 miles; yard tracks, sidings and spurs, 49 miles, which are leased.

Dominion Atlantic Ry.—This company having changed the date of closing its accounts so as to conform to the requirements of the Department of Railways, the report just issued covers 18 months to June 30. For the six months ended June 30, 1908, there was a loss of £23,800, including debenture interest, so that after deducting £1,800 brought forward there remained a deficit of £22,000, which has been charged against suspense account. For the 12 months ended June 30 last there was a surplus of £8,400 remaining after meeting interest charges. The directors have transferred £7,000 of this to suspense account, and the remaining £1,400 is carried forward. The first six months of the year never make a good showing, even in the best years the earnings scarcely more than meet operating expenses. In the six months ended June 30, 1908, there was a period of acute depression, owing to the financial posi-

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

GRAND TRUNK RAILWAY SYSTEM

Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON (via Boston & Maine R.R. and Cent. Vermont Ry.) MONTREAL, TORONTO and CHICAGO.

THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls.

Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

W. E. DAVIS, Passenger Traffic Manager, MONTREAL. G. T. BELL, Gen. Passenger and Ticket Agent, MONTREAL, QUE.

FARNLEY STAYBOLT IRON

HIGHEST GRADE OF IRON FOR STAY-BOLTS, RIVETS AND MINING PURPOSES

All sizes carried in stock in Montreal and Winnipeg

Write us for prices, samples and tests.

TAYLOR & ARNOLD

c/o W. E. SKINNER, LIMITED
SOMERSET BLOCK WINNIPEG, MAN. 404 St. James St., MONTREAL

MORISON Suspension Furnaces

The Universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.

For Land and Marine Boilers

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

Manufactured by

THE CONTINENTAL IRON WORKS, WEST AND CALYER STS. BOROUGH OF BROOKLYN. Near 10th and 23rd St. Ferries. NEW YORK

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

tion of the United States, which made its influence felt all over North America, to say nothing of other parts of the world. There has been a reduction of 0.9% in the working expenses. At the recent annual meeting, in London, Eng., J. M. Denny, Vice President, who recently visited Canada, reported that the rolling stock and vessels had been kept in a thorough state of efficiency, and that the system was being operated most economically. The directors were re-elected.

Gross earnings for Sept., $173,000, against $177,261 for Sept., 1908. Aggregate gross earnings for three months ended Sept. 30, $474,000, against $338,552 for same period 1908.

Grand Trunk Ry.—Application is being made to the Ontario Legislature to confirm an agreement, dated June 12, between the company and Tay tp., fixing the total annual amount of taxes to be paid on the company's asessable property there, for a term of years.

Guelph Junction Ry.—The report of the operations of this railway for the three months ended Sept. 30, presented to the Guelph, Ont., city council, show that the proportion of the receipts payable to the corporation is $7,492.26, making a total of $25,756.79, against $22,378.10 for the year ended Sept. 30, 1908.

Lake Superior Corporation.—The income account for the year ended June 30 shows total receipts of $566,511.69, of which $501,424.46 was from subsidiary companies. These include the Algoma Central and Hudson Bay Ry., the Manitoulin and North Shore Ry. and the Algoma Central Steamship line, but no separate figures are given for them, or for the earnings of any of the subsidiary companies. There was paid for interest and general expenses, including interest on first mortgage and collateral trust bonds, $543,516.14, leaving a balance of income for the year of $22,995.55.

London and Port Stanley Ry.—The city auditor of London, Ont., has completed his audit of this company's financial condition. It appears that the city holds the company's bonds for $1,332,854 upon which it does not receive any interest. It also advanced $125,000 for terminal and other purposes, upon which it is paying interest and providing a sinking fund. The income from rental, etc., amounts to about $17,000 a year, more than sufficient to meet these charges. The city bore the greater part of the cost of the line, and in return took the company's bonds. The London Advertiser, in reviewing the statement, says any debt incurred by the city in respect of the original cost of the line has been practically wiped out. The share capital of the company is held as follows: G.T.R., 2,317 shares; City of London, 1,828 shares; private owners, 270 shares, but the city, by reason of its ownership of the bonds has 8,361 votes, thus controlling the company.

Pere Marquette Rd.—The control of the P. M. Rd. is reported to have passed into the hands of the Bessemer and Lake Erie Rd. The P. M. Rd. owns the Lake Erie and Detroit River Ry. in Canada, and operates under lease the London and Port Stanley Ry.

Quebec and Lake St. John Ry.—Gross receipts for Oct., $52,982.85, against $64,835.24 for Oct., 1908. Aggregate for 10 months ended Oct. 31, $497,733.06, against $530,332.72 for same period 1908. Mileage operated during latter periods, 286.5 to 285 miles against 240 to 285.4 miles.

Quebec Central Ry.—Gross earnings for Sept., $94,673.06; expenses, $62,777.03; net earnings, $31,896.03, against $102,-623.33 gross earnings; $64,697.99 expenses; $38,015.34 net earnings for Sept., 1908. Aggregate gross earnings for three months ended Sept. 30, $311,105.96; expenses, $195,567.80; net earnings, $115,-538.16, against $335,543.40 gross earnings; $213,641.40 expenses; $121,902.08 net earnings for same period 1908.

St. Marys and Western Ontario Ry.—A duplicate of the mortgage entered into between the company, the Royal Trust Co., and the C.P.R., securing an issue of bonds, has been deposited with the Dominion Secretary of State. A duplicate of the original lease of the company's line to the C.P.R., dated Feb. 25, has also been deposited.

Temiskaming and Northern Ontario Ry.—Operating revenue for Sept., $151,-787.49; expenses, $87,710.38; net operating revenue, $64,067.11; less hire of equipment, $2,441.08; balance, $61,636.03; ore royalties, $10,000.46; total net revenue, $71,636.49. Approximate operating revenue for Oct., $161,366, against $91,276 for Oct., 1908.

White Pass and Yukon Ry.—Gross earnings for three months ended Sept. 30, $726,111.

Report of Railways Department.

The report of the Department of Railways and Canals for the year ended Mar. 31, 1909, shows that the total railway expenditure was $41,569,184.26 of which $29,414,227.34 was charged to capital, $2,390,370.41 to income and $9,764,-586.51 to revenue. The expenditure on capital included $24,892,422.68 for the eastern division of the National Transcontinental Ry. and $92,427.83 for surveys for a railway to Hudson Bay. The expenditure on income included $1,785,-887.39 paid as subsidies to railways other than the Government roads; $136,969.11 for the Board of Railway Commissioners; $355,279.07 to pay the shareholders of the Quebec Bridge Co., which work was taken over by the Government; $31,-765.44 for the Quebec Bridge Commissioners, and $35,822.61 for preparing plans for the reconstruction of the bridge. The expenditure on the Intercolonial Ry. was $13,195,253.71, namely, on capital account, $3,867,232.16, and on revenue account, $9,328,021.55. On the maintenance of the Windsor branch $36,234.55 was expended on revenue account. The expenditure on the Prince Edward Island Ry. aggregated $961,-537.31, of which $561,206.90 was charged to capital and $400,330.41 to revenue. The total revenue received from the Government railways was $8,894,420.42. The total Government expenditure on railways prior to and since Confederation to Mar. 31, amounts on capital account to $215,148,689.38, which includes $25,000,000 granted to the C.P.R. for its main line. In addition there has been expended from the consolidated fund $191,176,638.48, which includes $39,402,-019.23, paid as subsidies to railways in addition to the above for the C.P.R., making a total expenditure of $406,325,-327.86. This total, it is explained, does not include certain annual payments in connection with the line between Ottawa and Quebec, which is dealt with by the Finance Department. Of the total amount $13,881,460.65 was expended, prior to Confederation, on the construction of portions of what is now the Intercolonial Ry.

Dealing with the operations of the two Government lines—the Intercolonial Ry. and the Prince Edward Island Ry.—the report shows that the gross earnings were $8,894,420.42, and the working expenses $9,764,586.51, leaving a deficit of $870,-166.09. On the Intercolonial Ry. the earnings were $8,527,069.46 and the expenditures $9,328,021.55, showing a deficit of $800,952.09. The Windsor branch showed earnings of $56,031.33 and maintenance expenses of $36,234.55, showing a profit of $19,796.78. The Prince Edward Island Ry. showed earnings of $311,319.63 and expenditures amounting to $400,330.41, leaving a deficit of $89,-010.78.

The accounts of the Intercolonial Ry. show receipts:—passenger traffic, $2,628,-218.57; freight traffic, $5,502,550.58; mail and express traffic, $350,478.58; miscellaneous receipts, $45,821.73. The expenditures are classed under the following headings:—Maintenance of way and structures, $1,780,931.83, against which there is a credit item of $9,535.10 for maintaining joint yards, tracks, etc.; maintenance of equipment, $2,096,491.97; traffic expenses, $186,749.69; transportation expenses, $5,115,842.25, against which there is a credit of $69,755.93 for operating joint yards, terminals, etc.; general expenses, $227,296.84. The gross earnings were $5,892.40 per mile of railway, 92.60 cents per engine mile, $1.24 per train mile, and 9.13 cents per car mile. The total engine mileage was 9,208,327 miles; the total train mileage was 6,865, 204 miles, and the total car mileage 93,374,119 miles. The expenditure per mile of railway was $6,445.89; per train mile, $13,587; and the ratio of expenses to gross earnings was 109.39. Compared with the twelve months ended Mar. 31, 1908, there was a decrease in gross earnings of $646,489.34 and an increase of $170,586.02 in working expenditure. The number of passengers carried was 2,907,237, an increase of 117,866; there were 3,573,972 tons of freight carried, a decrease of 560,092 tons. The train mileage was: passenger trains, 2,706,214 miles; freight trains, 4,159,990 miles; loaded car mileage, 57,381,108 miles; empty car mileage, 16,356,184 miles; caboose car mileage, 3,776,649 miles; steam motor car mileage, 21,997 miles; total car mileage, passenger, 15,680,178 miles; freight, 77,513,941 miles.

The Windsor branch is operated by the Dominion Atlantic Ry., under an agreement by which the company pays all charges in conection with the working of the traffic and takes two-thirds of the revenue, the Government bears all cost of maintenance of the line and works, and receives one-third of the earnings. This agreement was made in 1871 and was renewed Dec. 13, 1892, for a further 21 years.

The accounts of the Prince Edward Island Ry. show passenger earnings, $136,534.04; freight earnings, $149,150.61; mails and sundries, $25,634.98; total $311,319.63. The expenditures were:—Maintenance of way and structures, $114,473.32; maintenance of equipment, $62,250.46; traffic expenses, $1,314.58; transportation expenses, $209,997.20; general expenses, $12,294.85. The statistics show:—passengers carried, 332,758; freight carried, 106,090 tons; engine mileage, 452,534 miles; train mileage, 334,982 miles; car mileage, 2,098,701 miles; gross earnings per mile of railway, $1,165.99; gross earnings per engine mile, 68.79c.; gross earnings per train mile, 92.94c.; gross earnings per car mile, 14.83c.; working expenses per mile of railway, $1,499.36; working expenses per train mile, 119.51c.

In order to encourage the development of agriculture in Newfoundland, the Reid Newfoundland Co., upon the invitation of the Government, has put in effect a rate of 25c. a barrel or sack, upon produce from any rail point to the port of call of any of its steamers in Newfoundland, and of 50c. from all rail points in Newfoundland to all points reached by its steamers in Labrador. Where there are lower local rates at present in force they are not to be increased. From all steamer ports in Newfoundland a rate of 25c. a barrel for agricultural produce to St. Johns has been put in force. This latter rate is practically a reduction of 30% upon the rates laid down in the government schedule.

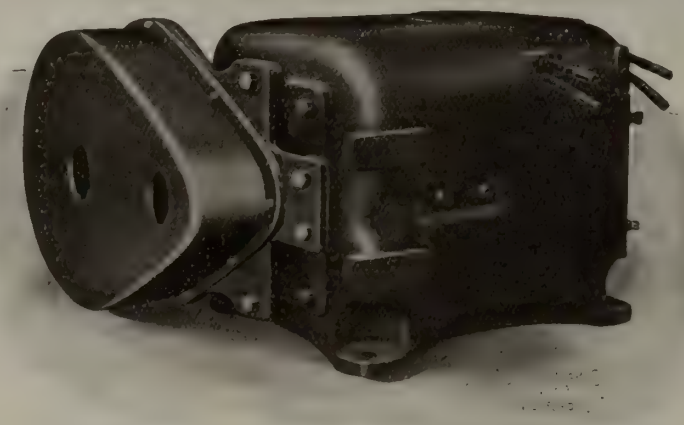
"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes

Send us your specifications for special Taps.
We have the appliances.
Delivery and price will please you.

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.



ENCLOSED TYPE MOTORS

FOR

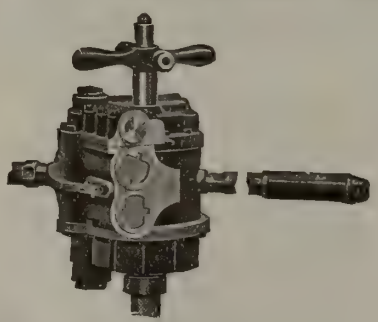
Cranes, Industrial Railways, Hoists, Etc.

WRITE FOR PARTICULARS

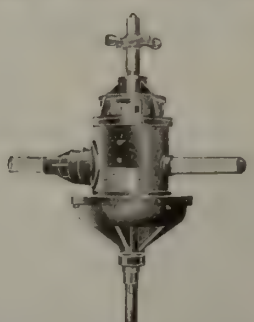
CANADIAN CROCKER-WHEELER CO., Limited

Manufacturers and Electrical Engineers - 41 Street Railway Chambers, Montreal

ALL RAILROADS AND USERS OF COMPRESSED AIR KNOW THESE TOOLS



LITTLE GIANT DRILL



DUNTLEY ELECTRICAL DRILL

NEW BOYER RIVETING HAMMER

The Chicago Pneumatic Tool Co. have recently re-designed some of their LITTLE GIANT Drills, and have placed on the market several new types, and also some additional pneumatic devices. Write us for Catalogue No. 30, just issued.

THE HOLDEN COMPANY, LIMITED

MONTREAL 302 St. James St. | TORONTO 42 York St. | WINNIPEG 291½ Portage Ave.

Address Nearest Office

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

ACTON BURROWS LIMITED, - Proprietors, 157 Bay Street, Toronto, Canada.

Local and Long Distance Telpehone, Main 3201.

ACTON BURROWS, - Managing Director and Editor-in-Chief.

AUBREY ACTON BURROWS, - Secretary and Business Manager.

A. FENTON WALKER, - U. S Representative, 143 Liberty Street, New York City.

Official Organ of
The Canadian Freight Association.
The Canadian Roadmasters' Association.
The Canadian Street Railway Association.
The Canadian Ticket Agents' Association.

SUBSCRIPTION PRICES, INCLUDING POSTAGE:

TORONTO AND WEST TORONTO POSTAL DELIVERY, $1.25 a year.

To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, $1 a year.

To the UNITED STATES and other countries in the Postal Union, except those mentioned above, $1.50 a year, or six shillings sterling.

SINGLE COPIES, 15 cents each, incduing postage. postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, DECEMBER, 1909.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, M. MAGIFF, St. Albans, Vt.; MANAGER, J. E. DUVAL, 401 St. Nicholas Bldg., Montreal.

WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.

BRITISH COLUMBIA LINES—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. J. Mossman, Buffalo, N.Y.; SEC.-TREAS., T. Marshall, Toronto

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC.-TREAS., H. R. Patriarche, Winnipeg.

BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, H. H. Vaughan, Montreal; SECRETARY, J. Powell, St. Lambert, Que. MEETINGS 1st Tuesday each month 8 p.m., except June, July and August.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal. MEETINGS at Montreal, alternate Thursdays, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, J. P. Hanley, Kingston, Ont.; SEC.-TREAS., E. de la Hooke, London, Ont.

OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto. MEETINGS at Toronto, 3rd Tuesday each month, except June, July and August.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto.
SECRETARY, R. B. Wolsey, C.E., Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Quebec Transportation Club.

PRESIDENT, F. S. Stocking.
SEC.-TREAS., A. H. Davis, Box 350, Quebec.

Western Canada Railway Club.

PRESIDENT, G. Hall, Winnipeg; SECRETARY, W. H. Rosevear, Winnipeg. MEETINGS at Winnipeg, 2nd Monday each month, except June, July and August.

Alphabetical List of Advertisers

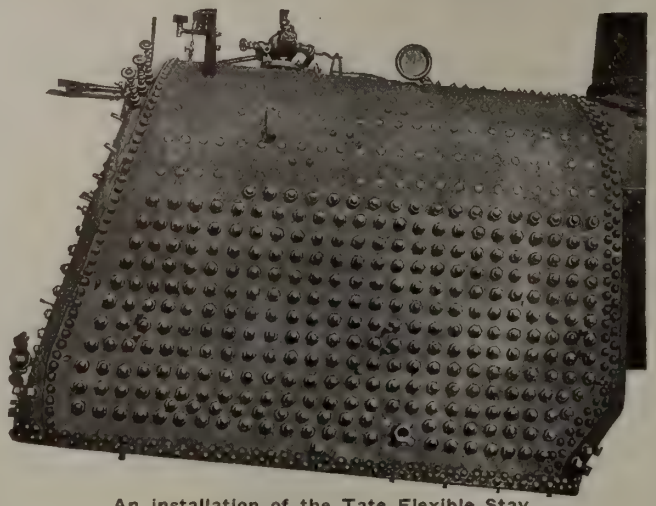
	PAGE
Abbott, W.	Cover 1
Alexander Car Replacer Mfg. Co.	930
Allis-Chalmers-Bullock Co., Ltd.	Cover 2
American Brake Shoe and Foundry Co.	906
American Hoist and Derrick Co.	888
Babcock & Wilcox, Ltd.	944
Baldwin Locomotive Works	924
Banwell Hoxie Wire Fence Co., Ltd.	914
Beatty, M., & Sons, Ltd.	932
Bertram, John, & Sons Co., Ltd.	870
Boker, Hermann & Co.	936
Booth, L. M. Co.	Cover 1
Bowser, S. F. & Co., Ltd.	908
Bradstreet Company	928
Brevoort Hotel, Chicago	910
Brown Hoisting Machinery Co.	874
Burns, R. M. & Co.	940
Burrows—Acton Burrows Ltd.	Cover 1
Butterfield & Co.	940
Canada Car Co., Ltd.	884
Canada Iron Corporation, Ltd.	900
Canadian Bridge Co., Ltd.	930
Canadian Bronze Co., Ltd.	920
Canadian Crocker-Wheeler Co.	904
Canadian Fairbanks Co., Ltd.	888
Canadian Gold Car Htg. & Ltg. Co., Ltd.	898
Canadian Locomotive Co., Ltd.	898
Canadian Northern Railway	916
Canadian Office & School Furniture Co., Ltd.	934
Canadian Pacific Railway Land Depatrment	936
Canadian Railway Accident Insurance Co.	936
Canadian Ramapo Ironworks, Ltd.	914
Canadian Rand Co., Ltd.	918
Canadian Westinghouse Co., Ltd.	Cover 2
Chicago Railway Equipment Co.	936
Cleveland City Forge and Iron Co.	930
Commercial Acetylene Co.	Cover 1
Continental Iron Works	902
Crossen Car Mfg. Co. of Cobourg, Ltd.	900
Date, John	936
Delaware and Hudson Co.	934
Dominion Bridge Co., Ltd.	932
Dominion Car and Foundry Co., Ltd.	Cover 4
Dominion Equipment and Supply Co.	910
Dominion Iron and Steel Co., Ltd.	896
Dominion Wire Rope Co., Ltd.	878
Dougal Varnish Co., Ltd.	Cover 1
Drake & Wiers Co.	912
Drewry, E. L.	922
Drummond, McCall & Co.	908
Duner Co.	940
Engineering News Book Department	920
Falls Hollow Staybolt Co.	924
Farlow Draft Gear Co.	912
Flannery Bolt Co.	906
Fuce, E. O.	905
Galena Signal Oil Co.	872
Galt Malleable Iron Co.	940
Gardner, J. T.	928
Gartshore-Thompson Pipe & Fndry Co., Ltd.	928
General Railway Signal Co.	934
Goldschmidt Thermit Co.	932
Grand Trunk Railway	902
Greening, The B., Wire Co., Ltd.	940
H. & E. Lifting Jack Co.	898
Hamilton Pattern Works	928
Hamilton Steel and Iron Co., Ltd.	886
Harrison, John, & Sons Co., Ltd.	908
Hart John A., & Co.	Cover 1
Hicks Locomotive and Car Works	912
Holden Co., Ltd., The	904
Hopkins, F. H., & Co.	868
Hudson's Bay Co.	896
Hunt, Robert W., & Co.	932
Hutton, James & Co.	940
Illinois Central Railroad	932
Imperial Bank of Canada	934
Imperial Guarantee & Accident Insurance Co.	940
Intercolonial Railway	912
International Correspondence Schools	918
International Marine Signal Co.	916
International Mercantile Marine Co.	924
Jardine, A. B. & Co.	904
Jessop, Wm., & Sons, Ltd.	924
Kerr Engine Co., Ltd.	922
Kingsmill, Saunders, Torrance & Kingsmill.	905
Legg Bros.	
Lehigh Valley Railroad	934
Lewis, Rice, & Sons, Ltd.	906
Lufkin Rule Co.	Cover 1
McAvity, T. & Sons	922
McConway & Torley Co.	920
McCord & Co.	894
Matheson, I., & Co.	936
Meaford Wheelbarrow Co., Ltd.	918
Metcalf, John S., Co.	926
Montreal Locomotive Works	876
Montreal Rolling Mills Co.	920
Montreal Steel Works, Ltd.	882
Mussens, Limited	Cover 1 and 866
National Malleable Castings Co.	Cover 1
Northern Electric and Mfg. Co., Ltd.	926
Norton, A. O.	878
Nova Scotia Steel and Coal Co., Ltd.	890
Ontario Wind Engine and Pump Co., Ltd.	928
Orford Copper Co.	934
Ottawa Car Co., Ltd.	Cover 1
Otto Bros.	934
Owen Sound Wire Fence Co., Ltd.	928
Parry Sound Lumber Co., Ltd.	934
Phillips, Eugene F., Electrical Works, Ltd.	940
Piper, The Hiram L., Co., Ltd.	934
Piper, N. L., Ry. Supply Co., Ltd.	910
Polson Iron Works, Ltd.	890
Positive Lock Washer Co.	940
Provincial Steel Co., Ltd.	938
Pyke, J. W., & Co.	896
Pyle National Electric Headlight Co.	886
Rail Joint Co. of Canada, Ltd.	Cover 1 and 880
Renouf Publishing Co.	926
Rhodes Curry Co., Ltd.	892
Robb Engineering Co., Ltd.	894
Robertson Machinery Co.	938
Safety Car Heating and Lighting Co.	882
Saxby & Farmer, Ltd.	Cover 1
Silliker Car Co., Ltd.	880
Smart, James, Mfg. Co.	
Southam Press	940
Standard Coupler Co.	936
Standard Explosives Limited	900
Standard Paint and Varnish Co., Ltd.	928
Standard Steel Works Co.	924
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold	902
Toronto Bolt and Forging Co., Ltd.	892
Union Draft Gear Co.	930
United Typewriter Co.	930
Vulcan Iron Works	938
Waugh Draft Gear Co.	Cover 1
Williams, A. R., Machinery Co.	884
Williams Mfg. Co., Ltd.	934
Wire and Cable Co.	Cover 1

EDW. O. FUCE
Hon. Grad., Univ. Tor. (S.P.S.)
A. M. CAN. SOC. C. E.
ONT. LAND SURVEYOR,
Consulting Civil Engineer
GALT, ONT.
Railway Location & Construction.
Reinforced Concrete Structures.

Kingsmill, Saunders, Torrance & Kingsmill,
Union Bank Chambers, 19 Wellington St. West, Toronto
Nicol Kingsmill, K.C., Dyce W. Saunders, K.C., W. P. Torrance, Walter B. Kingsmill.

The annual conference of C.P.R. Master Mechanics was held at Fort William, Ont., Nov. 5 and 6, and presided over by H. H. Vaughan, Assistant to the Vice President C.P.R.

Press reports state that it has been decided to abandon the experiment tried at St. John, N.B., by the Intercolonial Ry., of owning houses to rent to employes. The Western Trunk Lands, Building and Development Corporation has been incorporated in Winnipeg by officials of the Brotherhood of Locomotive Firemen and Engineers, to purchase land at divisional points, erect houses, and let them to railway employes.



An installation of the Tate Flexible Stay.

THE TATE FLEXIBLE STAYBOLT

THE PERFECT STAY

For Locomotive Fire Boxes

Over two millions and a half bolts in service on over 125 railroads throughout the United States

Manufactured and Sold in Canada by

CANADA FOUNDRY COMPANY, Limited
TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, = Pittsburgh, Penn., U.S.A.

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of THE STEEL BACK BRAKE SHOE on your freight equipment.

The use of OUR STEEL BACK SHOE will mean a saving in brake shoe maintenance, brake heads and brake beams.

THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

American Brake Shoe and Foundry Company

NEW YORK MAHWAH, N.J. CHICACO, ILL.

THE HOLDEN CO., Limited, Agents, 302 St. James St., MONTREAL

We Carry the Largest and Most Extensive Assortment of Supplies of all Kinds Handled by any House in Canada

Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCE YOU

RICE LEWIS & SON, LTD., TORONTO

Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this.

The dates given of orders, immediately following the numbers, are those on which the hearing took place and not those on which the orders were issued. In many cases orders are not issued for a considerable time after the date assigned to them.

8355. Oct. 15.—Ordering C.P.R. to construct suitable highway crossing over its right of way where it crosses road allowance marked "proposed street," lots 23, 24 and 25, first con. Ottawa front, Nepean tp., Carleton Co., Ont.

8356. Oct. 15.—Authorizing United Fuel Supply Co. to lay gas pipe under C.P.R. on lot 7, con. 3, Raleigh tp., Ont.

8357. Oct. 9.—Ordering C.P.R. to maintain highway crossing at East St., Ignace, Ont.

8358. Oct. 11.—Ordering C.N.R. to carry out provisions of par. 1 of Board's order of Oct. 16, 1905, with respect to diversion of Thibault St., St. Boniface, Man.

8359. Oct. 11.—Ordering C.N.R. to commence construction of subway at Pembina St., Winnipeg, Man., on or before Nov. 1, 1909.

8360. Oct. 11.—Dismissing application of St. Boniface, Man., to carry Provencher Ave. across C.P.R.

8361. Oct. 11.—Authorizing C.N.R. to open for traffic its line from Benito, mile 18.8, to Pelly, mile 35.6, on its Thunder Hill branch, Man.

8362. Oct. 11.—Dismissing complaint of F. C. Berry, Austin, Man., against G.T.P.R. for alleged improper fencing.

8363. Oct. 11.—Dismissing application of merchants, farmers and residents for order directing C.P.R. to erect a station and appoint agent at Purves, Man.

8364. Oct. 11.—Dismissing complaint of Laing Bros., of Winnipeg, Man., that the C.N.R. charge excessive interswitching rate with C.P.R.

8365. Oct. 19.—Authorizing G.T.R. to connect its track west of Fielden St. with track or siding being constructed by the Department of Railways and Canals to reach Government Elevator No. 2, Port Colborne, Ont.

8366. Oct. 18.—Authorizing the town of Yellow Grass, Sask., to lay water pipe under C.P.R.

8367. Oct. 18.—Authorizing St. Clair Bros. to lay gas pipe under G.T.R. at Beverly St. and Stone Rd., Galt, Ont.

8368 to 8372. Oct. 8.—Authorizing Volcanic Oil & Gas Co. to lay pipe line under M.C.R. at four points in Essex tp. and one point in Maidstone tp., Ont.

8373. Oct. 19.—Authorizing United Fuel Co. to lay pipe under P.M.R. between lots 15 and 16, 1st and 2nd cons., Chatham tp., Ont.

8374. Oct. 13.—Extending time within which G.T.R. may apply to the Supreme Court of Canada for leave to appeal from order 7613, July 22, directing it to provide station accommodation where its line from Hamilton to Niagara Falls crosses the town line between Clinton and Louth tps., Ont.

8375. Oct. 12.—Approving plans for improvement of Trigger Drain to be constructed under Canada Southern Ry., West Lorne, Ont.

8376. Oct. 15.—Authorizing G.T.R. to construct branch line to Colonial Fur Co.'s premises, Middlesex Co., Ont.

8377. Oct. 14.—Ordering that Thamesville village, Ont., be made a party to the proceedings re E. F. Best's complaint re dangerous condition of G.T.R. and Wabash Rd. level crossings.

8378. Oct. 18.—Approving N.B. Southern Ry. Standard Passenger Tariff C.R.C. 20.

8379. Oct. 18.—Authorizing Harwich tp. council to construct drain under Lake Erie and Detroit River Ry., Ont.

8380. Oct. 19.—Authorizing Quebec, New Brunswick & Nova Scotia Ry. to construct its line across public road between St. Foye and Lorette parishes, Quebec Co., Que.

8381. Oct. 15.—Authorizing C.P.R. to construct spur to the waterfront, Parry Sound, Ont.

8382. Oct. 19.—Authorizing C.P.R. to open for traffic that portion of the Ontario and Quebec Ry. double track, mileage 41.6 to 44.9, Smiths Falls sec., Ont.

8383. Oct. 15.—Authorizing C.P.R. to construct an extension of its siding across Arthur St., Elmira, Ont.

8384. Oct. 19.—Authorizing Manitoba Government Telephone System to erect wires across C.P.R. at Hanbury Siding, Brandon.

8385. Oct. 15.—Authorizing Miniota rural municipality to erect wires across C.N.R. at p.c. between secs. 10 and 11, tp. 15, r. 25, Man.

8386 to 8391. Oct. 19.—Authorizing C.N.Q.R. to erect telegraph wires under wires of Portneuf County Telephone Co., Bell Telephone Co., G.N.W. Telegraph Co. and St. Maurice & Champlain Telephone Co. at various points.

8392. Oct. 7.—Setting forth conditions for the carrying of wires and cables across the railway tracks under the Board's jurisdiction and subject to its control.

8393 to 8395. Oct. 5.—Ordering V. V. & E. Ry. and Nav. Co. to pay to K. Larsen, J. Plester and J. Gunderson $3,875.00 respectively to the first two and $3,566.25 to the last named on account of land affected by diversion of railway.

8396. Oct. 19.—Authorizing C.P.R. to open for traffic that portion of the Ontario and Quebec Ry. double track from Finch to Avonmore.

8397. Oct. 15.—Refusing C.P.R. application for an order directing that detail plans referred to in order 6968, Apr. 27, 1909, re crossing of Weston Rd., West Toronto, Ont., by G.T.R. be amended to show the tower midway between the G.T.R. and C.P.R.

8398. Oct. 19.—Authorizing Bell Telephone Co. to erect wires across M.C.R. on Muir St., west of Welland station, Ont.

8399 to 8401. Oct. 19.—Authorizing C.N.Q.R. to place telegraph wires under wires of G.N.W. Telegraph Co., Bell Telephone Co., Portneuf Telephone Co. and St. Maurice & Champlain County Telephone Co. at three points in Quebec.

8402, 8403. Oct. 19.—Authorizing Sask. Government Telephone System to erect wires across C.P.R. near Bienfait, Saskatoon, Sask.

8404 to 8406. Oct. 19.—Authorizing United Fuel Co. to lay gas pipe under P.M.R. and M.C.R., East Tilbury, Raleigh and Moore tps., Ont.

8407. Oct. 20.—Authorizing C.P.R. to construct spur on Hardisty St., Fort William, Ont.

8408. Oct. 20.—Approving C.P.R. by-law authorizing J. Kent, Manager of Telegraphs, to prepare and issue tariffs of telegraph tolls.

8409. Oct. 13.—Dismissing complaint of H. Lennox, M.P., that G.T.R. has closed its freight shed at Allandale and that the freight formerly received and delivered at that point has to be received and delivered at Barrie, Ont.

8410. Oct. 12.—Authorizing C.P.R. to construct its railway across highways on its main line grade revision, Medicine Hat section, Alta., from mileage 49.34 to 57.29.

8411. Oct. 13.—Dismissing complaint of Seneca tp. re working of electric bells installed by G.T.R. where its line crosses the Port Dover and Hamilton roads, Caledonia, Ont.

8412. Oct. 13.—Dismissing complaint of J. W. Freeman, Burlington, Ont., alleging that the watercourse on his property has been blocked by G.T.R. siding.

8413. Oct. 12.—Dismissing complaint of Esquesing tp., Ont., against dangerous condition of G.T.R. crossing on the 7th line.

8414. Oct. 12.—Ordering that the M.C.R. and P.M.R. each install on its own railway, within 45 days from date of order, electric bell at point to be approved by the Board's Chief Engineer on town line between Southwold and Dunwich tps., Ont.

8415. Oct. 15.—Ordering G.T.R. to install, within 60 days from date of order, single arm gate on each side of crossing on Church St., Mimico, Ont.

8416. Oct. 19.—Authorizing C.P.R. to construct spur for P. Burns & Co., District lot 182 C., New Westminster district now in Vancouver, B.C.

8417. Oct. 19.—Approving proposed change of station location and the rearrangement of G.T.R. tracks at Jeannetts Creek, Ont.

8418. Oct. 14.—Ordering that G.T.R. trains be brought to a full stop before reaching crossing by the Windsor & Tecumseh Electric Ry. in Sandwich East tp., Ont., and be flagged across; and that the cars of the W. & T.E.R. be operated across diamond at a speed not exceeding four miles an hour.

8419. Oct. 13.—Ordering C.P.R. and C.N.O.R. to construct at their own expense portion of highway within the limits of their respective rights of way on lot 6, Foley tp., Ont.

8420. Oct. 19.—Authorizing C.P.R. to construct spur for Hill Mfg. Co. in Block 11, plan F.V., Saskatoon, Sask.

8421. Oct. 19.—Approving proposed bridge across Preston St., Ottawa, to be erected by G.T.R.

8422. Oct. 12.—Ordering G.T.R. to install at the crossing of Park and Duke sts., Chatham, Ont., within 45 days from date of order, an electric bell to be located and bonded to the satisfaction of the Board's Chief Engineer.

8423. Oct. 20.—Authorizing C.N.Q.R. to carry its line by means of a subway across public road on lot 27, St. Stanislas parish, Champlain Co., Que.

8424. Oct. 15.—Amending order 5681, Nov. 12, 1908, directing the G.T.R. to erect gates and maintain watchmen at Windermere and Ellis Aves., York tp., Ont., by ordering that the two-twelfths directed to be paid by York county, be distributed equally between the city of Toronto, York tp. and the company.

8425. Oct. 13.—Ordering Hamilton Radial Ry. to construct a suitable farm crossing in Nelson tp., Halton Co., Ont.

8426. Oct. 14.—Amending order 6677, Mar. 26, 1909, made upon application of Tilbury East tp., approving plans and specifications of drain in so far as they affect C.P.R. property by striking out the last five lines after the word "approved" in the third line.

8427. Oct. 19.—Authorizing Manitoba Government Telephones to erect wires across C.P.R. near Teulon station.

8428. Oct. 19.—Ordering M.C.R. to widen the bed of the stream across its right of way under bridge at Bear Creek, one mile east of Petrolea, Ont.

8429. Oct. 22.—Authorizing Ontario West Shore Ry. at its own expense to make a temporary connection with the Guelph & Goderich Ry. at Menesetung station, Ont.

8430, 8431. Oct. 22.—Authorizing Saskatchewan Government Telephones to erect wires across C.N.R., n.w. ¼ sec. 10, tp. 37, r. 5, w. 3 m., and near Warman, Sask.

8432, 8433. Oct. 22.—Approving location of C.N.O.R. through Leeds Co., Ont., and of C.N.R. through tps. 44-50, ranges 16-20, w. 3 m., Sask.

8434. Oct. 22.—Authorizing C.P.R. to construct an extra track across Osler St., Cayley, Alta.

8435. Oct. 22.—Authorizing C.P.R. to construct spur for P. Saumure, St. Louis, Que.

THE ALGOMA STEEL CO., LIMITED

SAULT STE. MARIE, ONTARIO

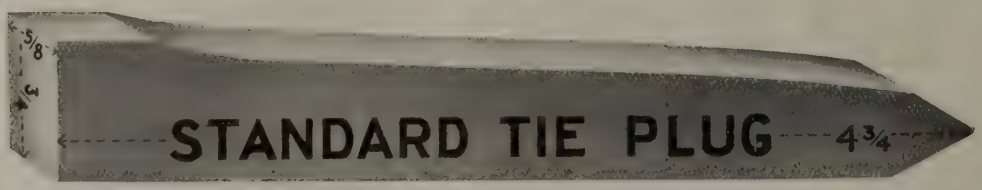
IS NOW BOOKING ORDERS FOR **STEEL RAILS** FOR DELIVERY DURING THE SEASON OF 1909

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to insure desired deliveries.

Office:
CANADA LIFE BUILDING
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS

"Note the Size and Shape"



In bags of 1000 each
Write for prices
Better and Cheaper than hand made

M'f'd by J. HARRISON & SONS CO., LIMITED

OWEN SOUND, ONT.

These plugs are giving good satisfaction. We are also large dealers in Ties, Posts, Timbers, Lumber, Sash, Doors, Interior Finish, and with the plant we have here should be able to supply you. . . .

Our Specialty is Good Material Promptly. Try us once.

REDUCE YOUR LABOR THREE-FOURTHS

If you could reduce your force 75 per cent. without curtailing the efficiency of your system, wouldn't you do it?
You CAN lessen, that much or more, the labor involved in handling your oils by installing

The Bowser System of Oil Storage

Storage Tanks filled direct from car—
Self-measuring pumps, drawing and measuring EXACTLY the amount desired at one operation—
Automatic Power Pumps that measure accurately from one to one thousand gallons—
That's the Bowser System; more about it in Bulletin 18.

S. F. BOWSER & COMPANY, LIMITED, - 66-68 FRASER AVENUE, TORONTO

8436. Oct. 20.—Authorizing C.N.R. to cross C.P.R. Arcola branch at Carlyle, Sask.

8437. Oct. 22.—Authorizing Atlantic, Quebec & Western Ry. to construct 12 trestles on its secs. 5 to 10.

8438. Oct. 21.—Authorizing G.T.R. to reconstruct overhead bridge carrying highway over its tracks between lots 16 and 17, 8th con., Grantham tp., between St. Catharines and Merritton, Ont.

8439. Oct. 14.—Ordering C.P.R. to extend its platform at Creelman, Sask., to 240 ft. on or before May 1, 1910.

8440. Oct. 14.—Dismissing application of residents of Keeler, Sask., for order that C.P.R. erect suitable freight and passenger station and appoint a permannent agent there.

8441. Oct. 15.—Dismissing application of Saskatoon, Sask., for an order that C.N.R. widen the approaches of Eleventh St.

8442. Oct. 15.—Dismissing petition of residents of the district near Saskatoon, Sask., for an order directing C.N.R. to construct siding on n.e. ¼ sec. 26, tp. 35, r. 7.

8443. Oct. 15.—Dismissing complaint of Battleford Board of Trade, Sask., that the C.N.R. has not made proper provision for the loading and shipping of traffic.

8444. Oct. 13.—Ordering C.N.R. to construct, prior to Dec. 1, crossing at highway between secs. 28 and 29, tp. 13, r. 14, Man.

8445. Oct. 13.—Ordering C.N.R. to convey to the Strathclair municipality, Man., prior to Dec. 1, strip of land for a highway in lieu of land taken by the company.

8446. Oct. 13.—Dismissing application of Miniota municipality, Man., for order that C.P.R. construct a transfer track of the G.T.P.R. at Quadra Siding, Man.

8447. Oct. 13.—Ordering C.N.R. to construct, before Dec. 1, five highways in McCreary municipality, Man.

8448. Oct. 13.—Dismissing complaint of R. A. Knight, Hargrave, Man., alleging discrimination in freight rates of C.P.R. from Lethbridge to C.N.R. points.

8449. Oct. 13.—Dismissing complaint of B. Maxfield, Souris, Man., alleging dangerous condition of highway crossing over C.P.R. at First St.

8450. Oct. 13.—Ordering C.N.R. to construct, before Dec. 1, highway crossings between secs. 24 and 25, tp. 13, r. 15, Langford municipality, Man.

8451. Oct. 14.—Ordering Midale municipality, Sask., to open a highway, from Railway Ave. in n.e. direction, across C.P.R.

8452. Oct. 14.—Authorizing Brownlee village, Sask., to construct a highway across C.P.R.

8453. Oct. 14.—Ordering C.P.R. to construct and operate for three years branch line to Parliament Bldgs., Regina, Sask.

8454. Oct. 18.—Ordering C.N.R. to establish flag station and suitable loading platform at Fenton, Sask.

8455. Oct. 18.—Dismissing complaint of Prince Albert Board of Trade, Sask., alleging unsatisfactory train connection between C.P.R. and C.N.R. at Regina, Sask.

8456. Oct. 18.—Dismissing complaint of Prince Albert Board of Trade, Sask., alleging defective and unsafe condition of roadbed, C.N.R. Prince Albert section.

8457. Oct. 15.—Ordering C.N.R. to remove its fences on the west side of its station yard, Bladmore, Sask., prior to Dec. 1.

8458, 8459. Oct. 20.—Ordering G.T.P.R. to erect fences at each side of its right of way through East Clover Bar and Clover Bar districts, Alta.

8460. Oct. 20.—Dismissing application of residents of Round Hill district, Alta., for order requiring the C.N.R. to locate a station there.

8461. Oct. 20.—Dismissing complaint of Clover Bar Coal Co., Edmonton, Alta., alleging discrimination of C.N.R. under tariff C.R.C. 304, May 25, 1909.

8462. Oct. 20.—Ordering G.T.P.R. to construct prior to July 1, 1910, a subway with an opening 66 ft. wide and 14 ft. high, at the Fort Saskatchewan trail, Edmonton, Alta.

8463. Oct. 22.—Authorizing G.T.R. to construct branch line to Golden Lake Lumber Co.'s premises, South Algoma, Ont.

8464. Oct. 22.—Authorizing C.P.R. to construct spur for J. McCreary, lot 12, con. 1, Hess tp., Algoma dist., Ont.

8465. Oct. 22.—Authorizing G. A. Farrill to lay pipe under C.P.R. at Kenilworth, Ont.

8466. Oct. 22.—Authorizing town of Drummondville, Que., to lay pipes under C.P.R. at Convent St.

8467, 8468. Oct. 22.—Authorizing Sask. Government to erect wires across C.N.R. west of Warman, Sask., and between secs. 2 and 3, tp. 38, r. 5, w., 3 m.

8469. Oct. 22.—Authorizing Bell Telephone Co. to place underground wires across N. St. C. & T. Ry. at p.c. corner of Court St. and Welland Ave., St. Catharines, Ont.

8470. Oct. 27.—Authorizing G.T.R. to reconstruct bridge at mileage 29.62, 16th dist., between rifle range and Long Branch, Ont.

8471. Oct. 22.—Authorizing Hartland Village Water and Fire Commissioners to lay pipe under C.P.R. at Bradley St., Hartland, N.B.

8472, 8473. Oct. 27.—Authorizing Volcanic Oil & Gas Co. to place wires across P.M.R. at Tecumseh Rd., Sandwich East tp., Ont., and at town line between Sandwich East and Sandwich South, Ont.

8474, 8475. Oct. 27.—Authorizing Alberta Government to erect wires across C.P.R. at Sedgewick and Aix.

8476. Oct. 26.—Authorizing F. Violette to lay pipe under C.P.R. near St. Leonards, N.B.

8477. Oct. 26.—Authorizing Manitoba Government Telephones to erect wires across C.N.R. at p.c. ½ mile north of Neepawa station.

8478. Oct. 27.—Authorizing Wroxeter Rural Telephone Co. to erect wires across C.P.R. at Gibson St.

8479. Oct. 27.—Authorizing Hydro-Electric Power Commission of Ontario to erect wires across C.P.R., Puslinch tp., Ont.

8480. Oct. 27.—Authorizing Bell Telephone Co. to erect wires across C.P.R. at Joliette Sand & Gravel Co.'s premises, near St. Felix de Valois, Que., at p.c. Albert St., St. John's, Que., and at p.c. at Cache Bay, Ont.

8481 to 8483. Oct. 27.—Authorizing Bell Telephone Co. to erect wires across C.P.R. at Albert St., St. John's, Que., and Cache Bay, Ont., also across P.M.R. at King St., 100 yards east of Merlin station, Ont.

8484. Oct. 26.—Authorizing the town of Paris, Ont., to lay pipe under G.T.R. where it crosses Market St.

8485. Oct. 19.—Approving New Brunswick Southern Ry. Standard Freight Mileage Tariff superseding Standard Freight Mileage Tariff C.R.C. 1.

8486. Oct. 19.—Approving Montreal & Southern Counties Ry. by-law authorizing W. B. Powell, General Manager to prepare and issue tariff of tolls to be charged for traffic.

8487. Oct. 15.—Approving G.T.R. plan, known as Part 1, Toronto Grade Separation, showing crossings of Dufferin, Dunn, Jamieson, Dowling, Sunnyside, and Howard Aves. and Indian road in the western end of Toronto.

8488. Oct. 13.—Rescinding order 7488, July 9, directing the G.T.R. to provide a night watchman at Wellington St. crossing, Hamilton, Ont., by authorizing the G.T.R. on account of the small amount of traffic, only to keep watchman on duty from 7 a.m. until 9 p.m.

8489. Oct. 21.—Ordering that the maximum toll to be charged by the North American Telephone Co. for any conversation not exceeding three minutes, between Carp village, Ont., and Ottawa, be reduced from 25 to 20 cents.

8490. Oct. 19.—Ordering C.N.Q.R. to construct a raceway and other openings under its track on its approved location at Jacques Cartier River in J. Forman's premises, Les Ecureils parish, Que.

8491. Oct. 26.—Authorizing the town of Claresholm, Alta., to erect wires over the Calgary & Edmonton Ry. at Centre Ave.

8492. Oct. 26.—Authorizing G.T.R. to construct branch line to and into Gardiner Bros'. premises, Sarnia, Ont.

8493. Oct. 6.—Approving location of G.T.P.R. through Fort William, Ont.

8494. Oct. 28.—Approving location of the G.T.P Branch Line Co's. Melville-Yorkton branch, mileage 18 to 25.3, Assiniboia district, Sask.

8495. Oct. 29.—Approving location of C.N.R. Goose Lake branch, mileage 117.06 to 170.49, Saskatoon westerly, Sask.

8496. Oct. 28.—Approving stress sheets of the G.T.R. proposed bridge over new subway for pedestrians at Convent, near Lachine, Que.

8497. Oct. 29.—Authorizing C.P.R. to construct spur for Imperial Oil Co., Lethbridge, Alta.

8498. Oct. 28.—Authorizing C.P.R. to construct spur for Western Planing Mills Co., Calgary, Alta.

8499, 8500. Oct. 29.—Authorizing C.P.R. to construct spurs for Western Canada Land & Live Stock Co. and Muirhead & Co., Fort William, Ont.

8501. Oct. 26.—Authorizing B.C. Electric Ry. to erect wires across C.P.R. right of way, Cambie St., Vancouver, B.C.

8502. Oct. 13.—Authorizing the village of Glencoe, Ont., to erect electric light wires across the G.T.R. on Main St.

8503. Oct. 26.—Authorizing the Shawinigan Water & Power Co. to change the location of its line where it now crosses the St. Maurice Valley Ry. near Three Rivers, Que.

8504. Oct. 19.—Ordering that upon the installation of new system by the Bell Telephone Co. in the Russell House, Ottawa, a charge of 10c. for each connection with the Ottawa exchange subscribers be charged.

8505. Oct. 28.—Approving Montreal & Southern Counties Ry. Passenger Tariff, C.R.C. No. 1.

8506. Oct. 29.—Authorizing the city of Peterboro, Ont., to lay water main under G.T.R. Lakefield branch, Antrim St.

8507. Oct. 28.—Authorizing K. S. Massiah, St. Jerome, Que., to lay pipe under C.N.Q.R. one mile east of Lachute, Que.

8508. Oct. 29.—Extending time until Nov. 10, 1909, within which G.T.R. may appeal to the Supreme Court of Canada from order 7613, directing that it provides station accommodation where its line from Hamilton to Niagara Falls crosses town line between Clinton and Louth tps., Ont.

8509. Oct. 28.—Authorizing C.P.R. to construct spur to Pfeffer Bros'. premises, Milverton, Ont.

8510. Oct. 27.—Authorizing Notre Dame du Lac parish, Que., to construct highway across Temiscouata Ry.

8511. Oct. 30.—Approving change in location of C.P.R. station, Bisset, Ont.

8512. Nov. 2.—Approving G.T.P.R. Standard Passenger Tariff C.R.C., 10, cancelling Standard Passenger Tariff, C.R.C. 2.

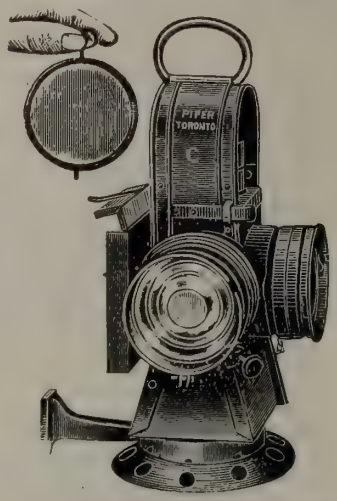
8513. Oct. 16.—Ordering that the rate charged by G.T.R. for moving grain in carloads from its elevator at Point Edward to the King Milling Co.'s mill, Sarnia, be reduced to 1½c. per 100 lbs.

8514. Nov. 2.—Amending order 8239, giving C.N.R. permission to cross

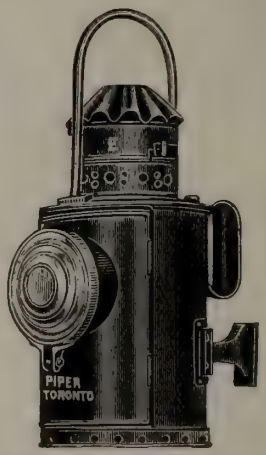
THE **N. L. PIPER RAILWAY SUPPLY CO.,** LIMITED

—TORONTO—

MANUFACTURERS OF



CLASSIFICATION LAMP



ENGINE TRI-COLOR LAMP

MARKER LAMP

RAILWAY LAMPS ETC

BUDA MOTOR CARS

BUY THE BEST

SALES AGENTS:

DOMINION EQUIPMENT & SUPPLY CO.,

354 Main St., WINNIPEG, MAN.

THE

NEW HOTEL BREVOORT CHICAGO

The Twentieth Century Hotel **Absolutely Fireproof**

Centrally located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG,
PROPRIETORS

ARTHUR M. GRANT,
MANAGER

G.T.P.R. at Riley, Alta., by substituting for the word "principal" in the 15th line of the recital, and the fourth line of clause 1, the word "fourth."

8515. Nov. 2.—Authorizing G.T.P.R. and Edmonton & Slave Lake Ry. to operate trains over crossing at sec. 15, tp. 53, r. 25 w. 4th mer., Edmonton district, Alta., without being brought to a stop.

8516. Nov. 2.—Recommending to the Governor in council for sanction Brandon, Saskatchewan and Hudson Bay Ry. bylaw 7, re spitting in cars and on premises.

8517. Oct. 27.—Ordering C.P.R. to protect crossing on Main St. Farnham, Que., by a watchman between 6 a.m. and 7 p.m. daily.

8518. Oct. 29.—Authorizing C.P.R. to construct branch line for ballast purposes from its main line in n.w. ¼ sec. 2, tp. 13, r. 3, west p. m., Man.

8519. Oct. 29.—Approving deviation in location of C.P.R. Motherlode branch, B.C.

8520. Oct. 29.—Approving location of G.T.P.R. from mileage 289 to 347.346, Willow River, Cariboo district, B.C.

8521. Oct. 29.—Approving change of location of C.P.R. main line from mileage 95.60 to 132.18 from McLeod, Alta.

8522. Oct. 22.—Authorizing National Transcontinental Ry. to construct undercrossing, 2 miles easterly from Quebec Bridge.

8523. Oct. 29.—Authorizing Manitoba Government Telephones to erect wires across G.T.P.R., 2½ miles east of Gervais.

8524. Oct. 29.—Authorizing Consolidated Telephone Co. to erect wires across G.T.R. about two miles north of Inglewood Jct., Ont.

8525, 8526. Oct. 29.—Authorizing Bell Telephone Co. to erect wires across C.P.R. on North St., Sault Ste. Marie, and near Bennington station, Ont.

8527. Oct. 29.—Authorizing city of Ottawa to lay sewer under Ottawa & New York Ry., Gladstone Ave.

8528. Oct. 29.—Authorizing the town of Maple Creek, Sask., to construct sewer pipe under C.P.R.

8529. Oct. 29.—Authorizing C.P.R. to construct plank highway crossing at station 2880.16, mile 54.5 on its Brandon section.

8530. Nov. 2.—Ordering C.P.R. to provide suitable highway crossing where it crosses the northerly extension of Simpson St., Sault Ste. Marie, Ont.

8531, 8532. Oct. 20.—Authorizing the city of Fort William, Ont., to cross with a single track the Mt. McKay & Kakabeka Falls Ry. at Yonge St. until May 1, and that the crossing be protected by watchman day and night.

8533. Oct. 22.—Dismissing application of the city of Calgary, Alta., for the construction of subways carrying 14th Street W. and 11th Street W. under C.P.R.

8534. Oct. 22.—Dismissing application of residents of Bowell, Alta., for order directing C.P.R. to establish station and permanent agent there.

8535. Oct. 22.—Determining the character of work and protection at crossing of C.P.R. spur over the Calgary St. Ry., Second Street E., Calgary, Alta.

8536. Oct. 22.—Ordering that the city of Calgary and the C.P.R. construct subway to carry First Avenue E. under C.P.R.

8537. Oct. 22.—Dismissing application of C.P.R. for approval of location of station at Grassy Lake, Alta., and further ordering that C.P.R. submit new plans.

8538. Nov. 2.—Authorizing Manitoulin & North Shore Ry. to construct bridge over Vermillion River, 18 miles west of Sudbury, Ont.

8539. Nov. 3.—Authorizing C.P.R. to open for traffic that portion of its line known as the Lethbridge-Macleod Grade Revision, mile 0 to 31.4, Alta.

8540. Oct. 15.—Approving plans and specifications of Colchester North tp., Ont., re drain, under M.C.R. between lots 14 and 15, 13th con.

8541. Nov. 3.—Authorizing Montreal & Southern Counties Ry. to open for traffic portion of its railway from its terminus at Youville and McGill Sts., Montreal, to St. Denis St., St. Lambert, Que.

8542. Nov. 2.—Authorizing M.C.R. to construct spur to Postum Cereal Co.'s premises, Windsor, Ont.

8543. Nov. 3.—Approving location of C.N.O.R. through Pickering, Scarborough and York tps., Ont.

8544. Nov. 3.—Authorizing C.P.R. to construct siding across the private crossing near McAdam Jct., N.B.

8545. Nov. 3.—Approving change of location of Vancouver, Victoria & Eastern Ry. & Navigation Co. branch line from Sapperton and Fraser River Lumber Co., B.C.

8546. Nov. 3.—Authorizing G.T.R. to construct branch line to Noxon Co.'s premises, Ingersoll, Ont.

8547 to 8552. Nov. 4.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at Myrtle station, Ont.; T.H. & B.R. at Irondale, Ont.; C.P.R. telegraph line 1½ miles north of Warden station, Que.; Orangeville station, Ont.; ¼ mile north of Warden station, Que., and the M.C.R. at Hewitt station, Ont.

8553. Nov. 4.—Authorizing Tuckersmith Municipal Telephone System to erect wires across G.T.R. between the 1st and 2nd concessions, Stanley tp., Huron Co., Ont.

8554. Nov. 3.—Authorizing E. Danis to erect wires across C.P.R. between mile posts 96 and 97, Lacoste, Que.

8555. Nov. 3.—Authorizing city of Ottawa to lay sewer under C.P.R. on Young St.

8556. Nov. 4.—Authorizing M.C.R. to operate trains over its connection with the G.T.R. at Bathurst St., London, Ont.

8557. Nov. 3.—Authorizing Markham and Pickering Telephone Co. to erect wires across G.T.R., Markham tp., Ont.

8558. Nov. 3.—Authorizing C.P.R. to construct spur for F. Gobeille, at Mile End station, Que.

8559. Nov. 3.—Authorizing C.P.R. to construct spur for Saskatoon Tent and Mattress Co., Saskatoon, Sask.

8560. Nov. 3.—Authorizing G.T.R. to construct spur to T. E. Manley Chew's premises, Tay tp., Ont.

8561. Nov. 4.—Authorizing C.P.R. to construct two extra tracks across Third Ave., Pincher, on its Crow's Nest Pass branch, Alta.

8562. Nov. 4.—Authorizing Saskatchewan Government to construct highway crossing over C.N.R. right of way adjoining station grounds in the n.e. ¼ sec. 5, tp. 44, r. 16, w. 3 m., Sask.

8563. Nov. 4.—Authorizing Orford Mountain Ry. to deviate p.c. across its track on lot 23, r. 7, Melbourne tp., Que.

8564. Nov. 3.—Extending for one month time within which V. V. & E. Ry. & Nav. Co. was directed to install interlocking plant required by order 7479, July 6, to the Fraser River Lumber Co., New Westminster, B.C.

8565. Nov. 3.—Authorizing Chatham, Wallaceburg & Lake Erie Ry. to construct spur, on several streets in Chatham, Ont.

8566. Nov. 3.—Authorizing C.P.R. to change its line at Ste. Agathe, Que., and remove its station buildings.

8567, 8568. Nov. 3.—Authorizing Hydro-Electric Power Commission of Ontario to erect transmission wires across C.P.R. on part of lots 12 and 13, B. F., North Oxford, and lot 35, Gore Con., Puslinch tp., Ont.

8569. Nov. 3.—Authorizing city of Calgary, Alta., to erect wires across C.P.R. at 15th Street.

8570, 8571. Nov. 3.—Authorizing Nipissing Power Co. to erect wires across C.P.R. at Callander, Nipissing Jct., Ont.

8572. Oct. 29.—Rescinding order 5907, Dec. 23, 1908, authorizing G.T.P.R. to construct bridge between Watson's and Kaien Islands, B.C., the B.C. Government objecting.

8573. Oct. 27.—Authorizing Vancouver and Lulu Island Ry. to cross Grenville St., Point Grey, B.C.

8574. Oct. 27.—Authorizing C.P.R. to construct spur to Great Northern Transfer Co.'s premises, Vancouver, B.C.

8575. Oct. 27.—Authorizing V. V. & E. Ry. and Nav. Co. to join its tracks with the B.C. Electric Ry. near Front and Columbia sts., Vancouver, B.C.

8576. Oct. 27.—Dismissing city of Vancouver's application for an order authorizing the opening of Clarke Drive across C.P.R.

8577. Nov. 3.—Authorizing Nipissing Power Co. to erect wires across G.T.R. at Nipissing Jct., Ont.

8578. Nov. 3.—Authorizing G.T.P.R. to carry freight over its line from Battle River to Edmonton, Alta.

8579. Nov. 2.—Authorizing C.N.Q.R. to take parts of lot 213, St. Charles Borromee parish, and parts of lot 2, Joliette, Que., for the purpose of securing the efficient operation of its railway.

8580. Nov. 2.—Dismissing C.P.R. application for order extending provisions of order 7813, July 3, authorizing the city of Toronto to construct bridge to carry the highway and Toronto Ry. tracks over C.P.R., G.T.R., and C.N.O.R., at Queen St. East, so as to provide that when said bridge is completed it be closed for pedestrian and vehicular traffic.

8581. Nov. 2.—Dismissing city of Toronto's application to construct high level bridge over Don improvement and C.P.R., G.T.R., and C.N.O.R. at Queen St.

8582. Nov. 9.—Authorizing C.P.R. to load and unload on the Lord's Day, car ferries plying between Port Burwell, Ont., and Ashtabula, Ohio.

8583. Nov. 5.—Authorizing, temporarily, Bell Telephone Co.'s tariff of tolls and form of agreement to be made with several rural telephone companies in Ontario.

8584. Nov. 5.—Approving Temiscouata Ry. by-law authorizing F. X. Belanger, General Freight and Passenger Agent, to prepare and issue tariffs of tolls.

8585. Nov. 4.—Approving plan showing proposed overhead crossing at mileage 13.5, C.P.R. Mountain section, B.C.

8586. Nov. 4.—Approving G.T.P.R. Standard Freight Tariff C.R.C. 5, applying between stations, Saskatchewan and Alberta.

8587. Nov. 5.—Approving and sanctioning C.N.O.R. location through unsurveyed territory in Sudbury Mining Division, 120 miles from Sudbury Jct.

8588. Nov. 4.—Directing conditions under which Grand Valley Ry. may double track its line along Colborne St., and re grade revision at intersection of Colborne and Market st., Brantford, Ont.

8589. Nov. 4.—Authorizing Montreal Park & Island Ry. to construct spur in Rosemount, Que.

8590. Nov. 5.—Approving C.N.R. location through tps. 5-2, and r. 6, w. 2nd m., mileage 0.00 to 16.38, Sask.

8591. Nov. 4.—Authorizing C.N.O.R. to construct bridge over ravine on lot 30, con. 5, Whitby tp., Ont.

8592, 8593. Nov. 4.—Authorizing Calgary Power & Transmission Co. to erect wires across C.P.R. at Exshaw, and across C.P.R. telephone lines and siding near Kananaskis, Alta.

8594. Nov. 5.—Authorizing city of Lachine, Que., to lay water pipe across National Transcontinental Ry., at Twentieth Ave.

8595. Nov. 5.—Amending order 8314, Oct. 12, authorizing G.T.P.R. to cross certain highways in West Saskatchewan district by striking out crossings 1 and 3.

8596. Nov. 9.—Authorizing G.T.R. to construct an additional track on Romeo St., Stratford, Ont.

YOU will always hear

A GOOD WORD

for the

MARITIME EXPRESS via

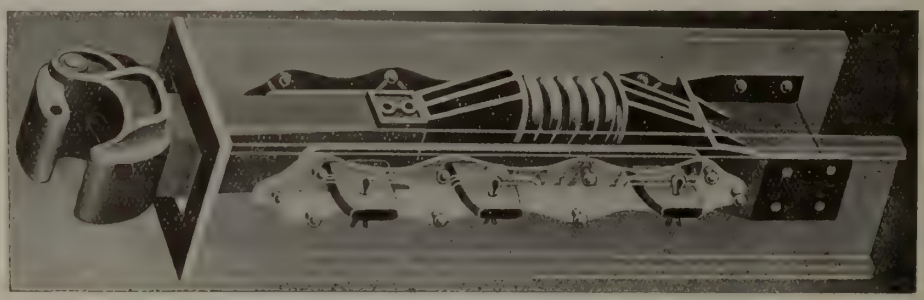
INTERCOLONIAL RAILWAY

between

Montreal, Quebec, St. John and Halifax

Table D'Hote Meals are Served

Breakfast 75c. Dinner $1.00 Supper 75c.



THE FARLOW TWIN SPRING DRAFT GEAR

Designed for Wooden or Steel Cars and Engines.
Pulling Strains Distributed Equally on the Three Cross Keys.
Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.

Baltimore, Md. **Chicago, Ill.**

Largest Dealers Rebuilt Equipment in United States

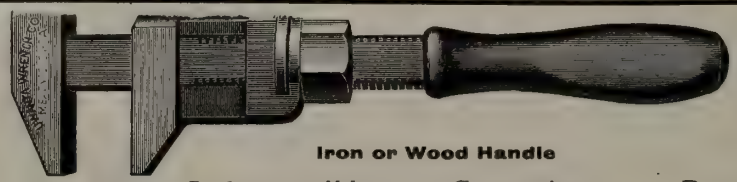
TWO SEPARATE PLANTS

EAST PLANT
Capacity, 25 New Freight Cars per day
10 New Coaches per month

WEST PLANT
Capacity, 10 Heavy Repairs Locomotives per month
Besides Coach and Freight Car Repairs

PROMPT DELIVERY—New Passenger and Freight Equipment—Rebuilt Locomotives, Passsenger and Freight Equipment

HICKS LOCOMOTIVE AND CAR WORKS, = = Chicago, Ill.



Iron or Wood Handle

UWANTA WRENCH

Greatest strength of any on market. Reinforced jaw. Double threaded screw of large proportions.

Indestructible Convenient Perfect Write at once for Prices

THE DRAKE & WIERS CO., - - CLEVELAND, OHIO

8597. Nov. 13.—Authorizing Grand Valley Ry. to cross G.T.R. with its second track in Brantford, Ont.

8598 to 8603. Nov. 4.—Authorizing Manitoba Government Telephones to erect wires across C.N.R. at six points.

8604. Nov. 9.—Authorizing C.N.Q.R. to erect wires under City of Quebec Telephone Co.'s wires at Quebec Aqueduct, St. Sauveur parish, Que.

8605 to 8609. Nov. 4.—Authorizing Consolidated Telephone Co. to erect wires across C.P.R. at five points in Caledon tp., Ont.

8610. Nov. 4.—Authorizing Bethesda & Stouffville Telephone Co. to erect wires across C.N.O.R., Markham tp., Ont.

8611. Nov. 4.—Authorizing Mount Albert Telephone Co. to erect wires across C.N.O.R. near Mount Albert station.

8612. Nov. 5.—Authorizing Bell Telephone Co. to erect wires across G.T.R. ¾ mile east of Paris Jct., Ont.

8613. Nov. 4.—Authorizing town of Berlin, Ont., to lay sewer on Wilhelm St. across G.T.R. Elmira branch.

8614. Nov. 10.—Authorizing C.P.R. to construct a Standard 5 station at Wilcox, Sask.

8615. Nov. 5.—Authorizing C.N.Q.R. to erect telegraph wires under C.P.R. wires at Deschambault, Que.

8616. Nov. 8.—Authorizing C.P.R. to construct an additional line across Park Ave., St. Louis, Que.

8617. Nov. 5.—Authorizing C.P.R. to construct spur for Massey-Harris Co. and Turpin Fur Co., Lethbridge, Alta.

8618, 8619. Nov. 11.—Authorizing C.N.Q.R. to construct across public road in r. 3, Ste. Julienne parish, and across private crossing, St. Jacques parish.

8620. Nov. 8.—Dismissing complaint of L. Vallee, E. Belisle and O. Courchesne, of La Baie du Febvre, Que., against condition of Quebec, Montreal & Southern Ry. crossings.

8621. Nov. 8.—Dismissing application of C.N.Q.R. for leave to build across highways in Beauport parish, Que.

8622. Nov. 10.—Authorizing Tilbury Telephone Co. to erect wires across M.C.R. 2½ miles east of Tilbury station, Ont.

8623. Nov. 10.—Authorizing Alberta Government to erect wires across C.P.R. near Bawlf station, Alta.

8624. Nov. 3. Authorizing C.N.Q.R. to open for traffic the portion of its line from St. Jacques to the junction with its line near Dugas, Que.

8625. Nov. 8.—Dismissing complaint of E. Lyster as to the alleged unsatisfactory and dangerous train service of G.T.R. at Gore, Que.

8626. Nov. 8.—Dismissing complaint of Dominion Park Co., Montreal, alleging excessive rates charged by Bell Telephone Co. for the use of telephones at the Park.

8627. Oct. 21.—Authorizing G.T.R. to expropriate lands in Guelph, Ont., upon which to erect a passenger station.

8628. Nov. 5.—Authorizing town of Palmerston, Ont., to construct a drain under G.T.R. on its Kincardine branch.

8629. Nov. 10.—Authorizing C.P.R. to construct branch line for Lombard Bros. & Marshall, near Milan station, Que.

8630. Nov. 11.—Authorizing Saskatchewan Government Telephones to erect wires across C.P.R. at Estevan.

8631. Nov. 10.—Ordering that G.T.R. shall not be entitled to make any extra charge for switching performed at spur to Christie Henderson & Co.'s premises, Hespeler and Guelph, Ont. This order is given in full on another page.

8632. Nov. 15.—Authorizing town of Hanover, Ont., to lay water main across portion of G.T.R. yard.

8633. Nov. 15.—Authorizing city of Toronto to construct a sewer on Davenport Road, under C.P.R.

8634. Nov. 15.—Authorizing H. Cauchon to construct drain and water pipes across Quebec Ry. Light & Power Co.'s property, at Beauport, Que.

8635. Nov. 15.—Authorizing Guelph, Ont., Board of Light and Heat Commissioners to erect electric light wires across G.T.R. at Duke St.

8636. Nov. 11.—Ordering G.T.R. to provide interswitch at Brampton, Ont.

8637. Nov. 12.—Approving M.C.R. interlocking plant to be installed at east end of its yard, Windsor, Ont.

8638. Nov. 12.—Authorizing G.T.R. to conect its line with the Niagara Peninsula Ry. in lot 31, con. 1, Humberstone tp., Ont.

8639. Nov. 12.—Authorizing G.T.R. to connect with C.N.Q.R. in Hawkesbury, Ont.

8640. Nov. 12.—Authorizing G.T.R. to construct iron foot-bridge over its line at Metcalfe St., Guelph, Ont.

8641. Nov. 15.—Authorizing Cie Fenciere Suburbaine de Montreal to construct sewer under C.N.Q.R. at Longue Point, Que.

8642. Nov. 16.—Authorizing Guelph, Ont., Board of Light and Heat Commissioners to erect electric light wires across G.T.R. at Huskisson St.

8643. Nov. 16.—Approving C.N.R. location through tp. 5, r. 6, w. 2nd m., Sask., mileage 65.16 to 70.29.

8644. Nov. 16.—Authorizing C.P.R. to divert road allowance between n.w. ¼ sec. 23, and s.e. ¼ sec. 22, near Exshaw station, Alta.

8645. Nov. 16.—Authorizing city of Winnipeg to erect electric light wires across C.P.R. at Grey St.

8646. Nov. 16.—Authorizing St. Maurice Valley Ry. to diverge slightly the highway at station 239-03, and construct an undergrade crossing at Grand Mere, Que.

8647. Nov. 16.—Authorizing Nipissing Power Co. to erect transmission wires across G.T.R. at Callander, Ont.

8648. Nov. 16.—Approving C.P.R. proposed deviation from mileage 54 to 54.22, Woodstock station, Ont.

8649. Nov. 16.—Approving location and plans of C.P.R. station at Midale, Sask.

8650 to 8652. Nov. 16.—Authorizing Bell Telephone Co. to erect wires across C.P.R. near Islington station, and at Dufferin St., Toronto.

8653. Nov. 16.—Authorizing Theodore, Springside and Beaverdale Rural Telephone Co. to erect wires across C.P.R. at Springside, Sask.

8654. Nov. 16.—Authorizing Saskatchewan Government Telephones to erect wires across C.P.R. at Richardson.

8655, 8656. Nov. 11.—Authorizing the town of Penetanguishene, Ont., to lay pipe, to replace defective culvert under G.T.R. at Queen St., also to place sewer pipe under G.T.R. at Burke St.

8657. Nov. 16.—Authorizing East Middlesex Telephone Co. to erect wires across G.T.R. on con. 6, Missouri tp., on its London and St. Mary's branch, Ont.

8658 to 8661. Nov. 16.—Authorizing Bell Telephone to erect wires across G.T.R. ½ mile south of Port Robinson, at Waterloo St., New Hamburg, Ont., and across C.N.Q.R. south of Joliette, Que.

8662. Nov. 16.—Authorizing C.P.R. to construct spur for Imperial Oil Co., Red Deer, Alta.

8663, 8664. Nov. 16.—Authorizing C.N.Q.R. to construct its line across public roads on lot 134, Cap Rouge parish, east of Cap Rouge River, and at Cap Rouge station, mileage 12.08 and 12.77 west from Quebec Bridge.

8665. Nov. 16.—Authorizing Guelph, Ont., Board of Light and Heat Commissioners to erect electric wires across G.T.R. at Norwich St.

8666. Nov. 16.—Authorizing C.P.R. to construct an extension of spur to Brandon Brewing Co.'s premises, Brandon, Man.

8667. Nov. 17.—Approving location of portion of C.P.R. Langdon branch from mileage 80 to 106.96., Alta.

8668. Nov. 17.—Authorizing C.N.Q.R. to construct its line across Little River road, St. Sauveur parish, Que.

8669. Nov. 17.—Authorizing Brandon, Saskatchewan & Hudson's Bay Ry. to construct spur on 15th Street, Brandon, Man.

8670. Nov. 17.—Authorizing village of Brussels, Ont., to erect wires across G.T.R. at intersection of con. line between 5th and 6th divisions, Morris tp.

8671. Nov. 17.—Authorizing village of Brussels, Ont., to erect wires across G.T.R. at Ethel station, mileage 21.87 from Palmerston.

8672, 8673. Nov. 17.—Authorizing Horton & McNab Telephone Co. to erect wires across G.T.R. one mile west of Glasgow station, and at lot 19, con. 8, McNab tp., Ont.

8674 to 8676. Nov. 17.—Authorizing Manitoba Government Telephones to erect wires across G.T.P.R. three miles west of Portage la Prairie; and across C.N.R. 100 yds. east of Rapid City station, and three miles west of Portage la Prairie.

8677, 8678. Nov. 17.—Authorizing Saskatchewan Government Telephone System to erect wires across C.N.R. 1-6 mile north of Dundurn station, and at Disley.

8679. Nov. 17.—Authorizing H. A. Clemens Co., Guelph, Ont., to construct water pipe under C.P.R. near Eramosa bridge.

Grain Receipts at the Dual Ports.

Following is a summary of the grain received, in carloads, at Fort William and Port Arthur, Ont., for the period Sept. 1 to Oct. 31:

	C.P.R.		C.N.R.	
	1909	1908	1909	1908
Wheat	14,057	8,919½	7,714½	5,321½
Oats.....	1,438½	589	612	304
Barley	461½	255	550½	384½
Flax	130½	104½	222½	6
Totals ...	16,087½	9,868	9,108½	6,016

The McGill University Department of Railways courses comprise the operating department or executive offices, the mechanical department, and the engineering department. Students entering in this department are expected to, as far as possible, take service with a railway company, during the summer vacation, with the intention of continuing such service after graduation. G. C. Wells, Assistant General Passenger Agent, C.P.R. Eastern Lines, and A. A. Goodchild, Auditor of Stores and Mechanical Accounts C.P.R., are two of the lecturers for the current year, the subjects dealt with being the passenger department, its organization, methods and general principles governing passenger business, baggage system, mail and express, by the former, and organization and work of the various departments, duties of officers, the principles of accounting, earnings and expenses, shop material and cost, labor and methods of paying for same, statements, their nature and value, by the latter.

The G.T.P.R. has filed with the Board of Railway Commissioners its Standard Passenger Tariff S1, C.R.C. 10, on a basis of 3c. a mile, Wolf Creek, Alta., and east, and 4c. a mile west of Wolf Creek.

At the recent annual meeting of the Brotherhood of Railway Car Men of America, at Atlanta, Ga., A. Chartrand, Car Inspector C.P.R. Outremont yards, Montreal, was elected Second Vice President.

Toronto Terminal Railway.

Application is being made to the Dominion Parliament for an act incorporating a company with this title with power to construct and maintain passenger and freight stations, warehouses and other terminal facilities in and about the city of Toronto; to construct and operate branch lines of railway to connect them with the different railways entering Toronto; to construct such tunnel viaducts, subways and bridges as may be necessary in connection with such facilities; to enter into agreements with railway and other companies; to acquire land and water powers, to construct electric power plants and generally to carry on the business of a terminal company. Hogg and Magee, Ottawa, are solicitors for the applicants.

Among those interested in the proposed company are J. W. Wood, P. Howland, H. Blain, merchants of Toronto, and L. B. Howland, C.E., who for some years past has been President and General Manager of the Irondale, Bancroft and Ottawa Ry. Mr. Howland stated in an interview Nov. 19 that the object of the applicants for the charter was to obtain the right to construct the facilities for every railway, steam or electric, already in operation to obtain an entrance into the city on an equal basis, and to provide for future extensions. The company proposes to provide the necessary terminal facilities in the city, and to leave it to the individual lines to take advantage of them. The centralizing of all traffic in the hands of one company would be an added convenience to the general public, and all differences as to freight sidings would be prevented, as any car once coming within the company's jurisdiction would be transferred to any siding or other line irrespective of ownership. The question of the location of such a central station would be a matter for the joint consideration of all the transportation companies interested. It is also claimed on the part of the applicants that by the adoption of the plans of this company the viaduct problem would be satisfactorily adjusted. This matter is at present being delayed owing to the appeal against the order of the Board of Railway Commissioners.

Sir Thos. G. Shaughnessy, President C.P.R., and C. M. Hays, Second Vice President and General Manager G.T.R., on being interviewed stated that neither of their companies had been approached by those interested in the new proposition upon the subject and they could not say whether either company would have anything to do with it.

E. M. Sawyer, Manager International Correspondence Schools, wrote recently: "I am pleased to testify to the pleasure I receive in perusing The Railway & Marine World, and assure you it is of great interest to those interested in transportation matters."

A. A. G. Lauder, State Agent, Canadian Pacific Ry., Milwaukee, Wis., writes: "The Railway and Marine World is certainly appreciated by me. There is scarcely an issue from which I do not obtain valuable information which I have not previously secured from any other source."

THE VICTORIA ROLLING STOCK CO., OF ONTARIO, LIMITED

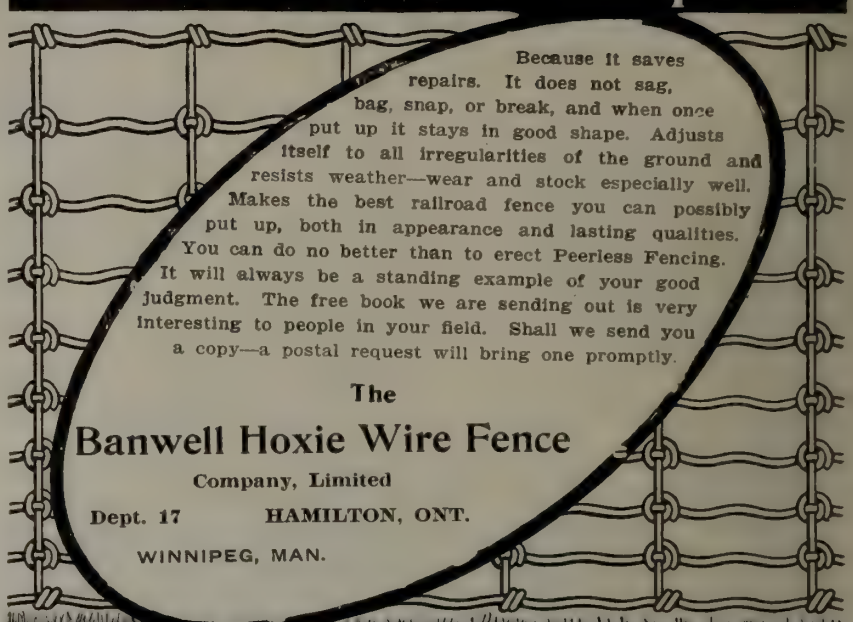
Notice is hereby given that a dividend of three per cent. on the paid-up capital stock of the Company for the half-year ended Nov. 30th, 1909, has been declared payable Dec. 1st, 1909, to the shareholders on record as of the 30th of Nov., 1909.

By order of the Board,

R. A. SMITH, Secretary.

Toronto, Nov. 19th, 1909.

PEERLESS
The Fence that saves Expense



Because it saves repairs. It does not sag, bag, snap, or break, and when once put up it stays in good shape. Adjusts itself to all irregularities of the ground and resists weather—wear and stock especially well. Makes the best railroad fence you can possibly put up, both in appearance and lasting qualities. You can do no better than to erect Peerless Fencing. It will always be a standing example of your good judgment. The free book we are sending out is very interesting to people in your field. Shall we send you a copy—a postal request will bring one promptly.

The
Banwell Hoxie Wire Fence
Company, Limited
Dept. 17 HAMILTON, ONT.
WINNIPEG, MAN.

STRONGER
Than Stock-Weather and Wear

The Improved
RAMAPO
Automatic, Safety
SWITCH STANDS
have no equal.

Canadian Ramapo Iron Works
LIMITED
Manufacturers
Niagara Falls, Ont

AGENCIES:
Dominion Equipment & Supply Co.,
354 Main St. Winnipeg
C. L. Hacket.
605 Eastern Townships Bank, Montreal

Style No. 17 Style No. 20

Ask for Information about Six Other Styles.

TRANSPORTATION APPOINTMENTS.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian Northern Ontario Ry.—J. W. Nicholson, heretofore train dispatcher, Toronto, has been appointed Local Freight Agent, Toronto, with jurisdiction also extending over Rosedale station, vice W. E. Ireland, transferred to the office of General Eastern Agent, Toronto, as chief clerk.

Canadian Northern Ry.—M. A. Murphy, Superintendent Division 1, Port Arthur, Ont., has resigned.

Canadian Pacific Ry.—E. N. Johnson has been appointed Resident Engineer District 1, and Fort William Terminals, Central Division, Fort William, Ont., vice C. L. Bates, who has been transferred to construction department.

F. Stamelen has been appointed acting Locomotive Foreman, Winnipeg, vice W. Webster on leave.

T. R. Flett, heretofore Superintendent District 5, Saskatoon, Sask., has been appointed Superintendent District 4, Central Division, Souris, Man., vice J. A. Macgregor, transferred.

J. A. Macgregor, heretofore Superintendent District 4, Souris, Man., has been appointed Superintendent District 3, Central Division, Brandon, Man., vice W. J. Uren, transferred to the Western Division.

E. L. Chudleigh, heretofore Trainmaster District 4, Western Division, Macleod, Alta., has been appointed acting Superintendent District 5, Central Division, Saskatoon, Sask., vice T. R. Flett, transferred.

W. J. Uren, heretofore Superintendent District 3, Central Division, Brandon, Man., has been appointed Superintendent District 1, Western Division, Moose Jaw, Sask., vice J. G. Taylor, transferred.

J. G. Taylor, hertofore Superintendent District 1, Moose Jaw, Sask., has been appointed Superintendent District 2, Western Division, Medicine Hat, Alta., vice C. S. Maharg, transferred.

A. C. Harshaw, heretofore conductor, Ontario Division, has been appointed Trainmaster District 4, Western Division, Macleod, Alta., vice E. L. Chudleigh, transferred.

C. S. Maharg, heretofore Superintendent District 2, Medicine Hat, Alta., has been appointed Superintendent District 3, Western Division, Calgary, Alta., vice J. Niblock, retired from active service.

H. A. Keswick has been appointed Locomotive Foreman at Field, B.C., vice F. D. Warner, transferred.

R. G. McNeillie, heretofore chief clerk General Passenger Agent's office, Winnipeg, has been appointed acting District Passenger Agent in charge of Kootenay district west of Kootenay Landing, and south of, and including Arrowhead, B.C. All correspondence and statements heretofore sent to Calgary office will be directed to him. Office, Nelson, B.C.

J. C. Reed, heretofore acting Locomotive Foreman at Kamloops, B.C., during the absence of A. E. Bennets, on leave, has been appointed shop foreman there, the latter having returned.

Government Railways.—O. O. LeBlanc, F. H. Kinnear and G. A. Harshman, heretofore on the General Storekeeper's staff, Moncton, N.B., have been transferred to the staff of L. Lavoie, General Purchasing Agent, Ottawa.

Grand Trunk Ry.—E. Walton and J. C. Talmage have been appointed Travelling Car Service Agents, for the Eastern, Ottawa and Northern Divisions, and Middle, Southern and Western Divisions, with headquarters at Montreal and Detroit, Mich., respectively. They will investigate and report upon the car service conditions generally at all stations, and perform such other duties as may be assigned to them from time to time. It is not the intention to appoint a successor to J. C. Talmage as General Inspector of Transportation.

R. L. Nelles, heretofore freight agent, Toronto, has been appointed General Agent, Toronto Terminals, to perform such special work as may be delegated to him by Terminal Superintendent.

The following agents have been appointed:—Vaudreuil, Que., I. Z. Carriere; Aubrey, Que., J. O. Prefontaine, (temp.); Uptergrove, Ont., J. Mahoney; Goodwood, Ont., J. A. Cusack; Haliburton, Ont., R. Johnson; Craigvale, Ont., T. J. Oakley; Lisle, Ont., L. G. Armstrong; Toronto (freight), J. H. Gordon; St. Mary's Jct., Ont., J. Egan; Winona, Ont., W. J. Sneath (temp.); Woodstock, Ont., A. R. Huston; London (freight), Ont., L. Harold; Wyoming, Ont., D. O'Neil; Tillsonburg, Ont., J. Boughner; Brantford, Ont., M. C. Dickson; Brule Lake, Ont., G. A. Thurston; Edgington, Ont., J. J. Freeman.

Intercolonial Ry.—F. H. Probert, heretofore locomotive engineer, has been appointed Roundhouse Foreman at St. John, N.B., vice D. A. Sinclair, retired from the service.

Michigan Central Rd.—W. C. Thoms has been appointed Commercial Agent at Toledo, Ohio, vice W. S. Rodger, transferred.

N. B. Ackley, heretofore Auditor of Disbursements, has been appointed Assistant Auditor. Office, Detroit, Mich.

N. D. Chapin has been appointed Chief of Tariff Bureau. Office, Detroit, Mich.

E. A. Wigren, heretofore chief clerk Audit Department, has been appointed Auditor of Disbursements, vice N. B. Ackley, promoted. Office, Detroit, Mich.

J. M. Eedson has been appointed Freight Claim Agent, with headquarters at Detroit, Mich., in place of T. Eedson, who continues as Auditor of Freight Accounts.

E. M. Cornell has been appointed Assistant Freight Claim Agent.

R. R. Richards has been appointed Assistant Auditor of Disbursements.

A. S. Dutton has been appointed Assistant Auditor of Freight Accounts.

G. E. Smith has been appointed Assistant Auditor of Passenger Accounts.

J. H. Brown has been appointed Assistant General Freight Agent at Bay City, Mich., vice W. C. Lewis, transferred to Chicago, Ill.

W. C. Lewis, heretofore Assistant General Freight Agent, Bay City, Mich., has been appointed Assistant General Freight Agent, Chicago, Ill., vice F. Zimmerman, resigned.

Minneapolis, St. Paul & Sault Ste. Marie Ry.—W. M. Stephenson, General Agent, Chicago Division, St. Paul, Minn., has resigned to enter private business.

New York Central & Hudson River Rd.—T. Mahar has been appointed Master Mechanic, Harlem and Putnam Divisions, which latter has been transferred from the Hudson Division, vice H. B. Whipple, Master Mechanic Harlem Division, resigned.

Pere Marquette-Lehigh Valley Line.—G. A. Gamble, heretofore Agent Lehigh Valley Rd., and Lehigh Valley Transportation Co., Kansas City, Mo., has been appointed Manager Pere Marquette-Lehigh Valley Line, Buffalo, N.Y., vice F. A. Butterworth, resigned.

Pere Marquette Rd.—A. Patriarche has been elected Vice President in charge of traffic. The position of Assistant to President, heretofore held by him, has been abolished.

F. A. Butterworth has been appointed Assistant General Freight Agent, Chicago, Ill., vice J. R. Veitch, resigned.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases from 1908-09, from July 1, 1909:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July	$ 843,500	$613,900	$229,600	$26,700+
Aug.	807,100	602,700	204,400	18,300+
Sept.	1,076,800	765,300	311,500	60,400+
Oct.	1,384,200	903,500	480,700	60,600+
	$4,111,600	$2,885,400	$1,226,200	$166,000+
Inc. or Dec.	$ 561,300	$ 395,300	$ 166,000	.....

Approximate gross earnings for two weeks ended Nov. 14th, $710,100, against $521,400 for the same period 1908. Mileage in operation during the periods as shown above, 3,131, against 2,876 for 1908.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1908-9, from July 1, 1909:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
July	7,140,029.93	4,660,159.20	2,479,870.73	205,297.48+
Aug.	7,426,984.62	4,462,926.75	2,964,057.87	385,159.16+
Sept.	8,323,178.03	4,891,288.86	3,431,889.17	1,317,281.40+
	$22,890,192.58	$14,014,374.81	$8,875,817.77	$1,907,738.04+
Inc.	$3,819,682.59	$1,911,944.55	$1,907,738.04	.....

Approximate gross earnings for Oct., $9,684,000, and for 2 weeks ended Nov. 14, $4,243,000; against $8,753,000 and $3,364,000 for same periods 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Operating revenue for Sept., $310,502.20; expenses, $190,159.88; net operating revenue, $120,342.32, against $237,717.27 operating revenue; $167,468.77 expenses; $70,248.50 net operating revenue for Sept., 1908. Aggregate operating revenue for three months ended Sept. 30, $904,176.30; expenses, $591,293.31; net operating revenue, $312,882.99, against $686,381.18 operating revenue; $493,749.88 expenses; $192,631.30 net operating revenue for same period 1908. Approximate gross earnings for Oct., $321,541, and for two weeks ended Nov. 14, $136,025, against $253,046 and $113,392 for same periods 1908.

MINERAL RANGE RD.—Operating revenue for Sept., $74,965.51; expenses, $59,397.72; net operating revenue, $15,567.79, against $72,675.12 operating revenue; $56,931.72 expenses; $15,743.40 net operating revenue for Sept., 1908. Aggregate operating revenue for three months ended Sept. 30, $224,931.89; expenses, $182,640.50; net operating revenue, $42,291.39, against $218,882.05 operating revenue; $173,867.28 expenses; $45,014.77 net operating revenue for same period 1908. Approximate gross earnings for Oct., $72,042, and for two weeks ended Nov. 14, $30,382, against $76,332 and $29,867 for same periods 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Operating revenue for Sept., $1,669,434.05; expenses and taxes, $811,404.25; net operating revenue, $858,029.80; against $1,498,464.87 operating revenue; $762,797.10 expenses and taxes; $735,667.77 net operating revenue for Sept., 1908. Aggregate operating revenue for three months ended Sept. 30, $4,018,060.04; expenses and taxes, $2,263,062.67; net operating revenue, $1,754,997.37; against $3,409,934.12 aggregate operating revenue; $2,049,942.33 expenses and taxes; $1,359,991.74 net operating revenue for same period 1908. Approximate gross earnings for Oct., $2,510,672, and for two weeks ended Nov. 14, $1,044,290, against $2,157,411, and $851,852 for same periods 1908.

CHICAGO DIVISION.—Operating revenue for Sept., $732,529.72; expenses and taxes, $500,589.31; net operating revenue, $231,940.41; against $706,890.42 operating revenue; $448,343.17 expenses and taxes; $258,547.26 net operating revenue for Sept., 1908. Aggregate operating revenue for three months ended Sept. 30, $2,180,808.75; expenses and taxes, $1,427,301.39 net operating revenue, $753,507.36; against $2,044,116.81 aggregate operating revenue; $1,326,322.39 expenses and taxes; $717,794.42 net operating revenue for same period 1908.

Grand Trunk Ry. Earnings, Expenses Etc.

The following figures give the earnings of the G.T.R., the C.A.R., the G.T. Western Ry., and the D.G.H. & M. Ry., separately, for Sept., as compared with Sept., 1908:

GRAND TRUNK RAILWAY.

	1909.	1908.
Earnings	$3,058,300	$2,753,985
Expenses	2,106,900	1,849,139
Net earnings	$951,400	$904,846

CANADA ATLANTIC RAILWAY.

	1909.	1908.
Earnings	$189,600	$147,561
Expenses	160,200	159,756
Net earnings	$29,400	*$12,175

GRAND TRUNK WESTERN RAILWAY.

	1909.	1908.
Earnings	$521,000	$481,156
Expenses	364,600	347,231
Net earnings	$156,400	$133,925

DETROIT, GRAND HAVEN & MILWAUKEE RY.

	1909.	1908.
Earnings	$180,000	$154,379
Expenses	125,000	107,627
Net earnings	$55,000	$46,752

*Deficit.

Approximate gross earnings for Oct., $4,043,361, and for two weeks ended Nov. 14, $1,826,468, against $3,786,170 and $1,691,449 for same periods 1908.

TRAFFIC RECEIPTS OF THE SYSTEM

Aggregate from July 1:

	1909	1908	Inc.	Decr.
Grand Trunk	£2,434,609	£2,240,950	£193,659	.....
Canada Atlantic	150,410	138,686	11,724	.....
G. T. Western	430,389	398,581	31,808	.....
D.G.H. & M.	141,364	124,157	17.207	.....
Total	£3,156,772	£2,902,374	£254,398	.....

Trade and Supply Notes

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

The International Marine Signal Co., Ottawa, has issued an illustrated pamphlet describing the Willson Flare Light, which is specially adapted for construction work of all kinds.

The Robb Engineering Co., Ltd., Amherst, N.S., anounces that it has changed its Montreal office from 709 Power Bldg. to 607 Canadian Express Bldg., and has appointed R. W. Robb as its District Manager, vice Watson Jack.

The British Corporation for the Survey and Registry of Shipping of Glasgow, after exhaustive tests has sanctioned the use of the Thermit process for repairs to fractured stern posts, lower portions of rudder frames and damages of a similar character.

The Dougall Varnish Co., Ltd., Montreal, manufacturers of railway and other varnishes, has formed an alliance with the Murphy Varnish Co., Newark, N.J., for the purpose of enlarging its business in certain directions. The company's products are already well known throughout Canada, and they will be maintained at their present high quality, and improved where possible, by the adoption of other formulae and processes. All the prducts of the company will be manufactured in Montreal, and the business will be carried on as heretofore.

THE CANADIAN NORTHERN ONTARIO RAILWAY COMPANY.

Notice is hereby given that the Canadian Northern Ontario Railway Company will apply to the Parliament of Canada at its next session for an Act authorizing the Company to amalgamate with other Companies, and empowering the Company to acquire the capital stock or securities of other Companies with which it may be authorized to amalgamate, and declaring that the Company has had the power to and may consolidate the securities issued by the Company or such other Companies, with other usual and customary powers in that behalf.

GEORGE F. MACDONNELL,
Assistant Solicitor.

Toronto, Ontario, November 10, 1909.

New Ways To The Woods

The six railways of the Canadian Northern Railway system offer the widest choice of new territories for the fisherman, canoeist, camper and hunter.

IN NOVA SCOTIA the Halifax and Southwestern Railway, from Halifax to Yarmouth, serves seven hundred miles of ocean shore; two score generous trout streams and the famous Rossignol lake system.

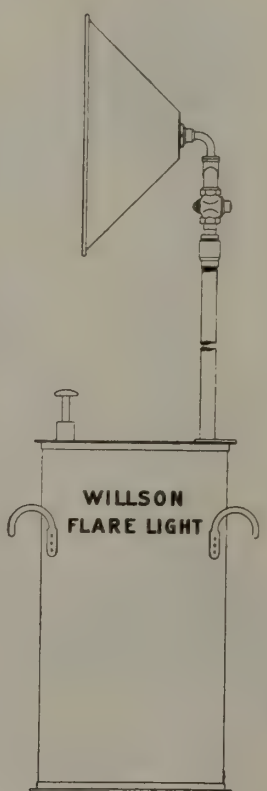
IN CAPE BRETON, sixty miles of the Gulf of St. Lawrence shore is skirted by the Inverness Railway, which gives easy access to the Margaree valley—far-famed for its salmon fishing.

IN QUEBEC, the Canadian Northern, Quebec and Quebec, and Lake St. John Railways give easy access to the Saguenay, Upper St. Maurice, the Batiscan, the La Tuque game and fish preserve, and the valleys of the St. Lawrence and Ottawa. All good fishing waters, abounding with ouananiche, trout and bass.

IN ONTARIO, the entire range of the Muskokas, the Georgian Bay hinterland, the French, Pickerel, Still and Maganetawan rivers—well stocked with bass, mascalonge, and pickerel, are best reached by the Canadian Northern Ontario Railway.

IN WESTERN ONTARIO and the prairie provinces, the Canadian Northern Railway serves over three thousand miles of splendid territory. The Rainy River section follows the old Dawson fur trail, which is the finest canoe trip on the continent. There is an amplitude of sporting opportunities for the camera hunter, the fisherman and canoeist.

For literature and general or special information inquire of the information Bureau, Canadian Northern Railway System, Toronto.



THE WILLSON PORTABLE FLARE LIGHT

Brilliant Powerful Economical

Specially adapted for use in all kinds of construction work.

Its candle power varies from 1,000—8,000 according to the size of apparatus. The cost of 8,000 candle power is less than 6c. per hour.

O'Brien & Fowler, Contractors to the G.T.P., say:—

"During the past two or three years we have used various kinds of lights, but none of them have proved the equal of yours, either in the matter of economy or usefulness. The effectiveness of your light is beyond dispute."

Manufactured by

International Marine Signal Co., Limited

Ottawa

Write for Catalogue and Prices

Canadian Northern Ry. Report.

The following directors' report, over the signature of W. Mackenzie, President, was submitted at the annual shareholders' meeting in Toronto, Oct. 30:

The result of operations for the year ended June 30 is as follows:

GROSS EARNINGS—	
Passenger traffic	$1,928,686.35
Freight traffic	7,481,325.94
Express, mail, telegraph, dining and sleeping cars, interest and profits from elevators and other subsidiary companies	1,171,755.64
	$10,581,767.93
WORKING EXPENSES.	
Working expenses, including taxes, etc.	$7,015,405.76
Net earnings	$3,566,362.17
Fixed charges	2,919,617.13
Surplus	$646,745.04

The average mileage operated was 3,013 miles, compared with 2,866 miles for 1907-8. The gross earnings increased $872,305.22, or 8.98%, and net earnings $533,675.28, or 17.60%, over the preceding year. The working expenses were 72.55% of gross earnings of the railway proper, and 66.30% of the gross earnings from all sources, compared with 74.10% and 68.77% respectively last year. The increase in gross earnings, while comparing favorably with the increased mileage operated, is not as large as your directors hoped. This is explained in part by the unusually quiet conditions of business generally throughout the Dominion, which was reflected in a substantial decrease in the movement of westbound commodity traffic, a standard of traffic which earns for all railways the highest rates. Since the close of the fiscal year, however, there has been a very gratifying increase in the four months' business to Oct. 31, over the corresponding period of 1908, of $561,300, and to this increase the westbound traffic has contributed largely; indeed, the volume of business received from the manufacturing sections of Eastern Canada and from Great Britain is quite as large as in the buoyant years of 1905 and 1906.

Your directors are confident that a proportionate increase over last year's figures will continue, for the grain crop of 1909 is one of the best for several years, and grades uniformly higher than any previous year. This opinion is fully sustained by the larger milling interests and the elevator companies operating in Western Canada. While the increase in yield and quality extends over the entire territory served by your railway, the outstanding fact of the year is the leading position gained by Saskatchewan in the production of wheat and other grains. The following figures are taken from the last estimates of the Saskatchewan Minister of Agriculture, published Oct. 2: Wheat, 84,000,000 bush.; oats, 102,800,000 bush.; barley, 8,000,000 bush; flax, 3,800,000 bush. The rapid rise of Saskatchewan to pre-eminence is especially gratifying to your directors, because it is chiefly in that province that they have extended the mileage during the last four years. It has been their aim to acquire the advantages of first construction in the best districts of all sections of the province; and their efforts to pre-empt, as it were, the most advantageous positions for the company have been co-existent with the desires of the farming population, expressed through their representatives in the legislatures, to be served by your railway. The case of the extension from Saskatoon towards Calgary admirably illustrates this aspect of your directors' policy. During the year 60 miles were opened for traffic, and it is estimated will furnish your railway with 2,000,000 bushels of grain for shipment to Port Arthur, 1,000 miles distant. The line has recently been extended an additional 60 miles to Kindersley, and grading has been completed for a further 60 miles. The railway traverses the most fertile section of the great Saskatchewan plains, in which your company has heavy holdings of land in the vicinity of the homesteads and preemptions which constitute the greatest remaining block of surveyed unoccupied wheat lands of this continent. The extension of your lines in Saskatchewan is the logical outcome of the methods adopted in Manitoba, which have proved so satisfactory in every way. In Alberta, following a demand to connect Edmonton with Calgary and the southern portion of the province, the construction of a line has been rapidly pushed forward; steps are also being taken towards reaching the Brazeau River coal fields, in which are most extensive deposits of easily mined high-grade coal. It is expected that your railway will reach Calgary from the north and east next year, and that Southern Alberta will be served in the following year. These extensions in territory which affords a large and expanding market for British Columbia, have already produced a widespread demand for the speedy continuation of your railway to the Pacific coast.

Your directors are glad to note the further justification of their policy of selling lands to the homeseeker as against the speculator that is seen in the substantial increase in the areas under cultivation in all the districts tributary to your newer branch lines. Adjacent to the line between Saskatoon and Calgary, now completed, your directors have sold large quantities of land, on which the increase in cultivated areas, since the railway was built, is phenomenal. At Rosetown, to take one example, which has only since the close of the present fiscal year been placed under the Operating Department, three elevators have already been built to receive the grain now being threshed. The land sales during the past year were 116,662 acres, and realized $1,091,722.37—an average of $9.36 an acre. Whilst the acreage sold was less than that of the previous year, the average price realized has been increased by $1.04 an acre. Very satisfactory sales have been made since the close of the fiscal year at still higher prices, and negotiations are now going forward for numerous sales at further enhanced values. The increase in facilities for the production of grain, cattle and other farm product has the double advantage of increasing the demand for lumber, and other building materials, the manufacture of which, at various points on your railway, becomes each year a more important traffic factor. At Fort Frances large pulpwood and paper mill industries are being established in connection with the development of the water power at that point; but a notable feature of the recent expansion of the western provinces is the multiplication of general manufacturing plants, chiefly in Winnipeg, where there are now 144 operating factories of all kinds.

During the last five years certain allied companies have been amalgamated with your company, in addition to which a large amount of new mileage has been added to the system in respect of all which an adjustment of the capital stock has been made during the year. During the year £1,027,400 4% land grant bonds were issued on the security of 1,250,000 acres of selected lands, the proceeds of which have been applied to general purposes. Your directors have exercised their authority under the mortgage to redeem part of the issue, and from payments received on land sales have retired £40,000 of bonds, so that the liability is now £987,400 or $4,805,346.66. Additional car trust obligations were incurred amounting to $2,500,000 to provide the necessary equipment of all kinds to meet the requirements of traffic. Obligations incurred for the same purpose were repaid to the extent of $2,350,000 during the year, so that the liability on this account has been increased by only $150,000.

In pursuance of your directors' policy of keeping pace in every way with the development of each section of country served by your railway, it has been necessary to incur further large expenditures in maintaining and improving the physical conditions of your property as a whole. At Port Arthur additional docks and sheds for the accommodation of both passenger and freight traffic carried over the Great Lakes have been constructed. Interests closely allied with your railway are building a palatial hotel in close proximity to your station at Port Arthur, which will be ready for next summer's tourist business. Industrially the city continues to make satisfactory progress. The Atikokan Iron Co.'s furnaces are continuing to produce an excellent quality of pig iron, the ore for which is hauled by your railway. The construction of an extensive shipbuilding plant within the city's limits has been started; and other enterprises requiring large quantities of iron for the western market will be commenced shortly. In Winnipeg the completed Fort Rouge shops have proved of great value in the economical maintenance of equipment. The Fort Garry station, in which the Dominion Government and G.T.P.R. will be your tenants, is nearing completion, and will, it is expected, be in full use next spring.

The connection of your railway at Fort Frances with the Duluth, Rainy Lake & Winnipeg Ry. has induced a satisfactory traffic from the middle western States through Duluth. This connection gives to your railway a much longer haul than heretofore from the growing passenger and freight business originating in the U.S. The lines under construction in Alberta will furnish abundant traffic immediately they are opened; for in the central and southern parts of that province the need for additional railways has been strongly represented to your directors. To the north of Edmonton and in the extensive Peace River District there is already the nucleus of prosperous agricultural settlement; and a general trade throughout a territory five times as large as the United Kingdom, at present without railway service.

The accounts and statistical tables appended to the report are submitted by D. B. Hanna, Third Vice-President, as follows:

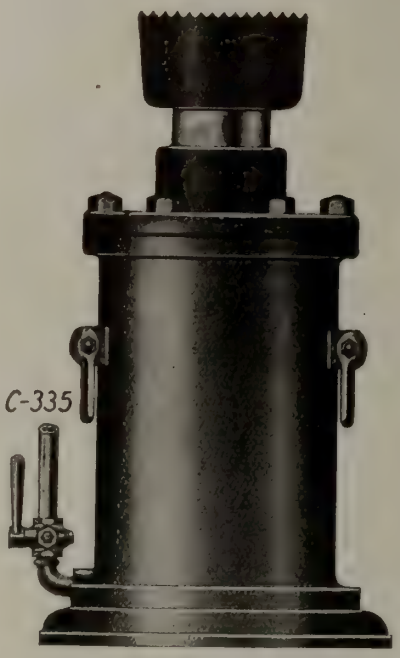
GENERAL BALANCE SHEET.

ASSETS.		
Cost of railway and equipment		$116,260,250.61
Acquired securities (cost)		5,725,060.21
Advances to other companies		1,420,423.62
Advances to lines under construction and terminals at Winnipeg		4,667,128.76
Value of material and supplies on hand	$1,347,631.60	
Due from agents, station balances, etc.	418,113.34	1,765,744.94
Deferred payments on land sales	7,273,229.58	
Cash with National Trust Co., account of land sales	4,302,637.08	11,575,866.66
Cash on hand		982,534.64
		$142,397,009.44

In addition to the above assets the company owns 1,398,013 acres of land in Manitoba and Saskatchewan.

LIABILITIES.		
Capital stock		$55,000,000.00
Bonds and stock (guaranteed by Government)		26,727,183.37
4% perpetual consolidated debenture stock		24,054,716.65
Land grant bonds, 1899	$2,000,000.00	
" 1907	4,805,346.66	6,805,346.66
Car trust obligations		9,776,232.17
Current liabilities—		
Unpaid pay rolls	550,214.36	
Unpaid audited vouchers	924,352.51	
Due to other companies (net)	2,688,621.14	4,163,188.01
Coupons and dividend warrants due July 1, (since paid)	1,149,547.36	
Accrued interest on bonds and equipment securities	196,147.53	1,345,694.89

Compressed Air-Jacks



For short lifting around car and repair shops and manufacturing plants.

Rand Jacks are built in several styles from 4 to 30 thousand pounds capacity.

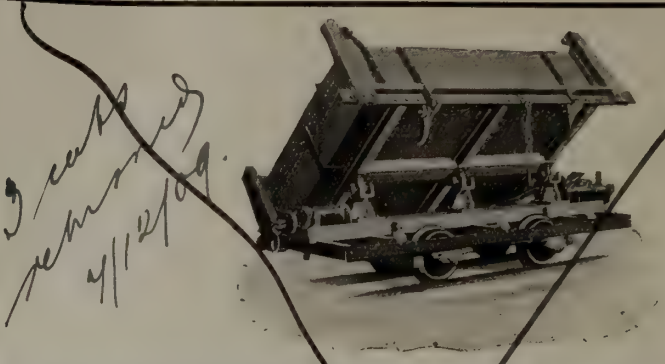
All of the latest construction, fitted with safety check valves for holding the load if the hose becomes detached or burst.

We carry in stock or can make quick delivery of all compressed air appliances and Rand Air Compressors.

Catalogs on all subjects.

Canadian RAND Co. Limited
MONTREAL, QUE.

Branches at:
TORONTO, WINNIPEG, ROSSLAND, COBALT, HALIFAX, MONTREAL.



THE MEAFORD WHEELBARROW CO., LIMITED
MEAFORD, ONTARIO

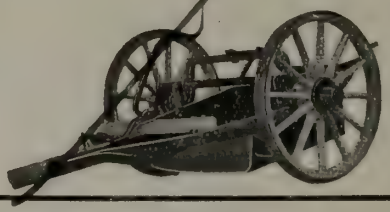
Manufacturers of Contractors' Supplies including:

WHEELBARROWS — both Wooden and Steel, also STERLING line of Roller Bearing Easy Pushing Wheelbarrows and Concrete Carts.

DUMP CARS, DUMP CARTS, GRADING PLOUGHS, WHEEL SCRAPERS both Square Box and Pressed Bowl.

DRAG SCRAPERS—Pressed Steel. TRUCKS of every description

Catalogue for the Asking



TRAINING FOR PROMOTION

The most practical way for ambitious employes to secure promotion is through the Courses of Training of the International Correspondence Schools, of Scranton, Pa. These Schools have special contracts with over 200 American railroad companies for the instruction of their employes. The I. C. S. Railway Courses cost in their preparation over $35,000. These Courses have been written by the best experts in the country and are edited after a manner that 18 years' experience in training ambitious men for promotion has proved to be the most practical and efficient. The I. C. S. own seven special instruction cars which travel over different railroads for the purpose of assisting in the instruction of the I. C. S. student-employes. The Railway Courses contain over 1,200 pages and over 600 illustrations. The following subjects are included:

Air-Brake Pumps, Triple Valves and Brake Valves, Air-Brake Troubles, Operating and Testing Trains, Foundation Brake Gear, Air-Signaling System, High-Speed Brake, Locomotive Boilers, Boiler Attachments, Heat and Steam, The Locomotive, Valves and Valve Gears, Locomotive Management, Breakdowns, Train Rules, Vauclain Compound Locomotives, Cross-Compound Locomotives, Tandem and Balanced Compound Locomotives, New York Air-Brake Pumps, New York Triple Valves and Brake Valves, New York Air-Brake Troubles, Train Operation, New York Foundation Brake Gear, New York Air-Signal and High-Speed Brakes, Car Lighting, Car Heating, Electric Headlight, Arithmetic, Westinghouse Air-Brake.

No other school has the equipment or Courses anywhere equal to the I.C.S. If you really wish to secure promotion make some definite attempt to get it. It puts you under no obligation to use the coupon. The advice and information it brings are free. **MAKE A START NOW.**

International Correspondence Schools,
Box 1072, Scranton, Pa.

Please explain, without further obligation on my part, how I can qualify for a larger salary and advancement to the position before which is marked X

General Foreman	R.R. Con. Engineer
R.R. Shop Foreman	Civil Engineer
R.R. Trav. Engineer	Bridge Engineer
R.R. Trav. Fireman	Chemist
Locomotive Engineer	Mining Engineer
Air-Brake Instructor	Architect
Air-Brake Inspector	Bookkeeper
Air-Brake Repairman	Stenographer
Mechanical Engineer	Ad Writer
Mechanical Drafts.	French / Spanish / German — With Edison's Phonograph
Machine Designer	
Electrical Engineer	

Name .....

St. and No. .....

Employed by .....

City ..... *Prov.* .....

Equipment replacement fund		44,135.85
Gross land sales	12,531,993.91	
Less		
Land grant bonds (issue 1899), as above, the money to redeem which is in hands of National Trust Co.	2,000,000.00	
Surplus—		
Land grant account	10,531,933.91	
Railway account	3,948,517.93	14,480,511.84
		$142,397,003.44

ACQUIRED SECURITIES.

Minnesota & Ontario Bridge Co., 4½% first mortgage debenture bonds.	$130,000.00
Capital stock	100,000.00
Minnesota & Manitoba R. Co. 5% general mortgage bonds	250,000.00
Capital stock	400,000.00
Lake Superior Terminals Co. 5% mortgage gold bonds	2,000,000.00
Capital stock	500,000.00
Canadian Northern Telegraph Co. 5% general mortgage bonds	800,000.00
Capital stock	500,000.00
Winnipeg Land Co. 5% first mortgage gold bonds	300,000.00
Capital stock	100,000.00
Canadian Northern Coal & Ore Dock Co. 5% first mortgage bonds	375,000.00
St. Boniface & Western Land Co. 5% first mortgage bonds	750,000.00
Capital stock	250,000.00
Edmonton & Slave Lake Ry. Co. 5% first mortgage bonds	420,000.00
Canadian Northern Prairie Lands Co. Capital stock	483,393.55
	$7,408,393.55

INCOME ACCOUNT.

Operating expenses		$6,896,413.10
Taxes, railway		58,956.61
Taxes on company's lands		60,036.05
Interest on bonds, etc.:		
Consolidated debenture bonds, guaranteed by Manitoba Government	$464,918.89	
Ontario Division debenture bonds, guaranteed by Manitoba Government	230,722.56	
3% debenture stock, guaranteed by Dominion	280,799.90	
Consolidated debenture stock.	938,398.66	
Qu'Appelle, Long Lake & Saskatchewan Ry. 4% debenture stock	202,055.96	
Qu'Appelle, Long Lake & Saskatchewan Ry. 6% bonds	1,927.20	
Land grant 4% bonds	96,106.92	
		$2,214,930.09
Rental of leased lines:		
Northern Pacific & Manitoba Ry.	210,000.00	
Minnesota & Manitoba Rd.	13,960.00	
		223,960.00
Interest on equipment securities		480,727.04
Accrued interest to June 30.	196,147.53	
Less accrued interest at June 30, 1908, paid during current year	185,973.10	10,174.43
Balance of income account.		3,948,517.93
		$13,893,715.25
Balance of income account, June 30, 1908		$3,311,947.32
Gross earnings—		
Passenger earnings	$1,928,686.35	
Freight earnings	7,481,315.94	
Express, mail and miscellaneous earnings	1,171,755.64	
		10,581,767.93
		$13,893,715.25
Balance at credit		$3,948,517.93

GROSS EARNINGS.

Class.	1909.	%
Passenger	$1,928,686.35	18.23
Freight	7,481,325.94	70.70
Mails	74,382.40	00.70
Express	109,776.80	01.04
Miscellaneous	987,504.44	09.33
Total	$10,581,767.93	100.

OPERATING EXPENSES.

Class.	1909.	%
Maintenance of way and structures	$1,436,440.01	20.48
Maintenance of equipment	1,252,764.36	17.86
Traffic expenses	128,728.36	01.83
Transportation expenses	3,863,704.74	55.07
General expenses	333,768.29	04.76
Total	$7,015,405.76	100.

DESCRIPTION OF FREIGHT CARRIED.

	1908-09.	1907-08.
Flour, sacks (100 lbs. each)	1,380,207	925,798
Grain, bushels	27,113,077	22,456,041
Live stock, head	91,546	44,639
Logs and lumber, feet	247,452,000	206,698,000
Firewood, cords	177,231	197,633
Fish, tons	4,547	4,435
Immigrants' effects, cars	3,129	3,383
Building material (lime, stone, brick, sand, etc.), cars	9,547	9,432
Miscellaneous, tons	1,073,872	1,133,508
	1908-09.	1907-08.
PASSENGER TRAFFIC.		
Passengers carried	1,028,787	937,036
Passengers carried one mile	78,044,255	74,468,415
Passengers carried one mile per mile of road	25,902	25,983
Average distance carried	75.86	79.47
Total passenger revenue.	$1,829,703.25	$1,772,816.38
Average amount received per passenger	$1.77.85	$1.89.19
Average amount received per passenger per mile	.02.344c.	.02.381c.
Total passenger train earnings	$2,112,845.55	$2,026,272.48
Passenger train earnings per train mile	$1.04.453	$1.06.956
FREIGHT TRAFFIC.		
Revenue tons carried	2,958,802	2,615,580
Revenue tons carried one mile	1,000,875,386	875,287,887
Revenue tons carried one mile per mile of road	332,185	305,404
Average distance haul of one ton	338.27	334.64
Total freight revenue	$7,370,376.28	$6,823,528.42
Average amount received for each ton of freight.	$2.49.100	$2.60.880
Average revenue per ton per mile	.00.736c.	.00.779c.
Total freight train earnings	$7,481,325.94	$6,911,814.80
Freight train earnings per train mile	$2.46.189	$2.39.426
PASSENGER AND FREIGHT, ETC.		
Gross earnings per mile of road	$3,512.04	$3,387.81
Operating expenses per mile of road	$2,328.38	$2,329.65
Net earnings per mile of road	$1,183.66	$1,058.16
Amount required per mile of road to pay fixed charges, including leased lines and interest on equipment securities	$969.01	$821.26
TRAIN MILEAGE.		
Mileage of passenger trains	2,022,778	1,894,491
Mileage of freight trains.	3,038,859	2,886,832
EXPENSES PER TRAFFIC TRAIN MILE.		
Maintenance of way and structures	28.38c.	31.03c.
Maintenance of equipment	24.75c.	27.82c.
Traffic expenses	02.54c.	02.52c.
Transportation expenses	76.33c.	72.92c.
General expenses	06.90c.	05.31c.
Total	$1.38.60	$1.39.65

SUMMARY OF EQUIPMENT.

	June 30, 1909.	June 30, 1908.
Locomotives	346	290
Sleeping and dining cars	39	35
Passenger coaches	164	122
Baggage and mail and express cars	72	70
Business cars	7	6
Freight, refrigerator and stock cars	9,465	8,065
Conductors' vans	118	104
Boarding, tool, auxiliary cars, steam shovels and snow equipment	355	126

The total number of miles of railway owned and operated, including leased lines, at June 30, was 3,140.1, located as follows: Ontario, 353.7; Manitoba, 1,522.1; Saskatchewan, 1,006.4; Alberta, 214.2; Minnesota, 43.7. The average mileage operated during the year was 3,013.

The report was unanimously adopted and the directors re-elected, as follows: W. Mackenzie, President; D. D. Mann, Vice-President; Z. A. Lash, K.C., F. Nicholls, Toronto; R. M. Horne-Payne, London, Eng.

Railway Rolling Stock Notes.

The G.T.P.R. has received four baggage cars from Rhodes, Curry Co., Ltd., Amherst, N.S.

The Intercolonial Ry. has ordered 10 consolidation locomotives from the Canadian Locomotive Co., Kingston, Ont.

The C.P.R., between Oct. 14 and Nov. 15, ordered at its Angus shops, Montreal, ten D-10 locomotives, four wing plows and two flangers.

The Michigan Central Rd. has ordered five Pacific type, 10 consolidation (236) and one consolidation (274) locomotives from the Montreal Locomotive Works.

The Canadian Locomotive Co., Kingston, Ont., has delivered two mogul locomotives to O'Brien, Fowler and McDougall, G.T.P.R. contractors, Fort William, Ont.

The Intercolonial Ry. has ordered six baggage cars from Rhodes, Curry Co., Ltd., Amherst, N.S., and 10 consolidation locomotives from the Canadian Locomotive Co., Kingston, Ont.

The Temiskaming and Northern Ontario Ry. has recently added to its equipment, two switching, two passenger and four freight locomotives, all from the Canadian Locomotive Co., Kingston, Ont. Details of these locomotives have been published in previous issues.

The Montreal Locomotive Works, between Oct. 23 and Nov. 18, delivered eight locomotives to the C.P.R., one to the Pacific Coast Coal Mines, Ltd., two to the Michigan Central Rd., and one to the New Canadian Co., the latter being for the Atlantic Quebec & Western Ry.

The C.P.R., between Oct. 14 and Nov. 15, received the following additions to rolling stock.—186 box cars, one refrigerator, one baggage car, two baggage and express cars, one colonist car, two store supply cars, four flangers and four M-4 locomotives from its Angus shops, Montreal; five vans from its Farnham shops, Que., and four D-10 locomotives from the Montreal Locomotive Works.

The C.N.R., between Oct. 15 and Nov. 15, received the following additions to rolling stock:—one baggage car and three cabooses from Rhodes-Curry Co., Amherst, N.S.; three first-class coaches from the Silliker Car Co., Halifax, N.S.; three consolidation locomotives from the Canadian Locomotive Co., Kingston, Ont., and three sleeping cars from the U.S.

The G.T.P.R., we were advised Nov. 2, had then outstanding orders for rolling stock, for delivery in 1910, as follows:—700 box cars, 200 stock cars, 200 refrigerator cars and 300 flat cars, with the Canada Car Co., Montreal; and five snow plows, ordered in the U.S. A number of passenger and freight cars are still to be received from the Canada Car Co., and Rhodes-Curry Co., on 1909 delivery.

The Temiskaming and Northern Ontario Ry. has ordered 50 forty ton steel underframe box cars from the Dominion Car and Foundry Co., Montreal, of which the following are the chief particulars:

Length, over all	37′ 9½″
Length, inside	36′ 0″
Width, over all	9′ 10⅜″
Width, inside	8′ 6″
Height, over all	14′ 6″
Height, inside	8′ 0″
Axles	N. S. Steel & Coal Co.
Bolsters, truck	Simplex.
Brakes	Westinghouse.
Brake beams	Simplex.
Brasses	Canadian Bronze Co.
Couplers	Tower, 5″ by 7″
Door fastenings	National Mall. Castings Co.
Journal boxes	McCord & Co.
Side bearings	Susemihl.
Trucks	Arch bar.
Wheels	Cast iron.

The Baldwin Locomotive Works has just completed for the Atchison, Topeka & Santa Fe Ry. the most powerful passenger locomotive now in use. Apart from its tender it weighs 376,450 lbs. and is 65 ft. long. The tender carries 12,000 gallons of water and 4,000 gallons of oil, which will be used as fuel. The length of the locomotive and tender is 105 ft. The tractive power of the locomotive is 53,000 lbs. There are five pairs of driving wheels, 73 ins. in diameter, working in sets of two, the locomotive being of the Mallet articulated type. The locomotive is the first for passenger service to be built of this type, and is the first to combine feed-water heater, superheater, and reheater in one machine. Its firebox is built on an entirely new plan which eliminates staybolts.

The Silliker Car Co., has been awarded a gold medal for its exhibit at the Nova Scotia exhibition, Halifax.

BOOKS
for
Railroad and Elevator Men and Contractors

ECONOMICS OF RAILWAY OPERATION.

By M. L. Byers

C.E., Ch. Eng. M. of W., Mo. Pac. Ry.

Cloth, 672 pp., many diagrams and forms illustrating the best modern practice, $5 net.

The only publication explaining in detail the operative systems of American railways. Sir William Van Horne says of it: "I regard it as a most useful and valuable book."

TRACK AND TRACK WORK

(Third Edition, Revised and Enlarged)

By E. E. R. Tratman

Assoc. M. Am. Soc. C. E.

Cloth, 520 pages, 232 illustrations, 44 tables and an appendix of statistics of standard track construction - - - - $3.50 net

The standard treatise on this subject.

DESIGN OF TYPICAL STEEL RAILWAY BRIDGES

By W. Chase Thomson

M. Can. Soc. C.E. Assist. Eng. Dominion Bridge Co.

Cloth, 178 pages, 21 figs., 5 fold. plates, $2 net.

FIELD PRACTICE OF RAILWAY LOCATION

By Willard Beahan

Cloth 270 pages, 50 illustrations - $3.00 net

RIGHT OF WAY SURVEYING

By A. I. Frye

Cloth 8vo, 50 pages - - - $1.00 net

RAILWAY LOCATION AND CONSTRUCTION.

By E. N. McHenry

Cloth, 88 pages, 2 folding plates, $1.00 net

DESIGN OF WALLS, BINS AND GRAIN ELEVATORS

By M. S. Ketchum

Dean of College of Eng., Univ. of Colo.

Cloth, 394 + XIV pages, 260 figs., 40 tables and 2 folding plates - - $4.00 net.

Giving a systematical analysis of the stresses in structures containing granular materials.

EARTHWORK AND ITS COST

By H. P. Gillette

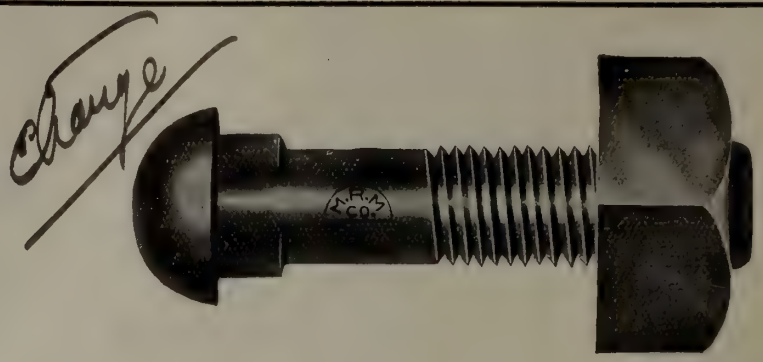
Cloth, 256 pages, illustrated - - $2.00 net

CONCRETE SYSTEM

By Frank B. Gilbreth

Flex. Morocco; 8½ x 11 ins.; 200 pages 220 illustrations and 10 Folding Plates; Printed on finest coated paper - - $5.00 net

ENGINEERING NEWS
BOOK DEPARTMENT
220 Broadway. New York.



Track Bolts

also

Railway Spikes, Angle Bars and Tie Plates

made by

The Montreal Rolling Mills Co.

The McConway & Torley Co.

PITTSBURG, PA.

Manufacturers of the

JANNEY,
JANNEY "X"
AND
PITT FREIGHT COUPLERS

BUHOUP 3-STEM EQUIPMENT
BUHOUP VESTIBULE EQUIPMENT

MALLEABLE IRON AND STEEL CASTINGS FOR RAILROAD USE

THE CANADIAN BRONZE COMPANY, LTD.

Brass Wearing Parts for Locomotives.
Journal Bearings for Freight and Passenger Service.
BABBITTS. Miscellaneous Brass Castings for Railroads.
Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

Lord Northcliffe on the I.C.R.

Lord Northcliffe, who is better known as Sir Alfred Harmsworth, proprietor of a number of English newspapers and periodicals, and who is largely interested in Newfoundland, where he is operating as the Anglo-Newfoundland Development Co., went over the Intercolonial Ry. from North Sydney to Montreal early in November and gave out an apparently prepared interview condemning the railway in sweeping terms. Among other things he said:—

"The Intercolonial Railway seems to me like a chain round the neck of this fair part of the Empire. It is a warning to any one like myself, who sometimes indulges in the dream of state ownership of British railroads. With its army of officials, its late trains, its antique locomotives, it reminds me of the railroads of Spain, which are a good deal quicker than those of the Intercolonial. I have had five years' experience of the Intercolonial now and have not yet arrived promptly at any point at which I have aimed. I see that some of your papers call it 'the people's road.' They must be a strange sort of people if they are satisfied with it. I hope to escape it next year on my way to Newfoundland by going by yacht from Montreal to Point aux Basque, or to the port we are making at Batwood, Nfld."

Lord Northcliffe said he hoped, with a fair amount of luck, to arrive in Montreal by Friday. But as the train pulled out of the station he said: "When you travel by the I.C.R. you never can tell. Our car is provisioned for a month."

The extravagance of Lord Northcliffe's tirade shows evident animus. A moderately worded criticism might have secured some credence, but his absolute unfairness and untruthfulness is evident, and savors plainly of yellow journalism. Lord Northcliffe has not had very much experience of travelling on the I.C.R., and is not therefore a competent authority in regard to it or its service. As far as officials are concerned—and by the term "officials" we mean officials, not ordinary employes—the I.C.R. has no "army," and it may be remarked here that the I.C.R. officials generally are notoriously underpaid, getting much less than they would on a line owned by a company. In regard to employes, including station staffs, etc., there is no doubt whatever that the road has been and perhaps still is overmanned, owing to political pressure on whatever government may be in power, but we believe the new Managing Board is doing its best to remedy this, though it has met with much opposition and unfair criticism from local politicians and newspapers.

The writer of this article has travelled over the I.C.R. for a number of years, and during the current year covered more miles on it than Lord Northcliffe has done in all his Canadian trips put together, and has no hesitation in saying that the charge about general lateness of trains is altogether unfounded. The records of train movement will substantiate this denial. The Ocean Limited, which runs between Montreal and Halifax, both ways, in summer, is an excellent train in equipment and in speed, making splendid time with some few exceptions in the most crowded portion of the rush season. The Maritime Express, an all the year round train, also gives good service. The branch line services are as good as the traffic warrants.

The allegation about "antique locomotives" is absurd. Every road has some antiques which are used for branch line or other suitable service. But the I.C.R. management has no reason to be ashamed of its motive power, which is, generally speaking, up-to-date and in good condition.

There are some features of the I.C.R. which Lord Northcliffe carefully avoided, such as its excellent, and for the greater portion at least of its main line route, dustless roadbed, and its dining car service, which is not excelled in America at the price charged.

Lord Northcliffe may have struck bad luck in going over the I.C.R., as travellers on any road are liable to do occasionally. As a matter of fact it appears that when going east he was delayed by washouts in New Brunswick, but notwithstanding this he was put into North Sydney in time to take the steamship Bruce to Newfoundland. On his return trip, which resulted in his lurid interview, the steamship was several hours late in reaching North Sydney. The regular train was held three-quarters of an hour, but was then dispatched as it would otherwise have been unable to make connections and a number of non-steamship passengers would have been greatly inconvenienced. In consequence of this late arrival at North Sydney he had to remain there over night, and when he reached Truro he had to wait to connect with the Maritime Express for Montreal, where he arrived 59 minutes late, 14 of which were occupied in watering and other attentions to his private car.

We believe the Managing Board is handling the I.C.R. as well as it is possible to do under existing conditions, but the members are no doubt hampered in many ways. We are convinced that the line could be better and more economically run under private ownership, but that is because of the absolute impossibility of divorcing a government controlled railway from political influence and not owing to any fault of the Managing Board or of the officials generally.

Edmonton Radial Ry.—The net revenue from operation in Oct. was $10,224. The railway was put into operation, Nov., 1908.

Hamilton St. Ry.—Total earnings for nine months ended Sept. 30, $251,933.01, against $235,915.64 for same period 1908.

Toronto Ry.—Gross earnings for Oct., $332,577.10, against $306,457.10 for Oct., 1908.

At a recent conference at Ottawa, it was decided that the Canadian Brotherhood of Railway Employes would amalgamate with the Canadian Federation of Labor.

A. J. Mitchell, Comptroller Mackenzie, Mann & Co., Ltd., who was operated on in Toronto General Hospital for appendicitis towards the end of October, is convalescing satisfactorily and was able to go out for a drive on Nov. 25.

The Howe Sound and Northern Development Co., Ltd., has been incorporated under the B.C. Companies Act with a capital of $500,000, for the development of lands in the Pemberton Valley and elsewhere, and in connection therewith to own and operate steam and other vessels, and to carry on the business of merchants, carriers by land and water, shipowners, warehousemen, wharfingers, forwarding agents, etc.

"Pardon my ignorance," said the lady passenger to the captain, "but how do you manage to find your way across the trackless ocean?"

"By means of the compass, madam," answered the captain, "the needle invariably points to the north."

"But," queried the lady passenger, "suppose you wish to go south?"

"I hope," said the captain, addressing the passengers on a small coasting steamer, "that all of us 25 will have a pleasant trip." Just then the soup appeared. "I trust, too, that we—er—24 will reach port much benefitted by the trip, and as I look on your—22 smiling faces, I am sure that this group of—er—17 will be a happy family. Will all of you—er—13 that I see at the table join me in drinking a toast to our coming trip? We seven, that is three—well, you and I, my dear sir—here steward, clear away these dishes."

C. P. R. Ambulance Association Work.

For giving prompt assistance in case of accidents there is an organization called the Canadian Pacific Railway Centre of the St. John Ambulance Association, which includes in its scope all C.P.R. employes. Its object is not to rival, but to assist, the medical profession. First aid is quite distinct from the work of the surgeon, for where the work of the ambulance man ends that of the surgeon commences. Lord Strathcona, Sir Thos. Shaughnessy and R. B. Angus are its patrons; D. McNicoll is president; J. W. Leonard, H. H. Vaughan, W. E. Fowler and Dr. G. P. Girdwood, Vice Presidents; L. R. Johnson, Chairman, and S. A. Gidlow, Secretary Treasurer.

During a recent three months first aid was rendered to more than 100 personal injuries at the Angus shops, Montreal, including fractures to different parts of the body, dislocations, electric shocks burns, scalds, severed arteries, injuries to the eye, and many more or less severe accidents. Many cases of blood poisoning have undoubtedly been prevented by having at immediate call men who can treat wounds by antiseptic dressings before bleeding has entirely stopped, as it is after bleeding has stopped that bacteria find their way into an open wound. In cases of severed arteries there was an undoubted saving of life, as it is practically impossible for medical aid to reach the patient in time to save life in case of arterial bleeding. A great deal of suffering has been avoided by treating for shock immediately after the accident has occurred. Quite a number of men at the Angus shops have obtained certificates of qualification certifying to their ability to give first aid in any kind of accident likely to occur in connection with their occupation.

All men who work with tools or machinery are peculiarly liable to cuts, burns, sprains broken bones and injuries generally that may or may not be dangerous, but are at least painful and inconvenient. Therefore, the C.P.R. considers it is well for men engaged in such occupations to know something of the way in which such injuries should be treated in the interval which must elapse before medical attendance can be ordinarily obtained. The knowledge how to bandage a sprain, how to reduce pain from a burn, how to handle a broken limb, and how to carry a man unable to walk, means a great deal, both to the injured and the company. Instruction in first aid gives a man an intelligent conception of the nature of his injury, and by reason of the spreading of this important knowledge the old custom of applying cobwebs, tobacco juice, greasy waste and other filthy things to open wounds would not be allowed in any C.P.R. workshop. Ambulance instruction thus systematically organized means a saving of many lives, and much unnecessary suffering. It is the intention of the company to organize ambulance classes throughout its entire system.

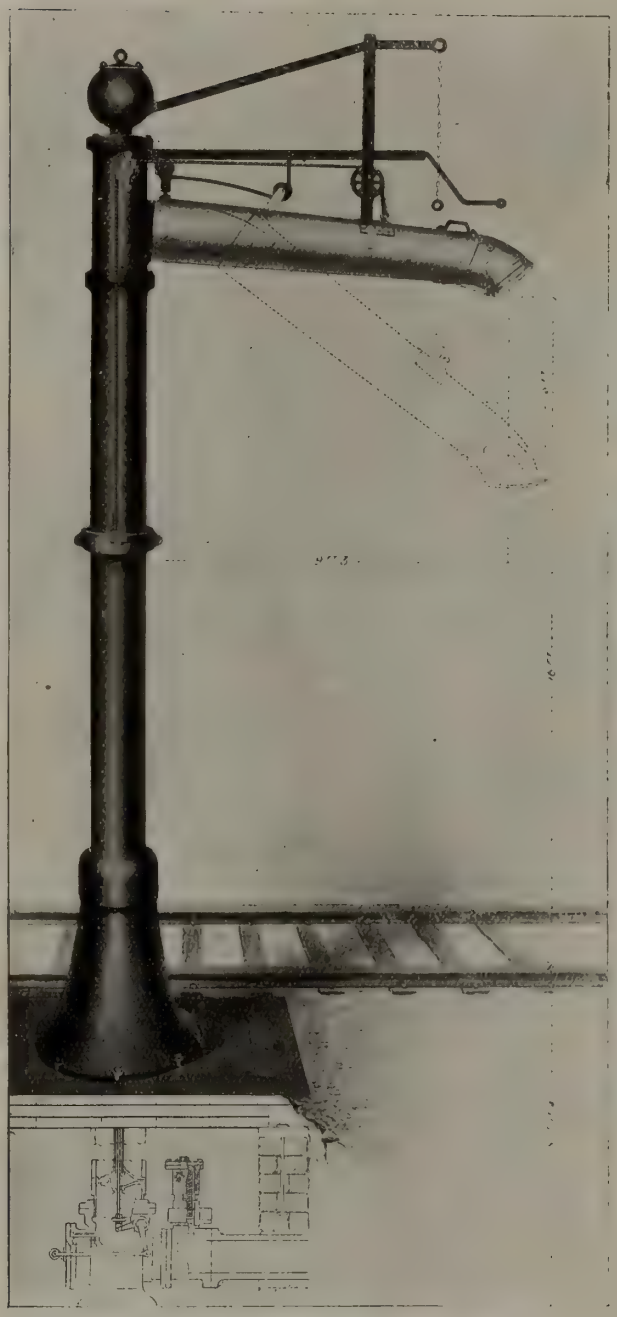
The names of the steamboats Rita and Wanda have been changed by orders in council to Birnie and Tenno respectively.

At the time of the construction of the North Sydney Branch Ry., now part of the Intercolonial Ry., the town of North Sydney provided a right of way and land for station grounds, terminals, etc. For this purpose a sum of money was borrowed on debentures, of which $3,200 is at present outstanding. Under an act passed last session of the Nova Scotia Legislature, the town council is authorized to borrow $3,200 necessary to retire the debentures, pending the settlement of the council's application to the Dominion Government for a refund of the amount originally provided.

T. McAVITY & SONS,

LIMITED

ST. JOHN, N. B.



McAVITY'S COMBINATION ADJUSTABLE SPOUT STAND PIPE

EMBODIES BEST FEATURES OF LEADING TYPES OF STAND PIPES

OLDEST AND LARGEST MANUFACTURERS OF

RAILWAY SUPPLIES

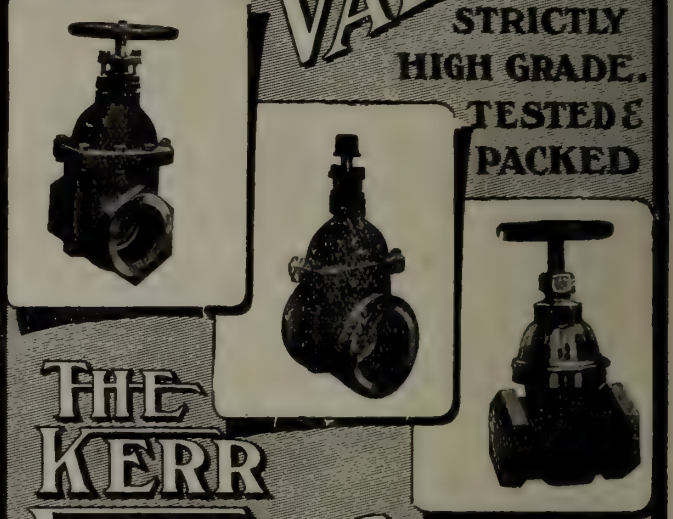
IN CANADA

INJECTORS, POP VALVES, CAR BRASSES, CAR HEATER FITTINGS, ETC.

SEND FOR CATALOGUE AND PRICE LIST.

KERR'S GLOBE AND GATE VALVES

STRICTLY HIGH GRADE. TESTED & PACKED



THE KERR ENGINE CO. LIMITED

VALVE AND HYDRANT MANUFACTURERS

WALKERVILLE, ONT.

E. L. DREWRY

REDWOOD BREWERY

WINNIPEG, MANITOBA

MANUFACTURER OF THE CELEBRATED . . . . .

REFINED ALE,
EXTRA STOUT AND
REDWOOD LAGER

Also the GOLDEN KEY BRAND AERATED WATERS

Telegraph and Cable Matters.

A. MacNaughton, one of the oldest employes of the G.N.W. Telegraph Co., died at Montreal, Nov. 1, aged 71. He had been connected with the telegraph service for 58 years.

The Western Associated Press complaint against the C.P.R. telegraph tolls was heard before the Board of Railway Commissioners, at Winnipeg, Nov. 15, and judgment reserved.

W. C. Furness, Local Manager G.N.W. Telegraph Co., London, Ont., who has not been well for some time, is reported to be seriously ill at Victoria Hospital, and his recovery is considered doubtful.

The C.P.R. Telegraph department has announced that cable rates from Manitoba to Great Britain and European countries have been reduced three cents a word.

The G.N.W. Telegraph Co.'s line between Goderich and Kincardine, Ont., has been purchased by the Ontario West Shore Ry., for use as a telephone line, chiefly in the operation of its cars. It is also intended to adapt it for public use.

One of the witnesses in giving evidence before the West Indies Commission, sitting at Montreal, recently stated that the cable service with the West Indies was bad and expensive, and that it was about as quick to communicate by letter.

H. Smith, local manager Great North Western Telegraph Co., at Berlin, Ont., was reported to be missing, recently, and it was stated that a considerable sum of money was also missing. The company is reported to have offered a reward for information leading to his arrest.

The control of the Western Union Telegraph Co. has passed into the hands of the American Telephone and Telegraph Co. The Western Union Telegraph Co. operates 2,638 miles of lines, with offices at 219 points in Canada, and is one of the largest holders of stock in the G.N.W. Telegraph Co.

Press reports state that a number of wireless telegraph stations are to be erected across Canada, those which it is proposed to take in hand almost immediately are to be situated at Port Arthur, Ont., Winnipeg, Man., Regina, Sask., Calgary and Edmonton, Alta. It is anticipated that the stations at Port Arthur and Winnipeg will be completed and in operation by Jan., 1910.

W. Marconi, while in Montreal recently, is reported to have said that the company was looking to the Government, acting through the Board of Railway Commissioners, to grant the same privileges to his company on the land lines through Canada, as the cable companies have, and should those terms not be accorded, the company would have to establish its own land lines and stations.

The Direct Cable Co. is reported to be looking for a suitable site for the landing of a cable in the neighborhood of St. John's, Nfld. If such a site can be settled on, the Government will be approached for permission to land, and a suitable office building will be erected in St. John's. The company's cable is at present landed at Halifax, N.S., but it is stated that by locating in Newfoundland, a higher speed and an improved service can be obtained.

I. McMichael, Vice President and General Manager Great North Western Telegraph Co., Toronto, while in New York recently, was the guest at dinner of E. J. Nally, Vice President and General Manager Postal Telegraph Cable Co., to meet H. A. Tuttle, Vice President and General Manager North American Telegraph Co., in remembrance of the time when all three were telegraph workers in Minneapolis, Minn., in the early eighties.

Press reports state that a petition is to be sent to the C.P.R., asking that a telegraph line be constructed and operated to Cobalt, via Temiskaming station, at the foot of the lake, in opposition to the existing line operated by the Temiskaming and Northern Ontario Ry., on account of the alleged high rate at present charged. It is said that should the petitioners not succeed in getting either of the railways to erect an independent commercial line, an application may be made for a charter for a new company with that object in view.

A committee of the Winnipeg Board of Trade called on J. Kent, Manager, and B. S. Jenkins, General Superintendent, C.P.R. Western Telegraph Lines, recently, in connection with complaints regarding telegraph and cable tolls from points west of Fort William. The cable rate to Europe, which was reduced from 37 to 34 cents a word, last month, is considered to be too high, and the committee proposed a 30c. rate, and also suggested the reduction of the telegraph rate to eastern points, from 75c. to 60c. for 10 words. It was promised that consideration would be given to the proposals.

W. E. Earle, Manager of the Western Union Telegraph Office, North Sydney, N.S., recently celebrated his 50th anniversary as a telegrapher. He was born at St. John's, Nfld., in 1847, and commenced his telegraph service, in a casual manner, in 1858, with the New York, Newfoundland and London Telegraph Co., at the time of the laying of the first Atlantic cable. He entered the service permanently, Oct. 27, 1859. In 1866 he was appointed manager of the repeating station at Grandys Brook, Nfld.; in 1868, manager of the call station, Placentia, Nfld.; in 1869, assistant manager main cable station, Port Hastings, N.S.; 1875, assistant manager North Sydney, for Western Union Telegraph Co., which had assumed control of the old lines; 1899, on the death of the manager, he was appointed to succeed, which position he still holds.

The opening of the recently inaugurated institute for the treatment of tuberculosis at Montreal, by His Majesty, by cable, took place successfully. J. Kent, Manager C.P.R. telegraphs, explained recently that two circuits were used, one for the exchange of messages between the King and the Institute, these being relayed at Waterville, Ireland and Canso, N.S., and the other circuit connected through from Chichester, Eng., where the King was staying, to the Institute by means of automatic repeaters, the land lines in Great Britain working through repeaters into one of the Commercial Cable Co.'s cables at Waterville, and re-translated at Canso into one of the C.P.R. wires which was continued to the Institute. The total distance covered was 4,225 miles. The signal was received in Montreal about four o'clock, thus starting the machinery which unfurled the flag and opened the doors.

The dispute between the Newfoundland Government and the Commercial Cable Co., as to the latter's rights and privileges in respect to the landing and operating of its cables in Newfoundland, has not yet been ended. By its agreement with the previous Government, the company claims it has the right to land cables in the Colony, and that the Government is compelled to hand over, for 25 years, all messages collected by its land line system, and that a yearly payment is to be made by the Government for the establishing of an office at St. John's, which, but for this provision, would not have been established, as the company was debarred from dealing directly with the public. It also claims that all materials required by it be imported duty free. The Government view, appears to be that the agreement mentioned is not valid until ratified by legislation, which ratification has not taken place, and that it is fully justified in taking time to consider the matter before embarking on such legislation. The Premier recently stated that the Government has not felt justified in granting, by Act of Parliament, the further concession attempted to be given in the agreement of 1909, namely, a monopoly for 25 years and freedom from taxation, while it is taxing the Anglo-American Co., $20,000 a year. The Anglo-American Co., until recently, had the sole rights of operating telegraphs to Newfoundland, the agreement having come to an end by the effluxion of time.

Dominion Government Telegraphs.

The report of the Public Works Department for the year ended Mar. 31, shows that the amount expended on Government telegraph lines was $535,480.12, and the receipts, $113,175.34. The General Superintendent states that there are 6,973.75 miles of land lines and 259 knots of cables. There are 401 offices, at which were received and dispatched 149,649 messages. There was constructed, during the year, an extension of the Eskasoni branch line on Cape Breton Island, N.S., to the Grand Narrows, 16 miles. The Grand River branch to Enon, also on Cape Breton Island, was extended 12 miles towards Victoria Bridge, and it is proposed to extend this line to Gaberous. One mile of cable was added, to connect with the new buildings of the Main a Dieu-Scatterie Island cable. In Quebec, the Chicoutimi-St. Charles line was extended to Peribonka, and a new line was completed from Baie St. Paul to St. Placide, 8.5 miles. In Alberta, a line is under construction, from Athabasca Landing, for 70 miles towards Peace River. Contracts for the supply of poles and material for the extension of this line for 100 miles have been let. Extensions in British Columbia have been completed, as follows: Vancouver Island and Salt Spring Island line to Galiano Island, 20 miles; Nanaimo to Gabriola Island, 18 miles; Courtney to Campbell River, 40 miles; Victoria to Metchosin, 14 miles.

Among the Express Companies.

W. J. Kirby, formerly in the Dominion Ex. Co.'s service, has been appointed Great Northern Ex. Co.'s agent at Vancouver, B.C., vice F. A. Korner.

C. Rattray, a former agent for the Dominion Ex. Co. at Victoria, but who has for the past few years been in private business, died in California recently.

W. S. Burgess, when charged, Nov. 1, with the robbery of the Canadian Ex. Co.'s office at Truro, N.S., in the early part of the year, made a full confession. Of the $14,000 stolen, it is stated that, at least, $10,000 has been recovered.

T. Thompson, employed at the C.P.R. station, Headingly, Man., was arrested recently charged with theft of a book of Dominion Ex. Co.'s money orders, and also with having forged and obtained payment of several orders for various sums.

Scott Griffin, Manager Canadian Northern Express and Telegraph Companies, on his recent tour of inspection over the C.N.R. western lines, stated that several extensions were in contemplation throughout the west, following the extension of the railway.

J. H. Moore, heretofore acting route agent Western and Southern Divisions Canadian Ex. Co., has been appointed Line Inspector, reporting direct to the Vice President and Manager. No appointment will be made to the position of acting route agent.

The wholesale milliners of Chicago,

BALDWIN LOCOMOTIVE WORKS

Manufacturers of

BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND

LOCOMOTIVES

Mine, Furnace and Industrial Locomotives

Electric Locomotives with
Westinghouse Motors and Electric Trucks

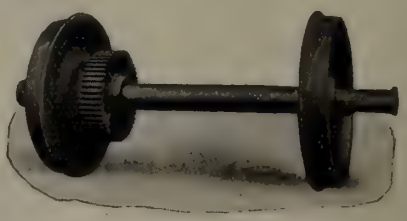
Principal Offices and Works, 500 North Broad Street
PHILADELPHIA, PA., U.S.A.

Cable Address;—"Baldwin," Philadelphia

STANDARD STEEL WORKS CO.

Harrison Building, Philadelphia, Pa., U.S.A.

THE BRYDGES ENGINEERING AND SUPPLY CO. Limited
WINNIPEG, MAN. Representatives



Wheels mounted on axles fitted with motor gear ready for application to equipment

STANDARD

SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS

THE MOST ECONOMICAL AND SAFEST STAYBOLT ON EARTH

FOR LOCOMOTIVE, MARINE AND STATIONARY BOILERS
DOUBLE THE ENDURANCE OF SOLID STAYS

AN AUTOMATIC INSPECTOR

Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO

Representatives Dominion of Canada: Brydges Engineering and Supply Co., Winnipeg, Canada; Mussens Limited, Montreal, Canada.

OCEAN STEAMSHIP OFFICES

AMERICAN LINE

Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.

Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE

New York—London
Sailing from New York Saturdays.

WHITE STAR DOMINION LINE

Portland to Liverpool—Winter
Montreal—Quebec—Liverpool
Montreal to Avonmouth Docks
(Bristol and Antwerp)

RED STAR LINE

New York—Dover—Antwerp
Sailing from New York Saturdays.

WHITE STAR LINE

New York—Liverpool—Queenstown
Sailing from New York Saturdays.

N.Y.—Plymouth—Cherbourg—Southampton
Sailing from New York Wednesdays.

NEW YORK AND BOSTON MEDITERRANEAN SERVICE
To Italy via Azores—Gibraltar

Sub-agents at all principal points in Ontario, where accommodation can be reserved and tickets secured.

H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO
41 KING ST. EAST, TORONTO.

CRUCIBLE SAW AND SHEET STEEL

MADE BY

JESSOP STEEL CO.
Washington Pa., U.S.A.

TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools.

Jessop's "Ark" High Speed Air Hardening Steel

is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings.

WILLIAM JESSOP & SONS, Limited, SHEFFIELD, ENG.
CHAS. L. BAILEY, Agent, 80 BAY STREET, TORONTO, ONTARIO

Ill., have protested against the charges made by express companies on ladies' hats. It is contended that they should be charged by weight and not by size, as at present. The matter has been set down for hearing before the Illinois Railroad and Warehouse Commission, on Dec. 9.

The steamships Cairo and Heliopolis, the purchase of which for Canadian service has been mentioned in earlier issues, are to be taken to the Clyde shipyards, Scotland, where several important structural alterations will be made, so as to fit them for the transatlantic trade. It is stated that they will run between Hamburg, Rotterdam, Cherbourg, and an English port, probably Southampton, and Halifax, N.S. These vessels were built in Glasgow, Scotland, in 1908 for the Mediterranean service. Their dimensions are as follows: length, 545 ft.; breadth, 60 ft. 3 in.; depth, to shelter deck, 38 ft.; tonnage, 11,000, with engines of 18,000 i.h.p.

Grain Elevator Notes.

Melfort, Sask., has now five elevators, with a total capacity of 155,000 bush.

The Alberta Grain Co., Ltd., has increased its capital stock from $100,000 to $300,000.

Kennedy & Co., Toronto, are erecting a grain elevator at Pontypool, Ont., with a capacity of 10,000 bush.

The Western Terminal Elevator Co., Winnipeg, has increased the number of its directors from five to seven.

The Lake of the Woods Milling Co. has declared a bonus of $10 a share, payable out of the surplus profits, Nov. 8, to holders of common stock on record Oct. 30.

The Fillmore Farmers' Elevator Co., Ltd., has been incorporated under the North-West Territories Companies Ordinance, with offices at Fillmore, Sask.

The ratepayers of Swift Current, Sask., have passed a bylaw, granting $10,000 to J. W. Ford, for the erection of an elevator and flour mill there.

The Cummings Grain Co., Ltd., has been registered at Edmonton, Alta., under the North West Territories Ordinance respecting foreign companies, with head office at Calgary, Alta.

The National Elevator Co., Ltd., with head office at Winnipeg, has been registered at Edmonton, Alta., under the North West Territories Ordinance respecting foreign companies.

Included in the extensive scheme of improvements proposed by the Montreal Harbor Commission, at that port, is the construction of an elevator of 2,000,000 bush. capacity, with conveyor system as applied to the existing elevator there.

The Thunder Bay Elevator Co., which has recently completed the construction of a large elevator plant at Port Arthur, Ont., is reported to be considering the question of duplicating the plant during next year.

The Western Terminal Elevator Co.'s new elevator at West Fort William, Ont., received its first grain Nov. 8. It has a storage capacity of 900,000 bush., and can load 65 cars a day. The cost of the construction is about $300,000.

The Saskatchewan Premier visited Ottawa early in November, and took the opportunity of urging his views of the question of the Dominion ownership of terminal elevators on the Government, considering such to be the first step towards the better regulation of grain inspection in the west.

The National Elevator Co.'s plant, which is under construction at Port Arthur, Ont., by the Barnett-McQueen Co., will, it is stated, by the contractors, be of 50,000 bush. capacity as a start and will not be a shipping elevator. It is intended to deal with poor grades of grain only, and a milling plant will be installed to convert the grain into cattle feed, etc.

The Port Arthur Elevator Co., in response to a request that, like the other local elevators, it operate on Sundays, is reported to have stated that its plant is large enough to handle all the grain that is offered, during the six days of the week, and that the operation on a seventh would be an unnecessary expense.

Speers, Ross, Ltd., has been incorporated under the Manitoba Companies Act, with a capital of $50,000, and office in Winnipeg, to own, operate and construct grain elevators, warehouses and grain handling facilities, and to conduct a general grain and grain elevator business. The provisional directors are: R. J. Speers, Wilkie, Sask.; L. Kennedy, W. S. King, D. M. King, T. J. Murray, Winnipeg.

At a recent meeting of the Grain Growers' Association, at Winnipeg, a resolution was passed urging on the grain growers to use every means to impress upon the Government the need for legislation having for its object the establishment of Government owned storage elevators, and to support only those candidates who may present themselves for election to the Legislature, who will give a pledge to endeavor to bring about such legislation.

Leitch Bros. Flour Mills, Ltd., has been incorporated under the Manitoba Companies Act, with a capital of $400,000, and office at Oak Lake, Man., to carry on a general milling business, and in connection therewith to erect and operate grain elevators, and carry on a general grain elevator business in all its branches. The provisional directors are: A. Leitch, Cranbrook, B.C.; M. Leitch, M. Moore, G. B. Connor, and J. Black, Oak Lake, Man.

The Continental Grain Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of $250,000 and office at Winnipeg, to construct, own and operate grain elevators, sheds, stores and warehouses for the elevating, reception and storage of grain and other produce, and to carry on a general grain and grain produce business. The provisional directors are: J. S. Lovell, W. Bain, R. Gowans, H. Chambers and R. M. Coates, Toronto.

A sample of rapid and economical grain handling took place at the Government Port Colborne elevator recently, when the steamboat, Keyport, was loaded with 2,500 tons of wheat in 1 hr., 15 mins. The grain was drawn from the storage bins, elevated 175 ft., passed through the automatic weighing machine, transferred over the conveyors and discharged into the vessel, loading her right up without hand trimming. The mechanical trimmers, with which this elevator is equipped made this possible, and it is said that the total cost for power and labor for loading this vessel was less than half a cent a ton.

Since the amendments made to the Manitoba Grain Inspection Act last year, and the placing of the eastern transfer elevators under Government supervision, the weighing facilities have all been overhauled, in an endeavor to correct, or place the responsibility for the shortage in outturns, which has been of such frequent occurrence. The following figures show the returns for Sept. and Oct.:—

	B. lading, bush.	Outturn, bush.	Shortage, bush.
Wheat	8,470,287-30	8,463,925-40	5,956-46
Oats	2,377,311-08	2,375,096-21	2,214-21
Barley	245,121-14	245,189-08	*67-42
Flax	74,823-04	74,738-20	64-40

*Overage.

The grain handling plant which the C.P.R. has installed at Vancouver, B.C., is capable of sacking twenty 3-bushel sacks a minute. The cars are received at the bins and unloaded into a large steel receiving hopper, with a capacity of 1,000 bush. or one carload, by means of an automatic electric power shovel. The receiving hopper contains the boot of a vertical elevator, which is 75 ft. high; the elevator consists of a 36 in. belt, to which steel buckets are attached at intervals, and is operated by a 30 h.p. motor, connected by rope to the first countershaft. There are four bins, each 24 by 40 by 50 ft. high, with a capacity of 16,000 bush. Beneath the bins are four automatic sackers and weighers.

There appears to be a probability that the terminal elevators at the head of the lakes will be operated in the near future by the Manitoba Grain Growers' Association. Some proposals to that effect have been made to the C.P.R., and in response thereto, a letter from W. Whyte, Second Vice President C.P.R., to the following effect, has been given publicity:—"The season is so far advanced now that it would not be convenient to lease any of our terminal elevators this year. In any event we would not care to lease a single elevator, and I should be glad to know if you have any proposition to make in respect to taking over all our elevators at Fort William, so that if we decide to lease them all, the negotiations could be undertaken and arrangements completed to handle next year's crop." For the purposes of an investigation which took place before the Board of Railway Commissioners last July, into the question of elevator operation, a valuation of $2,398,947 was placed on the C.P.R. elevators at Fort William, and it was stated that the earnings represented a return of about 3% on the capital outlay. From this, it is assumed that the Grain Growers' Association will be able to secure a lease on moderate terms, should the C.P.R. be willing to lease them.

Western Elevator Capacity.

The Department of Public Works in its report for the year ended March 31 states that for the storage and handling of the western grain crop there were 1,341 interior elevators, 36 warehouses and 13 terminal elevators having a total capacity of 58,535,700 bush. On the C.P.R. there were 919 elevators and 2 warehouses having a total capacity of 28,752,000 bush.; on the Canadian Northern Ry. 358 elevators and 11 warehouses with a capacity of 10,231,000 bush.; on the Midland Ry. of Manitoba and the Brandon, Saskatchewan and Hudson's Bay Ry., 18 elevators with a capacity of 520,000 bush.; on the Alberta Ry. and Irrigation Co., 10 elevators with a capacity of 274,000 bush.; Ontario terminal elevators, C.P.R., 11 elevators with a capacity of 11,758,700 bush., and the Canadian Northern Ry., two elevators with a capacity of 7,000,000 bush. During the past season, additional elevators have been constructed along the Grand Trunk Pacific Ry. as well as along the older lines. The harbors on Georgian Bay have now a combined elevator capacity of 7,499,000 bush, 4,000,000 of which is at Midland and Tiffin. The C.P.R. has under construction at Victoria Harbor a large terminal elevator which it is expected will be ready and thoroughly equipped for the handling of grain by the summer of 1910. A marked increase in traffic is also rapidly developing at Goderich, which has two elevators with a combined capacity of 700,000 bush. Kingston and Prescott have an elevator capacity of 1,506,000 and 1,000,000 bush. respectively, and the capacity at Montreal is 4,081,000 bush.

RENOUF

Publishing Co.

61 Union Avenue

Montreal

JACOBY—**Structural Details or Elements of Design in Heavy Framing.** 8vo, ix+368 pages. Profusely illustrated; figures in the text, 6 folding plates and 34 full page illustrations. Cloth $2.25 net.

MOLITOR — BEARD — **Manual for Resident Engineers, Containing General Information on Construction.** 16mo, iv+118 pages. Cloth, $1.00.

SEARLES—**Field Engineering.** 16mo, xiv+503 pages, 108 figures. Morocco, $3.00.

SEARLES—**The Railroad Spiral.** 16mo, x+127 pages, illustrated. Morocco, $1.50.

NAGLE—**Field Manual for Railroad Engineers.** 16mo, xv+403 pages, 99 figures. Morocco, $3.00.

ORROCK—**Railroad Structures and Estimates.** 8vo, vi+270 pages, 93 figures. Cloth, $3.00 net.

TURNEAURE — MAURER — **Principles of Reinforced Concrete Construction.** 8vo, x+429÷317 pages, 17 plates, and 164 figures. Cloth, $3.50.

WADDELL—**De Pontibus.** A Pocket Book for Bridge Engineers. 16mo, xii+493 pages, 10 folding plates. Morocco, $2.00.

SAVE TIME IN THE GIVING AND RECEIVING OF ORDERS

Northern Electric Intercommunicating Telephones will do this for you because

You get instant communication between departments.
You have provision for emergencies.
You can be everywhere at once.
You have complete control of your entire plant.

Northern Electric Intercommunicating Telephones are simple in operation—reliable in service and inexpensive of installation.

Backed by our 30 years' experience and the most liberal guarantee.

Our experts are at your service. Don't put up any longer with unhealthy speaking tubes.

Write for Bulletin 713

THE NORTHERN ELECTRIC AND MANUFACTURING CO. LIMITED

Manufacturers and suppliers of all apparatus and equipment used in the construction, operation and maintenance of Telephone and Power Plants.

MONTREAL Cor. Notre Dame and Guy Sts.
TORONTO 60 Front St., West
WINNIPEG 559 Henry Ave.
VANCOUVER 918 Pender St., West
REGINA

JOHN S. METCALF CO.

ENGINEERS AND CONTRACTORS FOR

GRAIN ELEVATORS ONLY

CONCRETE——STEEL——WOOD

Plans and Specifications our Specialty

MIDLAND, ONTARIO **CHICAGO, ILL.**

ELECTRIC RAILWAYS

Canadian Street Railway Association.

PRESIDENT, D. McDonald, Manager, Montreal St. Ry.; VICE-PRESIDENT, J. Anderson, Manager, Sandwich, Windsor and Amherstburg Ry.; SECRETARY-TREASURER, Acton Burrows. Managing Director, Railway and Marine World.

ASSOCIATION'S OFFICE, 157 Bay St., Toronto.

EXECUTIVE COMMITTEE:—P. Dubee Secretary, Montreal St. Ry.; E. A. Evans, General Manager, Quebec Ry. Light and Power Co.; R. J. Fleming, General Manager, Toronto Ry.; H. M. Hopper, Secretary-Treasurer, St. John Ry.; J. E. Hutcheson, Superintendent and Purchasing Agent, Ottawa Electric Ry.; C. B. King, Manager, London St. Ry.

ASSISTANT SECRETARY, Aubrey Acton Burrows. Secretary and Business Manager, Railway and Marine World.

Montreal Street Railway Co. Report.

The report for the year ended Sept. 30, was presented at the annual meeting, Nov. 3, as follows:

Gross earnings		$3,874,838 51
Operating expenses		2,255,019 20
Net earnings		$1,619,819 31
Interest from M. P. & I. Ry.		55,606 67
Total income		$1,675,425 98
From which deduct:—		
City percentage on earnings	$260,203 42	
Interest	179,724 70	
Rental leased lines	5,821 35	
		445,749 47
Net income		$1,229,676 51
Dividend, 10%		976,332 08
Surplus		$ 253,344 43
From which has been appropriated for:		
Contingent account	$175,000 00	
Fire insurance fund	25,000 00	
		200,000 00
Transferred to general surplus		$ 53,344 43

The gross earnings increased during the year $197,406.06, or 5.37%, the operating expenses $96,625.11, or 4.48%, the net earnings $100,780.95 or 6.63%. The gross earnings continue to show satisfactory increases. The per cent. of expenses to gross earnings is 58.20 against 58.69 for the previous year. The increased payment to the city for the percentage on earnings being $17,772.27, 7.33% over the previous year.

Your directors appropriated during the year from the surplus earnings, $175,000.00 for renewals to property. This amount added to the balance of $29,352.72 carried forward from previous years, made a total credit to the account of $204,352.72. Against this amount there has been charged during the year $173,815.61. Your directors appropriated the sum of $25,000.00 from the surplus earnings as a credit to the fire insurance fund. The interest on the investments for the year amounted to $21,731.93. The amount now at the credit of this fund is $470,109.45.

The premium on the last issue of new stock paid up during the year, amounting to $142,684.50, has been credited to the general surplus account. The amount of $59,027.07, representing the taxes on poles, rails, wires and machinery due the city, in accordance with the recent judgment up to 1907, has been debited to this account. The amount due for the last two years has been charged against operation. The company has expended during the year on construction account, $121,865.58, on equipment account, $43,837.41 and on real estate and buildings, $23,745.17, a total of $189,448.16. Owing to the increase of the system the present shops at Hochelaga are inadequate to take care of the repairs and construction work of the company, and as there is no further property adjoining that can be had, your directors have purchased 75 acres in the north-east end of the city, on which it is proposed to erect the new shops. The purchase of this land will secure for many years to come ample room for all extensions that may have to be made from time to time.

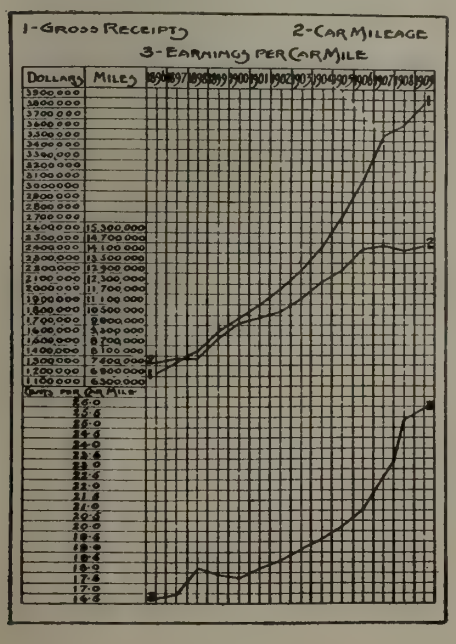
The company having in view the better accommodation for the employes at the different depots have under construction rooms and offices at St. Denis St., St. Henry and Hochelaga stations. These buildings, when completed, will furnish comfortable quarters for the men. The company was again obliged to refuse payment of a portion of the city's accounts for snow removal, owing to the wasteful manner in which the work was carried out. The snow fall according to the McGill records was nearly two feet less than the previous year, but notwithstanding this the city claims to have expended the sum of $208,435.75, an increase over the previous year of $5,901.37, and an increase over two years ago of $77,799.08, with 20.2 inches less snow fall. The increase in street mileage during this latter period was one mile, which at the average cost would only amount to $4,222.48. The company has paid to the city the usual property taxes and percentage on earnings, amounting to $286,085.82, on account of the snow removal $83,158.17, and taxes on poles, rails, wires and machinery for the year $16,941.17, a total of $386,185.16, being an increase of $45,653.43 over the previous year.

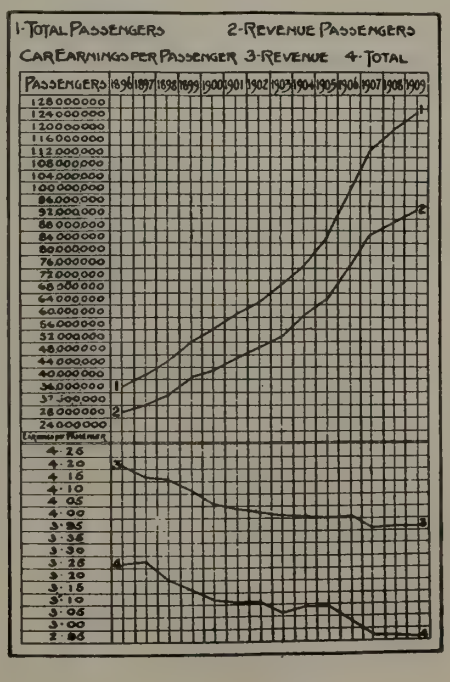
The Montreal Park and Island Railway Co.'s earnings have been somewhat disappointing during the year, owing chiefly to the effect of last year's depression in business in the various factories, etc., situated on its lines. The gross earnings remained about the same as the previous year. The operating expenses were higher owing to a larger amount being spent on the maintenance of the property and to the new extensions that have been constructed and operated during the past year. It was not expected by your directors that these extensions would prove immediately profitable, but owing to the growth of the suburbs, and the building up they have and will induce, it is only a matter of a short period when they will show good earning capacity. The extension of the Sault-au-Recollet line to opposite St. Vincent de Paul was completed during the summer and is now in operation. During the year the company entered into an agreement for a franchise with the town of Rosemont for a period of 50 years. The gross earnings show a gross increase of $2,858.92, the operating expenses an increase of $16,947.10, the net results being $57,057.56 against $71,145.74 for the previous year.

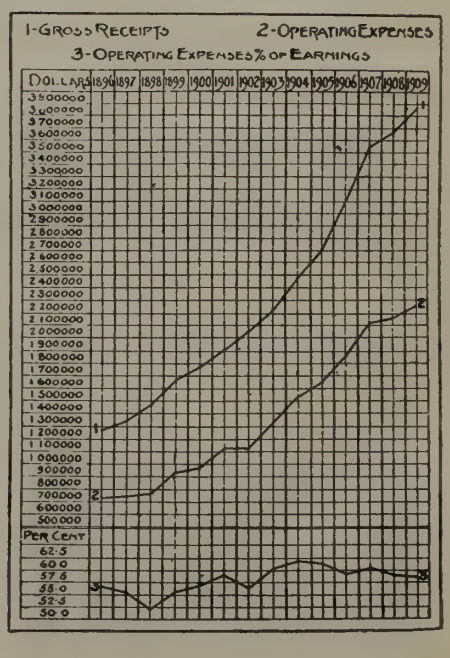
The Montreal Terminal Railway Co.'s gross earnings increased $11,260.86; the operating expenses increased $308.02, and the net surplus for the year was $5,477.08, against a deficit in the previous year of $5,162.12.

BALANCE SHEET.

ASSETS—			
Cost of road and equipment:			
Construction, etc.		$4,844,295.56	
Equipment, etc.		5,183,080.89	
Real estate and buildings.		2,119,780.66	
Stock and bonds of other companies		3,649,434.19	
			$15,796,591.30
CURRENT ASSETS—			
Montreal Park & Island Ry. advances		564,790.09	
Montreal Terminal Ry. advances		14,813.28	
Accounts receivable		97,868.25	
Stores		244,194.05	
Cash		1,118,213.21	
			2,039,878.88
Fire insurance fund investment			415,397.50
			$18,251,867.68
LIABILITIES—			
Capital stock		$10,000,000.00	
Bonds—			
4½% payable Aug., 1922		681,333.33	







CONVINCING ARGUMENT

The purchasing agent will be convinced that our Foundry Lines are

LABOR SAVERS

All we ask is a chance to figure on them.

"GRAVITY" and "JAR RAM" MOLDING MACHINES

Manufactured by us in Canada

AIR-HOISTS, LADLES, CUPOLAS, CRANES

M'f'g by Calumet Engineering Works, Harvey, Ill. (We are Sole Agents.)

"HAUCK BURNERS" For Foundries, Machine and Boiler Shops.

CYCLONE HOISTS, From 1-2 to 30 tons capacity

ONTARIO WIND ENGINE & PUMP CO., Ltd., TORONTO and WINNIPEG

WOVEN RAILROAD FENCING

We are in the best possible position to supply anything in this line. We make both a "wrapped" stay—the "Safe Lock," a rigid fence, and a "straight" stay of the usual type, our "Monarch," therefore we can take care of an enquiry, to your liking. Both fences are made of No. 9 wire throughout and are made in the most up-to-date style.

We solicit your enquiries for catalogue, further information, samples and prices.

The Owen Sound Wire Fence Co.
LIMITED

OWEN SOUND, ONT.

JAMES THOMSON, Pres. and Mang. Director. J. G. ALLAN, Vice-President. JAMES A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO.
LIMITED

MANUFACTURERS OF

CAST IRON PIPE

3 Inches to 60 Inches diameter

FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER

HAMILTON, ONT.

Standard Paint & Varnish Co. Limited
Makers of High Grade Varnishes, Japans, Paints, Colors & Enamels.
Windsor Ont.

WOOD PATTERNS
—ALL KINDS—

High Grade. Right Prices. Prompt Delivery.

THE HAMILTON PATTERN WORKS
HAMILTON, ONT.

ESTABLISHED 1849

BRADSTREET'S

Capital and Surplus $1,500,000

Offices throughout the Civilized World

Executive Offices:

NOS. 346 and 348 BROADWAY, N. Y. CITY, U. S. A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

Correspondence Invited.

OFFICES IN CANADA:

Halifax, N.S.; Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.; Toronto, Ont.; Vancouver, B.C.; Calgary, Alta.; Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

JAMES T. GARDNER

RAILWAY EQUIPMENT

615 Railway Exchange

CHICAGO, ILL.

Has on hand at all times

First-Class Freight and Passenger Locomotives

Also

Contractors' Locomotives Cars, Rails, Etc.

Specifications with Prices on Application

NEW AND RELAYING

RAILS

FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.

LOCOMOTIVES, CARS AND OTHER EQUIPMENT.

John J. Gartshore

83 Front Street West - TORONTO

4½% payable Nov., 1922	1,500,000.00	
4½% payable May, 1922	2 238,666.67	
Mortgages	6,034.51	
		14,426,034.51
CURRENT LIABILITIES—		
Accounts and wages payable	199,283.77	
Accrued interest	75,645.00	
Accrued tax on earnings	271,474.29	
Employes' securities	18,480.10	
Unclaimed Dividends	1,956.57	
Unredeemed tickets	59,327.43	
Dividend payable Nov. 2.	250,000.00	
Suspense account	269,801.25	
		1,145,968.41
Fire insurance fund	470,109.45	
Contingent account	30,537.11	
Surplus	2,179,218.20	
		2,679,864.76
		$18,251,867.68

STOCKS AND BONDS, ETC. IN TREASURY.

BONDS—		
Montreal Park & Island Ry. Co.	$1,025,000.00	
Montreal Park & Island Ry. Co., overdue interest (not included in assets)	763,639.95	
Montreal Terminal Ry. Co.	613,000.00	
Suburban Tramway & Power Co.	850,000.00	
		$3,251,639.95
STOCKS—		
Montreal Park & Island Ry. common	$720,900.00	
Montreal Park & Island Ry. preferred	315,000.00	
Montreal Terminal Ry. Co.	1,000,000.00	
Suburban Tramway & Power Co.	850,000.00	
		2,885,900.00
Total		$6,137,539.95

At the annual meeting, Nov. 3, the directors were re-elected. The officers and directors for the current year are:—President, Hon. L. J. Forget; Vice President, K. W. Blackwell; Managing Director, W. G. Ross; other directors, Sir H. Montagu Allan, G. Caverhill, P. Galibert, and R. Meighen; Secretary, P. Dubee.

Tube Railways for Toronto.

At the Toronto municipal elections in January the electors will be asked to vote on the question, "Are you in favor of the city applying to the Legislature for power to construct and operate a municipal system of subway and surface street railways, subject to the approval of the qualified ratepayers?"

The proposal came before the council in the form of a letter from a firm of engineers in London, Eng., outlining plans. These were submitted to a special committee and J. W. Moyes, who was one of the principal promoters of the Metropolitan Ry., and who is now constructing the Ontario West Shore Ry., was appointed as Consulting Engineer. After examining the plan as outlined by the English engineers, and looking into the whole matter Mr. Moyes reported to the sub-committee and his suggestions were approved. He recommended the adoption of certain routes which would entail the construction of 3.75 miles of subway, and about 18 miles of surface lines. The cost of the construction of these lines, together with the rolling stock necessary for their operation, is estimated at $4,885,000. This estimate is based upon competitive cash prices for work of a similar character, and for the special equipment. It does not, however, provide for the generation of the motive power, but looks to the purchasing of power from the Hydro-Electric Commission. The cost of construction will be reduced by the utilization of the material excavated in the subways for filling out of the wharves on the bay front to the windmill line. The committee expressed an opinion that the question of the entrance of the radial railways into the city would be rendered easy of solution by the adoption of the proposed lines.

F. H. Probert, Roundhouse Foreman, I.C.R., St. John, N.B., writes: "The information contained in the Railway and Marine World is very useful."

Projects, Construction, Betterments, Etc.

Berlin to Port Dover.—J. S. Clarke, who has been identified with the promotion of electric railways in the vicinity of Brantford, submitted a proposal to the County Council of Waterloo, Nov. 10, for the building of an electric railway from Port Dover to Brantford, passing through Ayr and Roseville to Berlin and Waterloo, with branches to other municipalities in the county. A special committee was appointed to consider the matter and to report at the December meeting. A bylaw is under consideration in Ayr granting a franchise to Mr. Clarke for the construction of the line in that village.

Brantford, Ont.—T. R. Varding, Buffalo, N.Y., has made application to the municipal council of Brantford tp., Ont., for a franchise for an electric railway within the township. Details of the routes were not submitted.

British Columbia Electric Ry.—A contract has been let for the construction of a line about three miles long from North Vancouver up the Lynn Valley. The Paterson Lumber Co. will do the grading and tracklaying and the company will do the overhead work itself. The line will run out to some timber lands which are being developed.

A gang of men was put at work Nov. 1 clearing land in D.L. 118, on the far side of Hastings tp. along the line of the projected extension. Plans and specifications are being prepared, and it is expected that tenders will be called for the construction of the line early in Dec. The projected line will be about seven miles long and will traverse Burnaby tp. At the last meeting of the Burnaby tp. council the question of the construction of one or two lines from Hastings townsite to Port Moody, north of Burnaby Lake, was discussed. One route suggested was from D. L. 206, running along the northern part of lots 135, 141, 144, and 147; and the other was from the townsite to the north road, running on or parallel to the Johnson Road.

The New Westminster City Council on Nov. 3 gave the company permission to construct a temporary track to connect up with its Fraser Valley line, and to construct a temporary shed for use as a station while the new station is being built. The electric work on the line to Cloverdale was sufficiently advanced on the Fraser River bridge Oct. 30 to permit of the passing over it of the electric locomotive, which will be used to further the work of construction. It was expected that the line as far as Cloverdale would be placed in operation by Dec. 1. A. Purvis, the local manager of the line, has opened his office in New Westminster, and has made an inspection of the line. He will have charge of the operation as well as of construction work. A contract has been let, for the construction of five reinforced concrete substations along the line, to T. R. Nickson and Co.

The extension of the Vancouver and Lulu Island Ry. to Eburne has been taken over from the C.P.R. and it was expected to be used for traffic Nov. 15. (Nov., pg. 847.)

Cape Breton Electric Co.—A contract has been let for the erection of a one story stockroom and freight shed, 45 by 60 ft., at Sydney, N.S. (Nov., pg. 847.)

Chatham, Wallaceburg and Lake Erie Ry.—The Board of Railway Commissioners has authorized the construction and operation of a branch line or spur, on several streets in Chatham, by the company.

Grand Valley Ry.—The Simcoe, Ont., town council passed a resolution Nov. 1 granting permission to the company to construct its Brantford-Port Dover line through the town. The President, Chief Engineer and some of the directors were in Simcoe recently. It was stated that the financial affairs of the company were all settled and that the line would be placed under construction at an early date and that it was expected to have it completed by the end of 1910. (Nov., pg. 847.)

Hamilton Street Ry.—A draft agreement has been completed between the company and the city Board of Works for the betterment of the street railway in the city. The new agreement was approved of Nov. 3 and was sent forward to the council for final adoption. The company agrees to reconstruct the lines on a number of the streets, and the city proposes to raise $200,000 for the purpose of repaving the streets upon which the track is to be relaid. The new tracks will be laid with 80 lb. steel. It is provided that work will be gone on with next year. (Sept., pg. 684.)

Hamilton, Waterloo and Guelph Ry.—Application is being made to the Dominion Parliament for an act granting an extension of time for the construction of its lines, and for power to extend its line from Hamilton to Toronto; or in the alternative in part to enter into an agreement with the Hamilton Radial Electric Ry. for a lease of, or running powers over its lines from Burlington to Toronto, for special powers relating to terminals in Toronto, and for special powers to issue bonds for providing for the cost of terminals. The notice is signed by J. Patterson, Secretary.

The company has filed plans in the Registry office at Hamilton showing the proposed route within the county of Wentworth. The route from Dundurn Park to the county boundary was approved by the Board of Railway Commissioners in 1907. The route east from Dundurn Park has not been approved. Skirting the hill at Dundurn Park, the plans show the route crossing the following streets on an easterly angle:—Locke, Crooks, Barton at McGill, Locomotive, Oxford, Queen, Hess, Caroline, Railway, Canon, Bay, Park, McNab, Vine, James on the Copp property and Richter estate, crossing Vine to the Quimby estate. (Nov., pg. 847.)

Hull Electric Co.—A contract has been let for the steel work for the bulkhead at the power house at Lake Deschenes, Que., in connection with the reconstruction of the plant, which was destroyed by fire, Oct. 19. (Feb., pg. 135.)

Kingston, Portsmouth and Cataraqui Ry.—The city council of Kingston, Ont., decided, Nov. 23, that it could not grant a five year agreement for the supply of power to the company. It was, however, finally decided to offer an agreement for five years at $1.20 per killowatt hour, the city to have the right of cancelling it at the expiration of three or four years. (Nov., pg. 847.)

Lethbridge, Alta.—The city council has under consideration a bylaw granting a franchise for the operation of a street railway. The bylaw provides for the granting of an exclusive franchise for 20 years to a company, the company to have completed and in operation 10 miles of line within two years, and a further three miles within six years. If the company fails to operate the lines constructed for a period of four months the city shall have the right to purchase the entire plant, as provided for at the expiration of the contract. The provisions for purchase at the end of the 20 years are that six months notice of intention shall be given, that a board of arbitrators shall ascertain the actual value of the plant at the time, and that this amount plus 10% shall be the purchase price. During the currency of the franchise the company shall pay to the city 1% annually of the gross receipts up to $40,000 and 1% additional upon each additional

THE CANADIAN BRIDGE CO., LIMITED

WALKERVILLE, ONTARIO

LOCOMOTIVE TURNTABLES ROOFS STEEL BUILDINGS

Manufacturers of

Railway and Highway

BRIDGES

STRUCTURAL IRON WORK OF ALL DESCRIPTIONS

TURNBUCKLES

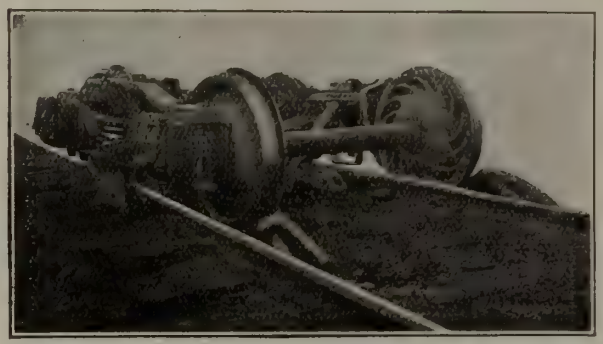
FORGINGS OF ALL KINDS

CLEVIS NUTS

CLEVELAND CITY FORGE & IRON CO.

CLEVELAND, OHIO, U.S.A.

The Alexander Car Replacer



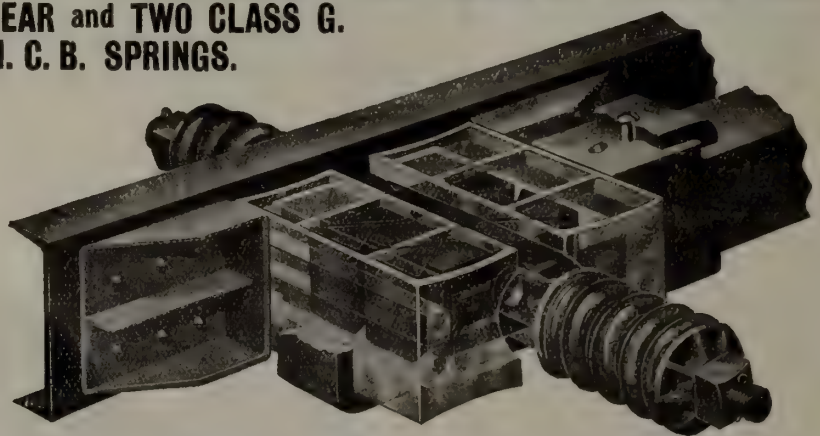
60,000 PAIRS IN USE.

Manufactured at Montreal, Que., and Scranton, Pa., of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY

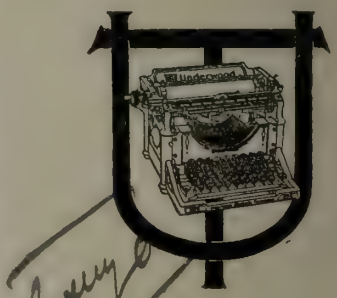
F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

35 to 1 is the relative amount of work done by ONE CARDWELL FRICTION DRAFT GEAR and TWO CLASS G. M. C. B. SPRINGS.



CARDWELL FRICTION DRAFT GEAR—MADE BY

UNION DRAFT GEAR CO., CHICAGO, ILL.



Underwood

Every medal, every first premium, every grand prize on construction, durability, ease of operation, and quality of work, as well as speed in typewriting, has been won by the Underwood.

UNITED TYPEWRITER COMPANY LIMITED

Adelaide Street East

TORONTO

$20,000 until the gross receipts amount to $100,000, and a flat rate of 5% upon all receipts over that amount. The bylaw provides for the construction of a line from Westminster Road, westerly along Redpath to Round St., south to London Road and west to the city limits. Other lines are to be constructed as desired, but it is provided that parallel lines shall be at least two blocks apart. The bylaw does not specify any particular company, but simply authorizes the council to make an agreement with a company. It is said that negotiations are in progress with a company. (Nov., pg. 847.)

London and Lake Erie Ry. and Transportation Co.—The purchaser of the South Western Traction Co.'s property, franchises and rights at the recent sale was J. E. McDougall, representing the London Stock Co., which has been provisionally organized to take over the concern, and to obtain legislative authority to operate and extend the lines. The purchase price was $455,000 plus liens amounting to about $80,000. The provisional directors are: W. K. George, G. B. Woods, S. Jones, Toronto; A. McKay, Ingersoll, Ont; F. G. Rumball, J. Purdom, London, Ont.; A. E. Thompson, Cleveland, Ohio.

Application is being made to the Ontario Legislature to incorporate the London and Lake Erie Ry. and Transportation Co., to acquire the South Western Traction Co.'s undertaking, together with all its property and franchises; to acquire or construct the lines intended to be constructed by the S.W.T. Co., or any other company, viz.: from Brantford through Paris to Woodstock; from Woodstock to Ingersoll; from Ingersoll to London; from London to Strathroy and Glencoe; from Delaware to Lambeth, and from Aylmer to St. Thomas, Ont. The company also asks for power to charter and operate steam vessels from Port Stanley to Cleveland, Ohio, and other places; and to carry on various other businesses in connection with its lines and steamships. It is also asking for a declaration that its works are for the general advantage of Canada. The capital is fixed at $2,000,000 and the provisional directors are the same as the directors of the London Stock Co. named above. (See South Western Traction Co., Mar., pg. 215.)

Montreal and Southern Counties Ry.—The formal opening of the first section of this line connecting Montreal and St. Lambert, Que., took place Oct. 30. The inaugural car started from the corner of McGill and Youville Streets, and ran to the corner of St. Denis and Ste. Elizabeth Streets in St. Lambert, 3.5 miles. The route in the city is along Grey Nun St. and Common St. crossing Black's Bridge, along Riverside St. and then across the Victoria Jubilee bridge. The party was welcomed by the Mayor of St. Lambert, and after some congratulatory speeches refreshments were served, and the party returned to Montreal.

The company's future plans include the construction of a line from St. Lambert to Chambly, 12 miles; from St. Lambert to Longueuil, three miles; and from St. Lambert to Laprairie, 7.5 miles. A good start has been made on the extension to Longueuil, over 100 men being engaged in the work of grading in the vicinity of Brooklyn Park towards Cote Rouge. It is hoped to have this line completed by the middle of June, 1910. It was announced at the gathering that the old Central Vermont line would be electrified and used as the Chambly section. The principal officers of the company are:—President, S. T. Willett; Vice President, T. Craig; Second Vice President, W. B. Powell; Secretary-Treasurer, H. W. Cooper.

Referring to the question of the St. Lambert bylaw, W. B. Powell, Second Vice President, said Nov. 12, certain formalities which were not included in the document submitted to the Lieutenant-Governor had since been complied with, and the company expected that the bylaw would be approved in the course of a few days. (Nov., pg. 848.)

Montreal to Longueuil.—A proposition has been submitted to the Montreal City Council for the construction of a trolley line from Montreal, along the guard pier to St. Helens Island and across a bridge, to be constructed, into Longueuil. It is proposed by the applicants to take advantage of the dam and locks across St. Mary's Current, between the guard pier and St. Helen's Island, which it is proposed to construct in connection with the harbor improvements.

Nelson Electric Tramway.—A reorganization has been completed. The new company has raised $25,000 of new capital, and an issue of $25,000 of bonds, guaranteed by the city, has been made. With the new capital it is proposed to repair the line and to re-open it for traffic in Jan., 1910. Plans for the construction of an extension are under consideration.

The shares above referred to are of the par value of $5 each, and the entire issue has been taken up locally, there being 228 shareholders, the largest investment made being $500 and the smallest $10. The shareholders decided to accept an offer of 99.25% for an issue of $25,000 of bonds. A bylaw has been passed by the city council guaranteeing this bond issue. (Jan., pg. 53.)

Niagara, St. Catharines and Toronto Ry.—A press report states that it is expected that the extension from Port Colborne to Welland, Ont., will be completed and opened for traffic early in Jan., 1910. (Nov., pg. 848.)

Ontario West Shore Ry.—Tracklaying was expected to have been started on the first section of this line Nov. 15. One hundred carloads of rails, together with fastenings and other material had been delivered, Nov. 1. This material is sufficient to lay one-third of the mileage between the Guelph and Goderich Ry., near Goderich, where the line starts, and Kincardine, Ont. An order has been obtained from the Board of Railway Commissioners authorizing a connection with the G. and G. Ry., and the operation of its cars over that line into Goderich. As the O. and W.S. Ry. is a provincial corporation, the approval of the Ontario Railway and Municipal Board will also have to be obtained. (Nov., pg. 848.)

Ottawa and St. Lawrence Electric Ry.—J. McFarlane, a director, stated in an interview Nov. 1 that arrangements would be made with the New York Central and Hudson River Rd. for a direct connection with its system. Options had been secured on several falls on the Ottawa River, west of the city, from which the necessary power would be developed for the operation of the company's lines. The location surveys had been completed for 18 miles, and estimates were in preparation, so that the grading could be started at an early date. The preliminary surveys showed the line would be almost straight from Ottawa to Morrisburg. (Nov., pg. 849.)

Winnipeg Electric Ry.—The City Council has notified the company that it must proceed with the extension of its line on Selkirk Avenue, along Manitoba Avenue to McPhillips St. (Oct., pg. 771.)

People's Ry.—The City Council of Stratford, Ont., gave a first reading Nov. 15 to a bylaw and an agreement with the company for the construction of five miles of lines in the city and a number of radial lines. A special meeting of the council was held Nov. 22, when further consideration was given to the matter. It is hoped to have the bylaw in shape to have it voted upon at the regular municipal elections. The agreement was reached after a good deal of correspondence and several meetings between the company and a special committee. The company agrees to construct a line from New Hamburg to Stratford via Tavistock as authorized by its present act, and to apply for legislative sanction to construct the following additional lines:—from Stratford to Exeter by as direct a route as practicable via Avonton, Avonbank, Anderson and Kirkton, or such other route as will be satisfactory to the council, and extending from Exeter to Lake Huron; also from Stratford or a point on the last mentioned line to St. Marys; a line from Stratford to Goderich passing through Mitchell, Seaforth and Clinton. Within four months of the passing of the bylaw the company is to begin the construction of the New Hamburg to Stratford line, and on its completion to proceed with the construction of lines on streets in the city, such city lines to be completed and in operation by Dec. 15, 1910. The line to Mitchell and Seaforth is to be completed by Nov. 15, 1910, but an extension of time may be granted in the event of the Legislature not passing the act to be applied for. The whole of the lines mentioned in the agreement are to be completed and in operation by Jan. 1, 1912. The city agrees to subscribe for $90,000 of the company's preferred stock, $40,000 on the completion of the lines to New Hamburg and Seaforth and the city lines; $10,000 on the completion of the line to St. Marys, and $40,000 on the completion of the line to Exeter. The city will have two directors on the board. The agreement contains numerous section dealing with fares, rights of the various parties, and provisions as to appeals to the Ontario Railway and Municipal Board. (Nov., pg. 849.)

Port Arthur and Fort William Electric Ry.—Commissioner Cooke stated Nov. 13 that the council has authorized the commissioners to proceed with the work of completing the Arthur St. extension. The switch, he said, would be put in at once; and progress was being made with the overhead work. The extension will be completed within a very short time. The City Council has under consideration a plan to extend the line from Dawson St. along Hill St. to Oliver Road. J. J. Carrick, who is interested in some building land which he is placing on the market, offers to pay half of the cost of the extension. (Nov., pg. 849.)

Quebec Ry., Light and Power Co.—A press report states that the company expects to let at an early date a contract for the erection of a substation at Ste. Anne de Beaupre. The municipal council of Montcalmville has under consideration a proposal from the company to extend its tracks from the Quebec city boundary through the municipality to Cap Rouge and St. Foye church. (Nov., pg. 849.)

St. Thomas St. Ry.—Track has been laid on Ross St., St. Thomas, Ont., in the subway under the Michigan Central Rd., and the line on the new route was opened for traffic, Nov. 6. (Sept., pg. 685.)

Southwestern Traction Co.—See London & Lake Erie Ry. & Transportation Co.

During Oct., 250,563 passengers were carried on the Port Arthur and Fort William Electric Ry., against 203,497 during Oct., 1908.

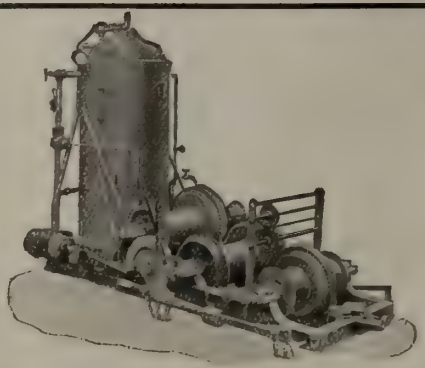
The British Columbia Electric Ry. has ordered five double truck semi-convertible pay-as-you-enter cars, two 55 ft. combination passenger, smoking and baggage cars, and two 55 ft. combination passenger and smoking car bodeis, from the Ottawa Car Co., Ottawa.

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.

BRIDGES

TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK



M. Beatty & Sons, Limited

Welland, Ont.

Dredges - Ditchers - Derricks
Steam Shovels
Steel Dump and Deck Scows

Submarine Rock Drilling Machinery
Mine Hoists, Hoisting Engines
Centrifugal Pumps, Clam Buckets
Steel Skips, Coal and Concrete Tubs
and other Contractors' Machinery.

THE British Corporation for the Survey and Registry of Shipping, Glasgow, after exhaustive tests, has sanctioned the use of the THERMIT PROCESS for repairs to fractured sternposts, lower portions of rudder frames, and damages of a similar character.

For further particulars write for Pamphlet No. 20-N.

Goldschmidt Thermit Co.

103 Richmond St., W., Toronto, Ont.
General Offices: 90 West Street, New York
Pacific Coast Branch:
432-6 Folsom Street, San Francisco

Schools of the Sisters of the Church

(ANGLICAN)

36 Walmer Road, Toronto
330 Kent St., Ottawa

VISITORS: The Lord Bishop of Toronto and the Lord Bishop of Ottawa.

Boarding and Day School for Girls. Kindergarten, Primary, Secondary and Collegiate Departments. Preparation for Matriculation. Next School year will begin Thursday Sept. 9th. Apply to

Sister in Charge.

DOMINION BUREAU

ROBERT W. HUNT & CO.

ENGINEERS

BUREAU OF INSPECTION TESTS AND CONSULTATION

Chemical and Cement Laboratories, Montreal

NORFOLK HOUSE, CANNON ST., LONDON

CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

Ticket Agents — Please Note

ILLINOIS CENTRAL RAILROAD — CENTRAL MISSISSIPPI VALLEY ROUTE

When ILLINOIS CENTRAL RAILROAD COMPANY has through car service both Coach and Sleeper and Free Chair Cars

Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California.

NEW ORLEANS ROUTE TO THE PACIFIC COAST.

Special low rates to Canadian Northwest and Yukon-Alaska Exhibition at Seattle, all summer, via St. Paul or Omaha.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Pass'g'r Agent.
305 Ellicott Square, Buffalo, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for Sept., $240,185; operating expenses, $130,426; net operating earnings, $109,759; renewal funds, $16,394; net earnings, $93,365; approximate income from investments, $16,500; net income, $109,865, against $182,226 gross earnings; $93,698 operating expenses; $88,528 net operating earnings; $14,550 renewal funds; $73,978 net earnings; $13,550 approximate income from investments; $87,528 net income, for Sept., 1908. Aggregate gross earnings for three months ended Sept. 30, $702,866; net earnings, $321,563, against $537,581 gross earnings and $255,548 net earnings for same period 1908.

Cape Breton Electric Ry.—Gross earnings for Aug., $22,005; expenses, $11,504; net earnings, $10,501; against $22,958 gross earnings; $11,886 expenses; $11,072 net earnings for Aug., 1908. Aggregate gross earnings for eight months ended Aug. 31, $148,388, against $159,817 for same period 1908.

Guelph Radial Ry.—The commissioners have paid the Guelph, Ont., city council $4,860 as the profits for the past year's operation.

Halifax Electric Tramway.—Traffic receipts for Oct., $17,803.09, and for two weeks ended Nov. 14, $6,477.93, against $14,901.76 and $6,208.99 for same periods 1908.

Kingston, Portsmouth and Cataraqui Ry.—A letter from the company was read to the Kingston, Ont., city council, Nov. 8, stating that not having received any reply to the offer to sell the line it was presumed that the city did not wish to purchase. As the company was desirous, if possible, of continuing to operate the line a new proposition as to the supply of power was made. Further consideration will be given to the matter by the corporation committee.

London St. Ry.—Gross earnings for Aug., $22,465.38; expenses, $14,498.61; net earnings, $7,966.77; deductions, $2,441.75; net income, $5,525.02; for Sept., gross earnings, $24,937.83; expenses, $14,663; net earnings, $10,274.83; deductions, $2,363.05; net income, $7,911.78; for Oct., gross earnings, $19,339.01; expenses, $13,811.54; net earnings, $5,527.47; deductions, $2,463.63; net income, $3,063.84. Aggregate gross earnings for 10 months ended Oct. 31, $202,721.11; expenses, $140,149.87; net earnings, $62,571.24; deductions, $24,-082.76; net income, $38,488.48.

Montreal St. Ry.—Passenger earnings for Oct., $336,765.13; miscellaneous earnings, $17,241.82; total earnings, $354,-006.95; operating expenses, $174,734.97; net earnings, $179,271.98; taxes, $4,000; city percentage on earnings, $12,251.20; interest on bonds and loans, $14,329.61; rent leased lines, $498.67; total charges, $31,079.48; surplus, $148,192.50; expenses per cent. of earnings, 49.36; against, $312,432.94 passenger earnings; $16,-175.18 miscellaneous earnings; $328,-608.12 total earnings; $165,424.02 operating expenses; $163,184.10 net earnings; $2,700 taxes; $11,266.42 city percentage on earnings; $15,769.43 interest on bonds and loans; $444,43 rent leased lines; $30,180.28 total charges; $133,003.82 surplus; 50.34 expenses per cent. of earnings for Oct., 1908.

Quebec Ry. Light & Power Co.—Early in November it was announced from Montreal that a $10,000,000 merger had been negotiated to include the Quebec Ry. Light & Power Co., Jacques Cartier Power Co., Quebec Gas Co., Frontenac Gas Co., Canadian Electric Co., and several smaller concerns, and that the Montreal directors would be W. G. Ross, Managing Director of the Montreal St. Ry. and President of the Quebec Ry. Light & Power Co., Hon. R. Mackay, R. Forget and J. M. Greenshields. On Nov. 15 we were advised that nothing definite had ben done about the merger up to that date, but that as the Quebec Ry. Light & Power Co. had to make large expenditures, application would be made to Parliament for power to issue debenture stock, and no doubt the merger would take place as soon as the various interests in Quebec got together on a fair basis and a holding company charter was applied for. On Nov. 23 it was announced that the Quebec Ry. Light, Heat & Power Co. had been incorporated.

St. Thomas Street Ry.—Receipts for Oct., $1,122.63, against $1,218.64 for Oct., 1908. The number of passengers carried was 32,147, against 32,724 in Oct., 1908.

Winnipeg Electric Ry.—Gross earnings for Sept., $218,000; expenses, $109,000; net earnings, $109,000; against $174,500 gross earnings; $84,500 expenses; $90,000 net earnings for Sept., 1908. Aggregate gross earnings for nine months ended Sept. 30, $1,840,800; net earnings, $921,600, against $1,528,300 gross and $764,800 net for same period 1908.

Electric Railway Notes.

The Port Arthur and Fort William Electric Ry. added two pay-as-you-enter cars to its rolling stock, Nov. 2.

The Edmonton Radial Ry. has ordered six double truck semi-convertible pay-as-you-enter cars from the Ottawa Car Co.

The Montreal and Southern Counties Ry. has received three 40 ft. centre aisle interurban cars from the Ottawa Car Co.

A charge against the Chatham, Wallaceburg and Lake Erie Electric Ry. for employing alien labor was adjourned sine die at Chatham, Ont., Nov. 11.

The Quebec Ry. Light and Power Co. has ordered two double broom sweepers, two wing plows, six 18 ft. closed cars and two 60 ft. interurban cars from the Ottawa Car Co.

The Nelson St. Ry. Co., Nelson, B.C., has ordered two complete equipments, each including four 40 h.p. motors with double end controllers from Allis-Chalmers-Bullock, Ltd., Montreal.

C. E. A. Carr, heretofore Manager Quebec Gas Co., has been appointed Assistant General Manager Quebec Ry. Light and Power Co., and will be given charge of the Operating Department.

The Nipissing Central Ry. has purchased a locomotive to haul ballast trains, and it is expected that it will be used to haul passenger cars pending the installation of the electric plant.

By the breaking away of a flat car from a train, and its subsequent collision with a passenger car on the B.C. Electric Ry., near Lake View station, Vancouver, Nov. 10, 14 persons were killed and seven injured, one of whom has since died.

The Hull, Que., Electric Co. is asking the Hull city council for an exemption of taxation for a further 15 years. The present agreement expires in 1910, and the council proposes to assess the company's property at $60,000.

A. F. Townsend, Manager Cape Breton Electric Co., Sydney, N.S., is reported to have resigned, and to have been appointed to another position with Stone and Webster, of Boston, Mass., who control the Cape Breton Electric Co.

An action has been entered against the Ottawa Electric Ry., which will probably decide the size of a parcel which a passenger is allowed to take on a car without having to pay extra. D. Rotkin claims to have been put off a car for refusing to pay for a large parcel, and is suing for $500 damages.

The Mount McKay and Kakabeka Falls Ry. is reported to have purchased a combined passenger and smoking car, with seating capacity of 70, and having both gasolene and electric motor equipment, capable of hauling three cars. It has also acquired three 12-yard dump cars for hauling gravel.

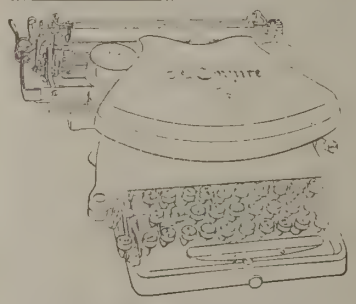
The Ontario laws authorize the taking of a vote as to the operation of street cars in any city having ap opulation of 50,000. A deputation representing the citizens' committee of London asked the Government to declare that that city had the required population, but the Premier declined. A special census will probably be taken.

The action brought by the city council of Winnipeg against the Winnipeg Electric Ry., which has been dragging on for the past three years, has been argued before the courts, and the judges reserved judgment. The case arises out of the claim of the city that the company is not entitled to bring electrical power into the city which has been generated outside the city limits without first obtaining the consent of the city. The company has a power plant outside the city, and the city council has a power plant under construction on the Winnipeg River.

C. E. A. Carr, who has been appointed Assistant General Manager of Quebec Ry., Light and Power Co., Quebec, was born at Thornton, Ont., Nov. 8, 1870. He was educated at Barrie and Toronto, and entered the City Engineer's office, Toronto, in 1888, where he remained until 1892, since when he has been consecutively to 1894 secretary to General Manager Toronto Ry.; with Montreal St. Ry., and Cleveland Electric Ry., Cleveland, O.; during this period the two first named railways were changed from horse to electric traction; 1895 to 1905, General Manager, Secretary and Treasurer London St. Ry., London, Ont., directly in charge of the conversion from horse to electric traction, and from 1898 to 1900 was also General Manager and Secretary Montreal Park and Island Ry., spending alternate weeks in London and Montreal, until the latter was acquired by the Montreal St. Ry.; 1905 to 1908, Manager Helena Light and Ry. Co., Helena, Montana, in charge of construction and operation, and from Apr., 1908, Managing Director Quebec Gas Co.

The Public Service Commission of New York State, which has been considering the question of compulsory electrification of railways passing through the Adirondacks forest preserve, as a means of fire prevention in the latter, has rejected this remedy on account of its prohibitive cost. The additional cost of operation by electricity was estimated to be $1,156,470 a year more than the present cost of operation by steam locomotives, for the New York Central lines alone, that figure being reduced by only $100,000 if all the power were generated by water. This great expense is due to the very unfavorable conditions for electric service, the traffic consisting of a few heavy trains over comparatively long distances, whereas economical electrical operation requires a fairly uniform traffic composed of a large number of small trains at small intervals, as in the suburban service of large cities.

St. John Ry.—Negotiations are reported to be in progress for the acquirement of a right of way between St. John and Milledgeville, N.B., 2¾ miles. Several surveys are stated to have been made, the most practicable one leaving Main St., at the corner of Elm St., passing through the latter, alongside the rifle range to Milledgeville. It is also stated that the company intends laying out a number of amusement places at this point.



THE
EMPIRE TYPEWRITER
PRICE $60.00 ONLY
Perfect in Construction
Permanent Alignment
Hardened Steel Type
Made in Canada Visible Writing
BUILT FOR HARD WORK
Will Outlast any Standard Machine made, irrespective of price.
Agents Wanted in every part of Ontario
Communicate Direct with us.
THE WILLIAMS MANUFACTURING CO., LIMITED
P. O. Box 2424 - MONTREAL, P. Q.

Delaware & Hudson
"The Leading Tourists' Line"
Shortest, Quickest and Best Line between
MONTREAL AND NEW YORK
Through Pullmans
Trains leave Montreal 7.00 p.m. daily, 8.01 p.m. daily, 7.16 a.m. daily, and 10.05 a.m. Sunday.
Perfectly equipped trains. Handsome, large steamers on Lake Champlain and Lake George connect with trains for Saratoga Springs, Albany and New York.
A. A. HEARD, G.P.A., Albany, N.Y.

GENERAL RAILWAY SIGNAL COMPANY.
ROCHESTER, N.Y.
SIGNALING INTERLOCKING
CHICAGO MONADNOCK BLOCK
MONTREAL EASTERN TOWNSHIPS BANK
NEW YORK NIGHT & DAY BANK

Otto Brothers
FIELD, B.C. LAGGAN, ALTA.
GUIDES and OUTFITTERS
for the greatest scenic spot of the world,
The Canadian Rockies
Mountain climbing, exploring, hunting and fishing parties arranged on short notice. Reliable men and horses. References.

HEADLIGHTS-WE MAKE THEM
For OIL, for Pyle ELECTRIC equipment or SPECIAL to Blue Print, and carry a large stock of standard headlight reflectors, burners, burner parts, felt wicks and chimneys.
The HIRAM L. PIPER CO., Limited
17 to 23 Normand Street, Montreal.
Get our No. 30 Catalogue. (Between St. Peter and McGill Sts.)

LEHIGH VALLEY RAILROAD
BEST LINE FROM TORONTO AND ONTARIO POINTS
— TO —
NEW YORK, PHILADELPHIA AND SOUTH
For particulars, write to or call on
MR. ROBERT S. LEWIS
Canadian Passenger Agent
54 King St. East - - - - Toronto

NICKEL
THE CANADIAN COPPER COMPANY
NICKEL FOR NICKEL STEEL
THE ORFORD COPPER COMPANY
WRITE US FOR PARTICULARS AND PRICES
General Offices: 43 Exchange Place, NEW YORK

IMPERIAL BANK
OF CANADA
Capital Authorized - - $10,000,000.00
Capital Paid Up - - - 5,000,000.00
Reserve Fund - - - - 5,000,000.00
HEAD OFFICE - - - - TORONTO
AGENTS—London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.
Sterling exchange bought and sold. Letters of credit issued available in any part of the world.
A general Banking business transacted.
Branches throughout the Dominion of Canada.
SAVINGS DEPARTMENT—Interest allowed on deposits from date of deposit.

FOR TICKET CASES AND COMMERCIAL FURNITURE
of all descriptions to stock or special design, apply to
The Canadian Office & School Furniture Co. Limited
Preston Ontario

The Parry Sound Lumber Co.
Limited
1315 Traders Bank Bldg., Toronto.
Manufacturers of
PINE, HEMLOCK, LUMBER, BRIDGE TIMBER, RAILWAY TIES, TELEGRAPH POLES, LATH, SHINGLES, BOX SHOOKS.

MARINE DEPARTMENT.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

Dominion Marine Association.

PRESIDENT, C. J. Smith, Montreal; COUNSEL, F. King, Kingston, Ont.

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Parry Sound Marine Depot, Etc.

The Department of Marine's depot at Parry Sound, Ont., was established in 1905. The large increase in traffic in the Great Lakes and Georgian Bay, and in tonnage and size of vessels, rendered it imperative that an adequate lighthouse and buoy service be maintained in these waters necessitating a closer supervision and more frequent inspection of the aids to navigation in this vicinity, than had obtained heretofore. The work of attending to the lighthouse and buoy service in this district had continued to increase with a corresponding increase in the aids to navigation, and it was evident that before long steps would have to be taken to devise some means for the proper handling of this important service, so that every facility possible might be afforded vessels navigating these northern waters, in the way of a safe and well lighted route. The introduction of the large signal buoys, and the method of charging the same, necessitated the provision of proper facilities for their maintenance. Previously, the gas for the purpose of charging these buoys was manufactured in the Montreal-Kingston division of the service, and compressed into storeholders which were shipped by rail to Depot Harbor, where they were received by the contractor, who charged the buoys, placed them in position with his own tugs, looked after their maintenance during the season of navigation, and laid them up in the fall. This was the best possible arrangement with the facilities at hand, but it had its disadvantages, in-so-far as the service was at times handicapped in the matter of not having close at hand a suitable workshop and mechanic expert for repairing lanterns, etc., which might have been damaged by any cause, or otherwise in need of repair. In this case it was necessary to send the lanterns to one of the Department's depots on the St. Lawrence, which, however expeditiously the repairs were carried out, caused interruption to the buoy service at Parry Sound. It was thus evident that much time could be saved if a depot were established close at hand, which besides providing the necessary facilities for the manufacture of gas in the vicinity, would also afford facilities for a closer and more frequent inspection of the lights and buoys, and, therefore, improve the service generally.

DOMINION GOVERNMENT STEAMBOAT SIMCOE AT PARRY SOUND DEPOT WHARF.

Previously, the maintenance of the buoy service had been carried out by contract and had given satisfaction to the Department as far as it was possible under the circumstances, but it has been found in practice that where buoy contracts are not efficiently supervised, indifferent results are sometimes obtained.

Of the aids to navigation in the Upper Lakes, the only inspection possible was the annual inspection of the Superintendent of Lights for the Ontario Division. This division comprises all the lights from Montreal westward to the Northwest Provinces, and each station was visited annually by the Superintendent, on a steamer chartered by the Department of Marine for the purpose of delivering supplies to the light stations. The Department had no steamer of its own available for this work, and as the vessel was a chartered one the trip was usually made in the shortest possible time, many of the stations being visited through the night. It was difficult to make any satisfactory inspection under the circumstances, the main purpose being to supply the keeper with his annual supplies. In 1904, provision was made in the estimates for the purchase of property in Parry Sound for the establishment of the buoy depot in question. Negotiations were opened in this connection, and the Bobbin factory was purchased. Additional land has been secured since then, and the property now covers 6½ acres. The main building is 120 by 50 ft., and the boiler room is 35 by 35 ft. The old wharf measures 16 by 170 ft. which, together with the new wharf 40 by 250 ft., give all the accommodation necessary for the boats at the depot. There is a gas compressing plant in connection with the depot for the purpose of manufacturing gas for the

MARINE DEPARTMENT'S DEPOT, WHARF, ETC., PARRY SOUND, ONT.

C.P.R. LANDS

The Canadian Pacific Railway Company have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian	$ 8.00 to $15.00 per acre.
Map No. 2 South-Eastern Saskatchewan, 2nd to 3rd Meridians	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally)	8.00 to per acre.
Map No. 5 South-Western Alberta	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian	10.00 to 25.00 per acre.
Map No. 7 – Part of Western Saskatchewan, 3rd to 4th Meridians	10.00 to 25.00 per acre

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160	Acres at	$ 8.00	per acre,	cash payment	$191.70	first year's interest	$ 65.28	and nine instalments of	$160.00
"	"	9.00	"	"	213.70	" " "	73.46	" "	180.00
"	"	10.00	"	"	239.70	" " "	81 62	" "	200.00
"	"	11.00	"	"	263.60	" " "	89.78	" "	220.00
"	"	12.00	"	"	287.60	" " "	97.96	" "	240.00
"	"	13.00	"	"	311.55	" " "	106.10	" "	260.00
"	"	14.00	"	"	335.60	" " "	114.32	" "	280.00
"	"	15.00	"	"	359.50	" " "	122.44	" "	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-selected districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

JOHN DATE
MANUFACTURER OF
DIVING APPARATUS
FOR SALE OR HIRE
Brass Founder & Coppersmith
152 Craig St. West, Montreal

I. MATHESON & CO., LIMITED
NEW GLASGOW, NOVA SCOTIA

CORNISH, LOCOMOTIVE, MARINE, STATIONARY AND OTHER BOILERS

Hoisting, Portable and Stationary Engines
Brass, Iron and Grey Iron Castings
Mining, Coal Handling and Stamp Mill Machinery

METEOR WIRE
FOR
Make and Break
Contact Points
AND
Spark Points
IN
Gas & Gasoline Engines
Automobiles

DURABLE NON-CORROSIVE
ABSOLUTE SUBSTITUTE FOR PLATINUM
WRITE FOR CATALOGUE

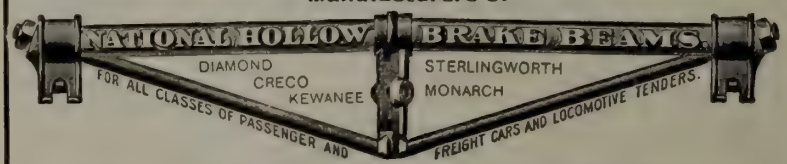
Hermann Boker & Co.
332 ST. JAMES ST. - - MONTREAL

E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES
46th, Robey and Lincoln Streets.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.
Manufacturers of



DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:
22 St. John Street
MONTREAL, QUEBEC

I. A. YOUNG,
AGENT

SESSIONS-STANDARD
Friction Draft Gear
Simplest and Best

Both
Made by
Standard Coupler Co.
2 RECTOR STREET NEW YORK

STANDARD STEEL PLATFORMS
Used by all Canadian Railways

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA
A PURELY CANADIAN COMPANY

JOHN EMO, General Manager — H. W. PEARSON, Secretary-Treasurer — D. MURPHY, President

AUTHORIZED CAPITAL - $500,000. SUBSCRIBED CAPITAL - $200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

compressed acetylene lights in the Parry Sound channel. There is also a lantern testing and repairing room. In addition to the buoys guarding the approaches to Parry Sound, the depot also cares for the acetylene beacon at Meaford, and the gas buoys at Lockerby rock and Surprise shoal. Several lights in the district have been changed from oil to acetylene, and this arrangement admits of grouping several lights under one keeper, and all the lights are supervised by the depot. Much lighthouse work in the way of installing lighthouse apparatus, has also been done by the depot; for instance, the new third order light at Lonely Island, and the lights at Collingwood, Meaford, and other places. A berth and dock have lately been completed, making the depot practically complete in every particular, and an establishment creditable to the Department. Up to this season, the buoy service was cared for by a chartered tug, with the aid of a derrick scow. The addition of the new C.G.S. Simcoe for this service, will dispense with the necessity of chartering a tug. The difficulty encountered by the Department in obtaining suitable boats for hire when necessary, and the large expenditures made for this purpose, influenced the Department to provide a steamer of its own, designed to fill the needs required, and which will be at its disposal when required at any time. It was evident that the only perfect and independent system could be obtained by the possession of such a boat. Besides delivering the annual supplies to the lightkeepers in the Ontario Division, and being available for the inspection work, when necessary, it is intended also to use this boat for the transportation of men and materials to isolated stations where repairs may be necessary, or new illuminating apparatus in the course of installation. Special care and attention were given to the designing of the boat, in order that she might meet the needs of the particular service for which she was intended. Detailed plans and specifications were prepared in the Department, and the vessel was built in England. Her principal dimensions are as follows:

Length	194′ 0″
Length b. p.	180′ 0″
Breadth moulded	35′ 0″
Depth moulded	17′ 6″
Depth to lower deck	10′ 6″
Upper deck to poop deck	7′ 6″
Poop deck to boat deck	7′ 6″
Load draft in fresh water	11′ 0″
Speed	12 knots
Coal, full supply	150 tons

She is classed 100 A1 at Lloyds Canadian Lake Service, with water ballast and double bottom fore and aft and full equipment to Board of Trade requirements and Canadian Steamboat Inspection Act. She is capable of being navigated through solid ice 12 ins. thick. She has straight stem, elliptical stern and seven water tight bulkheads, two steel masts, special consideration having been given to the forward one in view of the heavy derrick and gear fitted thereto. The derrick is capable of lifting 27 tons. The vessel has 70 ft. of clear deck forward. The great lifting power of the derrick and large deck space was designed for the lifting and storing of the large buoys in the service. She is electrically lighted throughout and fitted with one searchlight of 12,000 candle power. She carries 1 steam launch, 2 surf boats and 2 dinghys. She is propelled by twin screws driven by two sets of direct-acting triple expansion engines capable of driving her at a speed of 12 knots. High pressure cylinder 13½ ins., mean pressure cylinder 22 ins., low pressure cylinder 36 ins., stroke of piston 27 ins. She is equipped with two Babcock & Wilcox natural draft water tube marine boilers, the working pressure being 180 lbs. per square inch and tested by hydraulic pressure to 360 lbs. per square inch.

The U. S. Vessel Tonnage Tax.

The U.S. Department of Commerce and Labor has decided that vessels stopping at U.S. ports solely for bunker coal will not be liable for the new tonnage tax, and that this decision was to be effective from Nov. 4, and was to apply as well to Canadian as to other vessels.

The U.S. Department of Commerce through its Commissioner of Navigation advises that the tonnage tax falls impartially on U.S. vessels as well as on certain vessels entering from foreign ports. This renders an exact measure of retaliation by the Dominion Government undesirable. The Dominion Marine Association is working with the Lake Carriers Association and the Association of Passenger Lines in the U.S. with a view to having the Great Lakes excluded from the operation of the new law, which was passed by Congress largely with ocean tonnage in view, and chiefly with the repeal of British light dues in consideration. British tonnage preponderated on the ocean, and in the view of the Department of Commerce and Labor reciprocity was no longer desirable. Hence the new tax, falling on vessels entering from certain foreign ports, including Ontario. Having regard to comparative U.S. and British or Canadian tonnage entering U.S. ports from Ontario ports, the inclusion of the lakes in the law seems a manifest error.

Notices to Mariners

The Department of Marine has issued the following:

No. 99. Oct. 18. 264.—British Columbia, Vancouver Island, Stuart channel, Boat harbor, hydrographic information, buoys established.

No. 100. Oct. 20. 265.—British Columbia, Vancouver Island, south coast, Juan de Fuca Strait, Race rocks, change in fog alarm.

No. 101. Oct. 21. 266.—Quebec, River St. Lawrence below Quebec, St. Michel, buoys established. 267.—Quebec, River St. Lawrence, chart St. Nicholas to Quebec bridge issued. 268.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, types of gas buoys not to be given in future in the Canadian List of Lights. 269.—Quebec, River St. Lawrence, Yamachiche Bend, color of gas buoy light, Ile Deslauriers, character of gas buoy light.

No. 102. Oct. 22. 270.—Quebec, Gulf of St. Lawrence, entrance to Bonne Esperance harbor, Whale Island, beacon rebuilt. 271.—Newfoundland, Labrador, Belle Isle, north end, change in shape and color of lighthouse. 272.—Newfoundland, Strait of Belle Isle, Watts Point, beacon established.

No. 103. Oct. 26. 273.—Quebec, River St. Lawrence, Quebec, back range light destroyed by fire, temporary light.

No. 104. Oct. 30. 274.—Quebec, River St. Lawrence below Quebec, Morin shoal, gas and signal buoy replaced by gas buoy. 275.—Quebec, River St. Lawrence, Orleans channel, Orleans Island, intended improvement of St. Pierre range lights. 276.—Quebec, River St. Lawrence, Ste. Croix, light improved.

No. 105. Nov. 4. 277.—Ontario, Georgian Bay, south side, Vails Point shoal, gas and bell buoy established.

No. 106. Nov. 5. 278.—British Columbia, Active Pass, Mayne Island, Helen Point, change in fog bell. 279.—British Columbia, Chatham Sound, Malacca passage, Lawyer islands, new lighthouse tower. 280.—British Columbia, Queen Charlotte Islands, Hecate Strait, Skincuttle inlet, Copper islands, gas lighted beacon established, New England rock gas and whistling buoy withdrawn.

No. 107. Nov. 6. 281.—Ontario, Georgian Bay, Wingfield basin, dredged channel, buoys and beacons.

No. 108. Nov. 8. 282.—Nova Scotia, Cape Breton Island, east coast, Flint island, fog alarm established. 283.—Newfoundland, east coast, Catalina, Green island, change in fog alarm. 284.—England, west coast, Holyhead approach, South Stack light, alteration in character. 285.—Scotland, west coast, Skye, Neist point, lighthouse established.

No. 109. Nov. 10. 286.—Nova Scotia, west coast, Cape St. Mary, intended change in character of light postponed.

No. 110. Nov. 15. 287.—British Columbia, Vancouver Island, west coast, Quatsino Sound, Entrance Island, arc of visibility of light. 288.—British Columbia, Finlayson channel, Hiekish Narrows, rock located. 289.—British Columbia, Chatham Sound, chart of Prince Rupert harbor issued.

No. 111. Nov. 15. 290.—Ontario, Lake Ontario, west end, Burlington channel, intended fog alarm at front range lighthouse. 291.—United States of America, shoal water in upper Detroit River.

Lake Grain Shipments, 1909 Crop.

The following statement, prepared by F. E. Gibbs, Grain Inspector, Fort William, Ont., shows the bushels of grain shipped from the different elevators at Fort William and Port Arthur, of the 1909 crop, Sept. 1 to Oct. 31, inclusive, with the ports of destination.

	Wheat	Oats	Barley	Flax
Canadian Ports				
Collingwood	37,665.00	29,880.10		
Depot Harbor	1,318,821.40	101,605.07		
Goderich	1,711,622.30	1,013,980.26	19,848.36	32,960.18
Kingston	2,591,182.40	558,249.04	108,332.04	
Montreal	1,800,265 30	362,758.30	100,132.30	118,954.17
Midland	120,000.00			
Meaford	215,423.40	110,886.16		
Owen Sound	857,794.10	836,973.00	93,049.12	
Prescott	2,077.30			
Port Colborne	1,151,870.00			
Point Edward	619,761.50	157,670.00	10,000.00	42,567.40
Tiffin	3,460,094.40	165,649.32	56,077.04	
Totals	13,866,579.10	3,337,653.23	387,939.38	194,482.19
Foreign Ports				
Buffalo	5,821,372.20	59,000.00	305,678.26	149,724.39
Chicago	316,822,10			
Port Huron	121,000.00			
Totals	20,145,773.40	3,396,653,23	693,618.16	344,207.02
Canadian Vessels	16,004,717.10	3,337,653.23	555,494.28	194,482.19
Foreign Vessels	4,141,056.30	59,000.00	138,123.36	149,724.39
Totals	20,145,773.40	3,396,653.23	693,618.16	344,207.02

Canadian Pacific Railway Company.

Issue of New Ordinary Capital Stock.

NOTICE is hereby given that, pursuant to Resolution passed at the Special General Meeting of Shareholders on 7th October, 1908, an issue of $30,000,000 additional Ordinary Capital Stock of the Company, or 300,000 Shares of $100 each, has been ordered by the Board of Directors.

The Stock will be offered to the Shareholders of record at 3 p.m. on MONDAY, the 15th day of November, 1909, at the price of $125 per share, being at a premium of $25 over and above the par value thereof on the basis of 20 per cent., or one share in five of their respective holdings.

The right to subscribe will expire at 3 p.m. on WEDNESDAY, January 5, 1910.

Payments will be received at the Bank of Montreal, London, New York, or Montreal, as follows:—

20% or $25 per share on subscription on or before January 5th, 1910.
20% or $25 per share on March 9th, 1910.
20% or $25 per share on May 9th, 1910.
20% or $25 per share on July 8th, 1910.
20% or $25 per share on Sept. 7th, 1910.

Interest at the rate of six per cent. per annum will be paid in July, 1910, from the due date of each instalment to June 30th, 1910, on instalments up to and including that of May 9th, 1910, which have been paid on or before due dates.

All shares of the issue on which instalments have been paid in full on the due dates will rank with the existing stock for the full dividend accruing for the half-year ending December 31st, 1910.

A circular containing the terms of subscription and payment, and enclosing warrants of subscriptions, will be mailed to the Shareholders on or about the 30th day of November, 1909.

By Order of the Board,
W. R. BAKER,
Secretary.

Dated at Montreal, 20th October, 1909.

NOTICE.—The Canadian Pacific Railway Company will apply to the Parliament of Canada, at its next session, for an Act authorizing it to construct and operate a line of railway from a point on its Pheasant Hills Branch at or near Asquith, in the Province of Saskatchewan, in a northerly and northwesterly direction to a point in Township 38 or 39 Range 10, 11 or 12, a distance of about twenty miles, and for other purposes.

W. R. BAKER, Secretary.
ANDREW T. THOMPSON, Ottawa Agent.

Dated at Montreal, the 1st November, 1909.

G.T.P. Branch Lines Co.

NOTICE is hereby given that The Grand Trunk Pacific Branch Lines Company will apply to the Parliament of Canada, at its next session, for an Act amending the Act incorporating the Company, Chapter 99 of the Statutes of 1906, and authorizing the construction of the following additional lines of railway:—

(1) From a point on the Western Division of the Grand Trunk Pacific Railway in the vicinity of the town of Watrous, Sask., to a point at or near Calgary, Alta., or to a point on the line authorized to be constructed by the Company from a point on the said Western Division between the 111th and 113th degrees of longitude to Calgary, Alta.

(2) From a point on the proposed line mentioned in paragraph (1), within ranges 4, 5 or 6, west of the third meridian, thence in a southeasterly and easterly direction to a point at or near Regina, Sask.

(3) From a point on the proposed line mentioned in paragraph (1) within ranges 21, 22, 23 or 24, west of the third meridian, thence in a northerly or northeasterly direction to a point at or near the town of Biggar, Sask.

W. H. BIGGAR,
Solicitor for the Applicants.

Montreal, October 21st, 1909.

THE JAMES BAY AND EASTERN RAILWAY COMPANY.

Notice is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act incorporating a company under the name of the James Bay and Eastern Railway Company, with power to construct and operate a line of railway running from some point on the authorized line of the Canadian Northern Ontario Railway near Lake Abitibi, thence in a generally easterly and southeasterly direction, passing south of Lake St. John, to a point at or near the mouth of the Saguenay River, with a branch from such line or location in the County of Chicoutimi to Ha Ha Bay on the Saguenay River, also fixing the amount of securities to be issued with respect to such line, and authorizing amalgamation with other companies, with other usual and customary powers.

GEO. F. MACDONNELL,
Solicitor for the applicants.

Toronto, Ontario, 27th October, 1909.

THE ONTARIO & OTTAWA RAILWAY COMPANY.

Notice is hereby given that application will be made to the Parliament of Canada at its next session for an Act incorporating a Company under the name of The Ontario and Ottawa Railway Company, with power to construct and operate lines of railway running from a point on the authorized line of the Canadian Northern Ontario Railway at or near Lake Couchiching, thence in a generally easterly direction to a point in the Township of Snowdon, in the County of Haliburton, and from a point at or near Bird's Creek or Bancroft, in the County of Hastings, thence in a generally easterly direction to or near Renfrew, thence crossing the Ottawa River and continuing in a generally southeasterly direction to a point at or near the City of Hull, or re-crossing the Ottawa River to a point at or near the City of Ottawa; also fixing the amount of securities issued with respect to such lines, and authorizing amalgamation with other Companies, empowering the Company to acquire the capital stock or securities of other Companies with which it may be authorized to amalgamate, and to consolidate the securities issued by such Companies, with other usual and customary powers in the premises.

GEORGE F. MACDONNELL,
Solicitor for the Applicants.

Toronto, Ontario, November 9, 1909.

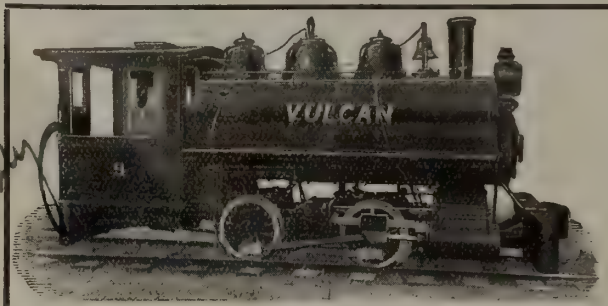
NOTICE.

In conformance with the Patent Act, and particularly Section 38, with reference to Canadian Patent Number 108,262, granted to H. E. Brown, for improvements in Brakes, the public are hereby notified that the manufacture of the article protected under the said patent is being proceded with, and that enquiries for the supply of the same, for licenses to manufacture or other negotiations in regard to the Patent Rights may be made to the undersigned.

LLOYD BLACKMORE & COMPANY,
Patent Solicitors and Experts.
17 Elgin St., Ottawa, Ont.

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS MACHINERY, address
THE ROBERTSON MACHINERY CO.
WELLAND, ONT. Limited

PROVINCIAL STEEL CO., LTD.
COBOURG, ONT.



EVERYBODY IS GOING into heavier cars and equipment, and of course heavier Dinkeys. Come along. We are ready for you. All sizes in stock.

VULCAN IRON WORKS
WILKES-BARRE, PA., U.S.A.
Canadian Representatives - MUSSENS LIMITED, MONTREAL

Marine Insurance Legislation.

A meeting held in Montreal recently was attended by a number of manufacturers and lumbermen and also by solicitors for various interests, including foreign unlicensed insurance companies, for the purpose of considering the pending Dominion Insurance Bill and organizing opposition. The action taken was to adopt unanimously a resolution prepared and moved by F. King, counsel Dominion Marine Association, as follows: "That in the opinion of this meeting the right of the individual to insure his risks in whatever quarter he desires should be recognized as a first principle in any legislation; that the prohibitions and penalties of the proposed bill should properly apply only to those companies, associations and individuals who solicit insurance or carry on through established agencies an insurance business in Canada; and that a committee consisting of the legal representatives present be appointed to prepare and present a case in support of these views to Parliament; and that a further committee of business men be appointed to arouse public opinion and enlist the assistance of the press, the Bankers' Association and other commercial bodies in opposition to the bill."

The pending bill adds to the existing prohibition a penalty on the inspector of the risk and on the adjuster of the loss. This apparently applies to marine risks. The section which imposes the tax upon the insured appears to apply only to fire risks and would not include marine policies. The matter is, however, not sufficiently clear and the Dominion Marine Association will continue to oppose the bill unless by an amendment it is made absolutely clear that marine interests are not affected.

H. and A. Allan, Ltd.

Since the retirement of J. and A. Allan of Glasgow, Scotland, from any active part in the affairs of the Allan Line, a general transfer of shares has taken place, so that practically the whole are held on this side of the Atlantic. The list is as follows:—Sir H. Montagu Allan, 15,727; H. A. Allan, 14,132; B. J. Allan, 14,580; A. A. Allan, 14,698; J. S. Park, 500; J. A. Spens and A. D. Wylie, one each. Following is a copy of the balance sheet for the recently closed financial year of the company, to which reference was made in our last issue:

CAPITAL AND LIABILITIES.

Capital issued	£	603,390
Debentures issued		550,000
Amount of loan from J. & A. Allan, general managers		440,096
Amount owing by the company to various creditors and on current and open accounts, suspense account, bills payable, etc.		146,021
Balance		103,789
Total		£1,846,296

ASSETS.

No good-will.		
Steamships		£1,757,390
Buildings, wharf property, fixed plant and machinery		31,161
Movable plant, stock of materials, stores, etc.		33,352
Cash in bank and in hand, and unexpired premiums of insurance paid for		24,393
Total		£1,846,296

During Aug. and Sept., 17 employes were killed, and five injured in the course of their work in connection with the navigation of Canadian waters. Of the fatalities, ten were due to drowning, four to falls, two to falling material and one to being caught between a boat and a wharf; while, of the other accidents, two were due to falls and one each to falling material, flying material and to machinery.

Wreck of the s. s. Hestia.

An enquiry has been held into the causes of the wreck of the Donaldson Line s.s. Hestia, on Old Proprietor Ledge in the Bay of Fundy on Oct. 25, before Capt. W. R. Lugar, with F. Nash and R. Jones as Assessors, the judgment being delivered Nov. 12, as follows:—The Court is of opinion that the causes which led up to the loss of the s.s. Hestia were the error of compass; neglect of soundings when in sight of Gannet Rock light; insufficient allowance made for set of ebb tide and strong wind; error of judgment on the part of the master in allowing the vessel to get the bearing of Gannet Rock light to the southward of west magnetic; the vessel was about 5½ miles from the Gannet Rock light when she stranded.

Atlantic and Pacific Ocean Marine.

Owing to the repairs to the C.P.R. s.s. Empress of Ireland requiring longer time that was anticipated, its sailing from Liverpool, Eng., on Dec. 3, has been cancelled, and arrangements made with the Allan Line, for the s.s. Hesperian to take its place.

In referring to the wreck of the Donaldson Line s.s. Hestia, the Daily Telegraph, London, Eng., recently stated that the disaster occurred in the Bay of Fundy, while the vessel was on a voyage from Glasgow to Quebec. And after all the British editorial tours through Canada too.

The British Board of Trade held an enquiry, Nov. 6, into the causes of the loss of the Allan Line s.s. Laurentian, off Newfoundland Sept. 6, and held that Capt. Imrie was at fault in having altered the course landward and continued at full speed during a fog. His certificate was suspended for three months.

The Dominion Government has renewed, for one year, the contract with the C.P.R. for the winter freight service between St. John, N.B., Halifax, N.S., and London, Eng., on the basis of $15,000 for 10 round trips. The company's steamships Lake Michigan, Mount Temple, Montreal and Montezuma will be utilized on this service.

The report, which has appeared recently in the daily press, that the Quebec Steamship Co. has purchased the Cunard Line s.s. Lucania, which was recently considerably damaged by fire at Liverpool, Eng., is incorrect. The vessel was sold to a firm of ship breakers and has been removed to Swansea, South Wales, to be broken up.

The estimates for the fiscal year ending Mar. 31, 1911, which have been laid before Parliament, provide $25,000 in aid of a steamship service between St. John, N.B., and Cuba. It is stated that a company is being organized in St. John to operate such a service, and that it will apply for the subsidy. The Elder Dempster Co., which is at present operating a service to Mexico will also apply.

A contract is reported to have been made between the Canadian Northern Ry. and the British Columbia Government for the estabuishment of several distinct steamship lines on the Pacific Ocean. It is stated that four vessels will be operated in the Japan and China trade, four on the Australia and New Zealand route, and other vessels will be placed on the northern coast route.

An investigation was held recently at Newcastle, Eng., into the causes of the stranding of the Thomson Line s.s. Cairncrag, which occurred on the Snorting rocks, Big Dover Island, on the Nova Scotia coast, in July. The court found that the vessel was not being navigated at too great a speed, but that the lead was not used with sufficient care and frequency, and the vessel was not navigated with proper and seamanlike care. The loss of the vessel was caused by the wrongful act and default of the master in setting too fine a course, improperly applying the local variations to that course, and subsequently navigating the vessel straight for the land, and neglecting to take proper soundings for the purpose of ascertaining her position. Having regard to the master's good character and length of service in one employ, the court did not deal with his certificate, but severely reprimanded him and ordered him to pay £5 towards the cost of the enquiry.

Maritime Provinces and Newfoundland.

The contract for the wharf, under construction at Leonardville, N.B., was let to T. P. Charleson, Ottawa, the price being $9,895.

The final accounts of the liquidator of the New Panther Steamship Co. were presented at a recent meeting of shareholders at St. John's, Nfld.

The Eastern Steamship Co.'s winter sailings between St. John, N.B., and Boston, Mass., commenced Nov. 10, two sailings each week being undertaken.

The port of Little Bras d'Or, N.S., has been declared to be a public harbor, comprising all the waters of Little Bras d'Or west of a line drawn from Alder Point to High Cape, off Aconi lighthouse, and east of a line drawn from Moore Point to Grove Point.

McKinnon Harbor, N.S., has been declared to be a public harbor. Its limits comprise all navigable waters, north or inside of lines drawn from the the extremity of McKinnon Point to Campbell Island lighthouse, thence to the west extremity of Round Island, and due north to the mainland.

Bowring Bros.' whaling steamship Terra Nova, which has been sold for the purpose of conveying the British expedition party under Commander Scott, to the Antarctic next year, sailed from St. John's, Nfld., towards the end of Oct., for London, Eng., where she will be equipped for the voyage.

The Judicial Committee of the Privy Council delivered judgment recently in London, Eng., in the case of the St. John Pilot Commissioners against the Cumberland Railway and Coal Co., by which the company's coal barges are declared not to be exempt from the payment of compulsory pilotage dues under the Pilotage Act. Judgment was entered in favor of the Commissioners for $735 and all costs.

The s.s. King Edward, which was wrecked some time ago at Anticosti, and later salved and taken to Levis, Que., was offered for sale by tender recently, on behalf of the underwriters. She is equipped with triple engines with cylinders 13. 22 and 36 ins. diar., by 27 ins. stroke, supplied with steam from one Scotch boiler, steam windlass and winches. Her dimensions are: length, 149 ft.; breadth, 24 ft.; depth, 11 ft.; 355 tons gross, built in 1902.

The appeal of the Senlac Steamship Co., St. John, N.B., was dismissed recently by the Judicial Committee of the Privy Council, in London, Eng. The appeal arose out of the litigation in connection with the collision between the company's s.s. Senlac and the s.s. Rosalind, July 1, 1907. The Nova Scotia Admiralty Court originally decided that both vessels were to blame and ordered that the cost of repairs of each vessel be divided. As the s.s. Rosalind sustained little, or no damage, the owners appealed against this decision and the Supreme Court of Canada decided in their favor, which decision has been upheld.

In connection with the recent proposals for the construction of dry docks and

RAILWAY SPRINGS

Locomotive, Tender and Passsenger Car Springs
of every description

Equalizing, Draw-bar, Buffer and Spiral Springs
of all kinds

Street Railway Springs
from the largest to the smallest

Manufactured by

B. J. COGHLIN & CO., 432 St. Paul St., Montreal, Can.

THE IMPERIAL GUARANTEE AND ACCIDENT INSURANCE CO.
46 King St. West, TORONTO

Capital Subscribed $1,000,000

ACCIDENT AND SICKNESS Insurance protects your income in case of disablement.

GUARANTEE BONDS protect you against loss from dishonest employees.

Write us if you need a Bond or want an Accident Policy.

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited
MONTREAL, CANADA

BARE AND INSULATED ELECTRIC WIRE
Electric Light Line Wire, Incandescent and Flexible Cords,
RAILWAY FEEDER AND TROLLEY WIRE
Americanite, Magnet, Office and Annunciator Wires,
Cables for Aerial and Underground Use.

SOUTHAM PRESS TORONTO

RAILWAY AND STEAMSHIP PRINTING

2½ x 2½ Mesh.
No. 10 Steel Wire.

WIRE CLOTH

Locomotive Steel Smoke Stack Netting
Car Ventilating Wire Cloth

EVERY DESCRIPTION OF WIRE CLOTH FOR ALL PURPOSES

WRITE FOR CATALOGUE

The B. GREENING WIRE CO., Limited
HAMILTON, ONT. MONTREAL, QUE.

STEEL, PEECH & TOZER
Limited,
SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL

"PHŒNIX" Loco. Spring Steel is the accepted Standard in Canada

Sole Agents:
James Hutton & Co., Montreal

REAMERS ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING

BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

CARS

NEW and REBUILT
Box, Flat, Gondola and Tank

Steam Shovels, Rails, Locomotives and Contractors' Equipment

Immediate and Prompt Deliveries
Correspondence Solicited

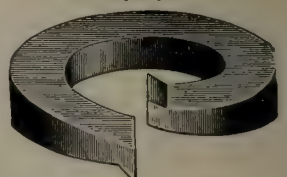
ROBT. M. BURNS & CO.
Railway Exchange
CHICAGO

MALLEABLE IRON CASTINGS

of Superior Quality

GALT MALLEABLE IRON CO., LIMITED. - GALT, ONT.

THE **POSITIVE LOCK WASHER**
Is the BEST Nut LOCK for all purposes



We also make plain coils and tail nut locks.
The Positive Lock Washer Co.
Sole Mfrs., Newark, N.J.
F.H. HOPKINS & CO., Agts., Montreal

DUNER CAR CLOSET
ENAMELED IRON WET OR DRY CLOSET
DUNER CO.
116 SO. CLINTON ST., CHICAGO

shipbuilding yards in Canada, it is learned that a proposal has been submitted to the Government, whereby a company will undertake to construct a dry dock and ship repair plant at St. John, N.B., and a dry dock and shipbuilding plant at Levis, Que., in return for a bonus of $250,000 a year for 50 years. Harland and Wolff, Belfast, Ireland, and MacArthur and Perks, Ltd., which has been incorporated in Canada, the principals residing in the United States and in England, are interested in the scheme. The former firm has built many of the principal trans-Atlantic vessels, and the latter firm is intimately connected with the Georgian Bay canal scheme. There is every probability that the scheme, on some such lines will go through, though it has been stated that the subsidy asked for is too large. Sir Robert W. Perks recently intimated that he would not seek re-election as a member of the British Parliament, owing to engagements he had undertaken in Canada.

Province of Quebec Marine

The work of removing gas buoys from the St. Lawrence channel was commenced between Montreal and Portneuf, Nov. 22.

The Richelieu and Ontario Navigation Co. is considering the building of a sister vessel to the recently constructed City of Rochester.

The hull of the Richelieu and Ontario Navigation Co.'s steamboat Prescott, which was recently destroyed by fire, at Montreal, has been raised from the river bed and taken to the guard pier for examination.

An order in council has been passed making regulations for the governance of the ferry across the St. Lawrence River, between Prescott, Ont., and Ogdensburg, N.Y., license for the operation of which has been granted for 10 years from Oct. 1.

Plans for a number of improvements in the Montreal harbor, to be spread over ten years, at a total cost of about $15,000,000, have been placed before the Minister of Marine, and it is stated that a bill founded on them will bep resented to Parliament at an early date.

The one-hundredth anniversary of steam navigation on the St. Lawrence River occurred Nov. 1. There was no celebration of the event, along the river, other than that the majority of vessels carried flags. The steamboat Accommodation, which operated between Montreal and Quebec in 1809, was the first steamboat entirely built and equipped on this continent.

The company which recently acquired the franchise for the operation of a ferry service between Quebec and Levis is reported to have placed contracts for the material for the construction of two pontoons during the winter. It is also stated that plans for summer boats had been completed, and that it was the intention to call for tenders for their construction at once, so that they might be ready for service next spring. Two winter boats will also be built next year in order to deal with the next winter's traffic.

Writs have been served on Capt. L. A. Demers, acting Wreck Commissioner; Capt. J. Bain and R. Bequet, pilot, at the instance of Pilot Pouliot, to prevent them from reopening the investigation into the grounding of the s.s. Georgtown in Sept. last. At the original investigation, Oct. 11, Pilot Pouliot acknowledged that he was in fault on account of defective eyesight, and surrendered his license as pilot, after 41 years service. This, it is claimed, was accepted by the court, and was considered a final disposition of the matter. On behalf of the Marine Department, it is contended that the Minister of Marine has full authority to reopen any trial, even after a judgment has been given. Counsel for the pilot protested against further proceedings, but the court ordered the issue of a warrant against Pouliot.

Ontario and the Great Lakes.

Forwarders, Ltd., Kingston, has purchased the steamboat Port Colborne, a description of which was given in our last issue.

The name of the steamboat Elsinore, no. 126507, registered at Owen Sound, has been changed by order in council to Runabout.

The Richelieu and Ontario Navigation Co. was fined $250 at Buffalo, N.Y., Nov. 11, for landing an alien in violation of the U.S. labor laws.

The Board of Railway Commissioners has authorized the C.P.R. to load and unload its car ferries, which operate betwent Port Burwell and Ashtabula, Ohio, on Sundays.

Capt. W. Muir, of Muir Bors., owners of the Port Dalhousie dry dock, died at St. Catharines, Nov. 12, aged 89. He came to Canada from Scotland in 1834, and was connected with lake navigation for over 60 years.

The Farrar Transportation Co.'s steamboat Collingwood, which was recently sunk in collision in the Detroit River, has been repaired and left Detroit on her first trip Nov. 9.

The Dominion Marine Association has asked the Dominion Government to provide appropriations to begin the work of removing the Green shoals, Ottawa River, and to continue the improvement of Telegraph channel, Bay of Quinte.

The Canada Atlantic Transit Co.'s steamboat Ottawa foundered off Passage Island, Nov. 16, during a storm, the captain and crew escaping with difficulty. The shifting of the cargo is stated to have been the chief cause of the disaster.

C. J. Smith, General Manager Richelieu and Ontario Navigation Co., stated Nov. 16 that the company had decided to order another vessel in Toronto. It will be similar to the Rapids King and Rapids Queen, but of the most modern type.

The C.P.R. steamboat Athabasca, which was recently taken to Collingwood for repairs after being damaged on Flower Pot Island, near Owen Sound, is to be lengthened 36 ft. during the winter. This will increase her passenger capacity 25% and her cargo capacity 20%.

The rules and regulations governing ports in Canada have been amended, by the addition of a clause, providing that the speed of steam vessels navigating the Canadian waters of the St. Clair River shall not exceed nine miles an hour. A similar regulation applying to U.S. waters has also been passed by the U.S. Government.

The Ottawa Forwarding Co.'s steamboat Welshman was destroyed by fire, Nov. 7, on the Ottawa River, near Lachute. The loss is estimated at $4,000.00. She was built at Ottawa in 1900, and was a screw driven steamer, with engine of 48 n.h.p. Her dimensions were: length, 105 ft.; breadth, 23 ft.; depth, 6 ft.; tonnage, 204 gross, 99 register.

An order in council has been passed making regulations for the governance of a ferry across the Detroit River, between Walkerville, Ont., and Detroit, Mich., providing for operation between 5.45 a.m. and 10.15 p.m., at intervals of not more than 30 minutes on week days and between 8 a.m. and 10.15 p.m. on Sundays. A license will be granted for 10 years from May 1, 1910.

The Dominion Marine Association has again asked the Dominion Government to introduce legislation for the inspection and licensing of gasolene launches carrying passengers for hire, so as to prevent the unfair competition and risk of life which is permitted by the Canada Shipping Act in not requiring these boats to comply with the statute in any way except in the matter of life preservers and fire.

The U.S. Lake Survey reports the

The Purchasing Agents' Guide

To the Manufacturers of and Dealers in Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph Telephone and Contractors' Supplies, &c.

Aerated Waters
E. L. Drewry ..... Winnipeg.

Air Brakes and Fittings
Allis-Chalmers-Bullock Ltd.....Montreal.
Canadian Westinghouse Co. Hamilton, Ont.

Ales
E. L. Drewry.....Winnipeg.

Angle Bars
Hamilton Steel & Iron Co...Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.

Anti Rail Creepers
The Holden Co., Ltd.....Montreal.

Automobiles
Polson Iron Works, Ltd.....Toronto

Axes
Hamilton Steel & Iron Co..Hamilton, Ont.
James Smart Mfg. Co.....Brockville, Ont.

Axles
James Hutton & Co.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry Co., Ltd.....Amherst, N.S.

Beacons
International Marine Signal Co....Ottawa.

Bearings, Side
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co...Montreal.
Union Draft Gear Co. .....Chicago, Ill.

Blankets and Bedding
The Hudson Bay Co.....

Boilers
Babcock & Wilcox, Ltd.....Montreal.
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Boilers, Portable
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co, Ltd..Amherst, N.S.

Boilers, Stationary and Marine
Babcock & Wilcox, Ltd.....Montreal.
I. Matheson & Co. .....New Glasgow, N.S.
Robb Engineering Co., Ltd..Amherst, N. S.

Boiler Staybolt Iron or Steel Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

Boilers, Steam
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd..Amherst, N.S.

Boilers, Water Tube
Babcock & Wilcox, Ltd.....Montreal.
Robb Engineering Co., Ltd..Amherst, N.S.

Bolsters
Dominion Car and Foundry Co..Montreal.

Bolts, Bridge
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Bolts, Carriage and Machine
Toronto Bolt and Forging Co.....Toronto.

Bolts, Track
Montreal Rolling Mills Co.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.
Toronto Bolt and Forging Co.....Toronto.

Books
Engineering News Book Dept...New York.
Renouf Publishing Co.....Montreal.

Borers, Car Wheel
John Bertram & Sons Co.....Dundas, Ont.

Braces, Cross Arm
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Brake Beams
Chicago Railway Equipment Co...Chicago.
Dominion Car and Foundry Co..Montreal.

Brake Shoes
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.
The Holden Co., Ltd.....Montreal.

Brake Shoes, Electric Ry.
Am. Brake Shoe & F'dry Co..Mahwah, N.J.

Brake Shoes, Locomotive Driver
Am. Brake Shoe & F'dry Co..Mahwah, N.J.
Canada Iron Corporation, Ltd....Montreal.

Brass and Copper Cloth
The B. Greening Wire Co..Hamilton, Ont.

Brasses, Car
T. McAvity & Sons .....St. John, N.B.

Bridge Numbers
Acton Burrows, Limited .....Toronto.

Bridges
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Buckets, Coal, Ore and Concrete
M. Beatty & Sons, Ltd. .....Welland, Ont.
Brown Hoisting Machinery Co. Cleveland.

Buildings, Steel
Canadian Bridge Co..... Walkerville, Ont.
Dominion Bridge Co..... Montreal.

Bumping Posts
Dominion Equip't & Supply Co., Winnipeg.
The Holden Co., Ltd..... .....Montreal.
McCord & Co. .....Chicago, Ill.

Buoy Lighting
Safety Car Heat. & Light. Co..New York.

Buoys
International Marine Signal Co....Ottawa.

Cables Electric and Feeder
E. F. Phillips Electrical Works....Montreal.
The Wire and Cable Co.....Montreal.

Car Loaders, Box
Mussens, Ltd. .....Montreal.

Car Movers
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Cars
American Car & Equipment Co....Chicago.
R. M. Burns & Co.....Chicago, Ill.
Canada Car Co., Ltd.....Montreal.
Crossen Car Mig. Co.....Cobourg, Ont.
Dominion Car and Foundry Co....Montreal.
J. T. Gardner.....Chricago, Ill.
Hart-Otis Car Co., Ltd.....Montreal.
Hicks Locomotive and Car Works. Chicago.
Ottawa Car Co. Ltd.....Ottawa.
Preston Car and Coach Co., Ltd..Preston.
Rhodes, Curry Co., Ltd.....Amherst, N.S.
Silliker Car Co., Ltd.....Halifax, N.S.

Castings
Crossen Car Mfg. Co.....Cobourg, Ont.
I. Matheson & Co. .....New Glasgow, N.S.
Standard Steel Works Co..Philadelphia, Pa.

Castings, Brass
Canadian Bronze Co.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.
I. Matheson & Co. .....New Glasgow, N.S.
Tallman Brass & Metal Co., Ltd.Hamilton.

Castings, Car
American Brake Shoe & Fdry Co.Mahwah.
Canada Iron Corporation, Ltd.,..Montreal.

Castings, Iron
Allis-Chalmers-Bullock Ltd.....Montreal.
Canada Car Co., Ltd.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Castings, Iron and Steel
American Brake Shoe & F'dry Co.Mahwah.

Castings, Malleable
Galt Malleable Iron Co.....Galt, Ont.
Taylor & Arnold.....Montreal.

Castings, Manganese Steel
Montreal Steel Works, Ltd.....Montreal.

Castings, Steel
Canada Iron Corporation, Ltd....Montreal.
Montreal Steel Works.....Montreal.
Rhodes, Curry Co., Ltd.....Amherst, N.S.

Chains
B. J. Coghlin & Co.....Montreal.

Closets, Car
Duner Co.....Chicago, Ill.

Coal
Nova Scotia S. & C. Co., New Glasgow, N.S.

Compressors, Air
Allis-Chalmers-Bullock Ltd.....Montreal.
Canadian Rand Co.....Montreal.

Concrete Mixers and Rock Crushers
F. H. Hopkins & Co. .....Montreal.
Mussens Limited.....Montreal
Toronto Pressed Steel Co..... .Toronto

Contractors' Supplies
F. H. Hopkins & Co.....Montreal
Rice Lewis & Son.....Toronto.
Toronto Pressed Steel Co.....Toronto.

Conveyors, Coal and Ash
Babcock & Wilcox, Ltd.....Montreal.

Copying Presses
James Smart Mfg. Co.....Brockville, Ont.

Couplers, Car and Locomotive
Dominion Car and Foundry Co..Montreal.
McConway & Torley Co....Pittsburgh, Pa.
National Malleable Castings Co..Cleveland
Taylor & Arnold.....Montreal.

Cranes
Brown Hoisting Machinery Co..Cleveland.

Cranes, Electric
Babcock & Wilcox.....Montreal.
Dominion Bridge Co.....Montreal.
Mussens Limited.....Montreal.

Cranes, Locomotive
American Hoist and Derrick Co..St. Paul.

Cranes, Wrecking
Mussens Limited.....Montreal.

Crowbars
B. J. Coghlin & Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.

Curtains and Fixtures, Car
The Holden Co., Ltd.....Montreal.

Cuts
Acton Burrows, Limited.....Toronto.

Derailing Devices
General Railway Signal Co., Rochester, N.Y.

Derricks
American Hoist and Derrick Co..St. Paul.
M. Beatty & Sons.....Welland, Ont.
Mussens Limited.....Montreal.

Dies
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Ditchers
M. Beatty & Sons.....Welland, Ont.

Diving Outfits
John Date.....Montreal.
Mussens Limited.....Montreal.

Doors, Steel Rolling
Mussens Limited.....Montreal.

Door Signs
Acton Burrows Limited.....Toronto.

Draft Gear
Farlow Draft Gear Co.....Baltimore, Md.
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Standard Coupler Co.....New York City.
Union Draft Gear Co. .....Chicago, Ill.
Waugh Draft Gear Co.....Chicago, Ill.

Draughtsmen's Supplies
John A. Hart & Co.....Winnipeg.

Dredges
M. Beatty & Sons.....Welland, Ont.

Drills, Air
Canadian Rand Co.....Montreal.

Dry Goods
The Hudson's Bay Co.....

Dump Cars (Contractors')
Dominion Equip't & Supply Co., Winnipeg.
F. H. Hopkins & Co.....Montre l.

Dump Cars, Hand
Meaford Wheelbarrow Co., Ltd..Meaford.

Dynamos
Northern Electric & Mfg. Co., Ld.Montreal.

Dynamo and Electric Castings
American Brake Shoe & F'dry Co.Mahwah.

Economizers
Babcock & Wilcox (Ltd.).....Montreal.

Electric Car Route Signs
Acton Burrows Limited.....Toronto.

Electric Apparatus
Allis-Chalmers-Bullock Ltd.....Montreal.
Northern Electric & Mfg. Co., Ld.Montreal.

Electric Light Plant
Allis-Chalmers-Bullock Ltd.....Montreal.

Elevators, Grain
John S. Metcalf Co.....Chicago, Ill.

Enameled Iron Signs
Acton Burrows Limited.....Toronto.

Engines, Automatic
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Corliss
Robb Engineering Co., Ltd..Amherst, N.S.
Allis-Chalmers-Bullock Ltd.....Montreal.

Engines, Gas
Allis-Chalmers-Bullock Ltd.....Montreal.

Engines, Gasolene
Canadian Fairbanks Co., Ltd.....Montreal.
Ontario Wind Engine & Pump Co.Toronto.

Engines, Hoisting
Allis-Chalmers-Bullock Ltd.....Montreal.
American Hoist and Derrick Co..St. Paul.
Dominion Equip't & Supply Co., Winnipeg.
M. Beatty & Sons.....Welland, Ont.
Robertson Mfg. Co. .....Welland, Ont.
I. Matheson & Co. .....New Glasgow, N.S.

Engines, Stationary and Marine
I. Matheson & Co. .....New Glasgow, N.S.
Polson Iron Works, Ltd.....Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

Engines, Steam
Allis-Chalmers-Bullock Ltd.....Montreal.

Explosives
Standard Explosives Limited....Montreal.

Express Office Signs
Acton Burrows Limited.....Toronto.

Fencing
Owen Sound Wire Fence Co..Owen Sound.

Fire Brick
Mussens Limited.....Montreal.

Flags
The Hudson's Bay Co.....

Flour
The Hudson's Bay Co.....

Forgings
Canada Car Co., Limited.....Montreal.
Cleveland City Forge & Iron Co..Cleveland.
Crossen Car Mfg. Co.....Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd..Hamilton.
Nova Scotia S.& C. Co., New Glasgow, N.S.
Standard Steel Works Co.Philadelphia, Pa.

Foundry Appliances
Goldschmidt Thermit Co.....Toronto.
Ontario Wind Engine & Pump Co., Ltd.,

Frogs
Canadian Ramapo Iron Wks.Niagara Falls.

Furnaces, Corrugated
Continental Iron Works....Brooklyn, N.Y.

Fuse Batteries
Standard Explosives Limited....Montreal.

Fuse Detonators
Standard Explosives Limited....Montreal.

Fuses, Electric
Standard Explosives Limited....Montreal.

Gaskets
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Gates
Owen Sound Wire Fence Co..Owen Sound.

Gates, Crossing
General Railway Signal Co. Rochester, N.Y.
The N. L. Piper Ry. Supply Co..Toronto.

Gauges, Locomotive
Taylor & Arnold.....Montreal.

Generators, Electric
Northern Electric & Mfg. Co., Ld.Montreal.

Grates, Shaking
Babcock & Wilcox, Ltd.....Montreal.

Groceries
The Hudson's Bay Company.....

Guides and Outfitters
Otto Bros. ..... Field, B.C.

Hammers, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.
James Smart Mfg. Co....Brockville, Ont.

Handcars
Canadian Fairbanks Co., Ltd.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Dominion Equip't & Supply Co., Winnipeg.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Rice Lewis & Son.....Toronto.

Hardware
The Hudson's Bay Co.....
Rice Lewis & Son..'.....Toronto.

Headlights
Commercial Acetylene Co. ..... Toronto.
The N. L. Piper Ry. Supply Co..Toronto.
Pyle National Elec. Headlight Co..Chicago.

Headlinings
Crossen Car Mfg. Co.....Cobourg, Ont.

Heaters, Feedwater
Robb Engineering Co., Ltd..Amherst, N.S.

Heating, Car
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car Heating & L'ting Co.New York.

Hoists, Electric
American Hoist & Derrick Co....St. Paul.

Hoists (Pneumatic)
Taylor & Arnold.....Montreal.

Hollow Staybolt Iron and Steel Bars
Falls Hollow Staybolt Co.Cuyahoga Falls.

Hoppers, Car (Wet or Dry)
Duner Co.....Chicago, Ill.

Hydrants
Canadian Fairbanks Co., Ltd.....Montreal.
Kerr Engine Co.....Walkerville, Ont.

Illustrations
Acton Burrows Limited.....Toronto.

Injectors
T. McAvity & Sons .....St. John, N.B.

Inspections
R. W. Hunt & Co. .....Montreal

Insurance, Accident
Canadian Ry. Accident Ins. Co....Ottawa.
Imperial Guarantee & Ac. Ins. Co.Toronto.

Insurance, Boiler
Canadian Casualty & Boil. Ins. Co.Toronto.

Interlocking Plant and Signals
General Railway Signal Co. Rochester, N.Y.
Montreal Steel Works.....Montreal.
Saxby and Farmer, Ltd.....Montreal.

Iron and Steel Bars
Hamilton Steel & Iron Co., Ltd..Hamilton.

Iron, Pig
Hamilton Steel & Iron Co., Ltd..Hamilton.
Nova Scotia S. & C. Co., New Glasgow, N.S.

Iron Signs
Acton Burrows Limited.....Toronto.

Iron Staybolt Bars
Falls Hollow Staybolt Co..Cuyahoga Falls.

levels of the great lakes, in feet above tidewater, for Oct., as follows:—Superior, 602.31; Michigan and Huron, 580.38; Erie, 571.79; Ontario, 245.84. It was anticipated that the levels would fall, during Nov., as follows:—Superior, 0.1 ft.; Michigan and Huron, 0.2 ft.; Erie, 0.3 ft.; Ontario, 0.3 ft. Compared with the average Oct. levels for the past ten years, Superior was 0.82 ft. below; Michigan and Huron, 0.43 ft. below; Erie, 0.33 ft. below; Ontario, 0.17 ft. above.

After conference with a committee of the Dominion Marine Association the Marine Department has decided to place the new light on the north east end of Michipicoten Island, where it will be of service to boats taking the northern channel past the island, whether bound up or down. It will be placed far enough east to be picked up by the boat up bound and far enough north to be seen by the down bound boat after passing the last preceding light on the north shore. Col. Anderson, Chief Engineer of the Department, made a special tour of the island to ascertain the best points available.

After considerable correspondence between the Dominion Marine Association and the Marine Department it has been arranged that men shall be added to the staff of employes, for thep urpose of taking lines from vessels at the head of the Galops canal, the head of the Rapide Plat, and the head and foot of the Cornwall canal, the other locks, in the opinion of the Department not requiring this assistance, and in some cases no money being available this year for the purpose of paying extra men. On the Welland, the existing arrangement, under which each vessel employs men to follow the boat through the canal on the bank, will be continued. At Sault Ste. Marie the difficulty was corrected some time ago.

The C.P.R. plans for its new bridge over the Kaministikwia River, just below Mission River Jct., Ont., as submitted to the Dominion Public Works Department have been protested against by the Dominion Marine Association, which contends that the bridge's position is bad, that it has a central pier and that its span is too short. The Association urges the erection of a double bascule or roller lift bridge, with a clear open passage of 200 ft. The plan for a bridge over the McKellar River is also criticised and a full 100 ft. is asked there. A correspondent advises us that a ludicrous situation developed at the G.T.P.R. bridge at West Fort William recently. After dark a vessel had to send her own crew on to the draw to operate it, and then could not get her crew back as they would have to stay to close the draw. The G.T.P.R. has agreed to put on a night shift of men, and is trying to rush the installation of electrical apparatus to operate the draw.

Manitoba, Saskatchewan and Alberta.

The construction work on the St. Andrews locks is practically complete, the majority of the camps having been closed down, and the men discharged. A few minor details remain to be completed, but with favorable weather, it is expected that these will be cleared up very shortly. The placing in position of the lock gates has been accomplished, and the machinery for their operation is being installed. It is stated that everything will be in perfect readiness for navigation purposes immediately the ice clears in the spring.

The possibility of creating a navigable waterway from Cedar Lake to either Lake Winnipeg or Lake Manitoba has been much discussed of late. If Lake Winnipeg were chosen, it is stated that the construction of a locking system would have to be undertaken, to overnative proposal has ben made to build a dam on the Saskatchewan River and thus render navigable a channel to Lake Winnipegosis, west of High Portage. By so doing, it is stated, that traffic could be opened between points on the Saskatchewan River between Prince Albert and Cedar Lake through Lakes Winnipegosis and Manitoba, and connections made with the C.P.R. near Poplar Point, to the south of Lake Manitoba. By the Lake Winnipeg route, traffic would pass through the St. Andrews locks to Winnipeg by water direct. Government engineers are reported to be examining the proposals, and a report will be made in the near future.

B.C. and Pacific Coast Marine.

J. Mayers has been appointed a member of the Pilotage Authority for the New Westminster district.

F. A. Pauline, Victoria, has been appointed Commissioner for the Pilotage District of Victoria and Esquimalt.

The C.P.R. s.s. Amur returned to Victoria from the Queen Charlotte Islands, Nov. 1, for repairs, having received some damage, through grounding at Skidegate.

The Columbia Trading Co., Victoria, has deposited with the Public Works Department, Ottawa, area plans, site and description of works proposed to be constructed in Alberni harbor.

It is reported that an arrangement has been made between the C.P.R. and the International Steamship Co., whereby the winter service between Victoria and Seattle will be operated by the former, and between Vancouver and Seattle, by the latter.

Mackenzie Bros. have completed the purchase of the British steamship Puri, negotiations for which have been in progress for some months. The vessel is at present lying at Bombay, India, and it is the intention of the new owners to have her brought to Vancouver by Feb., 1910.

The B.C. Public Works Department received sealed applications for a charter to operate a ferry over the Bulkley River, about ¼ mile above the mouth. The applicants are directed to state the size and kind of vessel it is proposed to use, the method of operation, and a list of the proposed tolls.

The G.T.P.R. has contracted in England for the construction of two vessels, to be named Prince Rupert and Prince George, for operation between Prince Rupert, Victoria, Vancouver and Seattle. come the Grand Rapids, while an alter- They will be 300 ft. long by 41 ft. beam, and it is expected they will be placed in service in June, 1910.

The Tacoma, Wash., Chamber of Commerce recently discussed the question of establishing a steamboat service between that city and Vancouver. It was decided to make a proposition to the C.P.R., and should that company not consent to put on such a service, to lay the matter before another line, or incorporate a company for the purpose.

The G.T.P.R. has deposited plans at the Dominion Public Works Department for a wharf or dock to be reconstructed at Victoria, on lots 7 to 13 inclusive, and on the southerly portion of lot 14, block 70, having a frontage on Wharf St. of about 390 ft., together with foreshore and water lots in front of same, together with a description of the proposed works.

Foley, Welch and Stewart's steamboat Omineca ran on the rocks in the Skeena River, about 15 miles below Hazleton, Nov. 8, and is believed to be a total wreck. She was built at Victoria this year, and was a stern wheel paddle steamer, with engine of 17 n.h.p. Her dimensions were: length, 137.5 ft.; breadth, 31.4 ft.; depth, 5.4 ft.; 168 tons gross.

The Dominion Government, through the Department of Trade and Commerce has entered into a contract with the Grand Trunk Pacific Ry. Co., for a steamship service between Prince Rupert and Queen Charlotte Islands, not less than two round trips each month, from Nov. to Mar. inclusive, and four round trips each month for the remainder of the year, calls being made at Port Simpson, Naas Bay, Stewart, Masset, Skidegate, Queen Charlotte City, Lockeport, Ikeda Bay, Jedway, Collinson Bay and Porcher Island. A subsidy of $200 will be paid for each round trip.

Steamer Cascade, Ltd., has been incorporated under the B.C. Companies Act, with a capital of $16.000, to purchase and take over as a going concern the steamboat Cascade and the freighting business carried on by P. Dougall and Leeming Bros., Ltd., Victoria, and with power to build, purchase or otherwise acquire and operate steam and other vessels. The steamboat Cascade was built at Vancouver in 1902, and is a screw-driven vessel with engine of 16 n.h.p. Her dimension are: length, 95 ft.; breadth, 22.6 ft.; depth, 7.6 ft.; tonnage, 119 gross, 81 register.

SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie Canals during Oct :

ARTICLES.			CANADIAN CANAL	U. S. CANAL	TOTAL
Copper	Eastbound	Net tons	1,092	13,247	14,339
Grain	"	Bushels	5,028,336	2,999,109	8,027,445
Building stone	"	Net tons	.....	545	545
Flour	"	Barrels	282,720	1,050,809	1,333,529
Iron ore	"	Net tons	3,482,667	2,804,991	6,287,658
Pig iron	"	"	250	9,002	9,252
Lumber	"	M. ft. B.M.	4,373	85,066	89,439
Wheat	"	Bushels	18,965,019	9,804,281	28,769,300
General merchandise	"	Net tons	3,093	17,675	20,768
Passengers	"	Number	617	1,237	1,854
Coal, hard	Westbound	Net tons	15,576	173,781	189,357
Coal, soft	"	"	212,624	876,051	1,088,675
Flour	"	Barrels	1,270	75	1,345
Grain	"	Bushels	.....	4,750	4,750
Manufactured iron	"	Net tons	17,735	35,246	52,981
Iron ore	"	"	2,465	.....	2,465
Salt	"	Barrels	8,407	38,691	47,098
General merchandise	"	Net tons	65,209	71,880	137,089
Passengers	"	Number	966	515	1,481
Vessel passages		Number	995	1,968	2,963
Registered tonnage		Net	2,955,190	4,644,258	7,599,448
Freight—Eastbound		Net tons	4,192,308	3,457,147	7,649,455
" —Westbound		"	314,939	1,162,846	1,477,785
Total freight		"	4,507,247	4,619,993	9,127,240

Jacks
Canadian Fairbanks Co., Ltd.....Montreal.
Dominion Equip't & Supply Co., Winnipeg.
H and E Lifting Jack Co..Waterville, Que.
F. H. Hopkins & Co, Ltd.....Montreal.
Montreal Steel Works, Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.
A. R. Williams Mchy. Co., Ltd....Toronto.

Japans
The Dougal Varnish Co. Ltd....Montreal.

Journal Bearings
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.

Journal Boxes
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Journal Jacks
A. R. Williams Mchy. Co., Ltd....Toronto.

Lager Beer, &c.
E. L. Drewry.....Winnipeg.

Lagging and Covering, Locomotive
Taylor & Arnold.....Montreal.

Lamps, Arc
Northern Electric & Mfg. Co, Ltd.Montreal.

Lamps, Incandescent
Canadian Westinghouse Co..Hamilton, Ont.

Lamps and Lanterns
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.

Lamps, Switch
The N. L. Piper Ry. Supply Co..Toronto.

Lathes
John Bertram & Sons Co.....Dundas, Ont.

Laths
J. Harrison & Sons Co..Owen Sound, Ont.

Launches
Polson Iron Works, Ltd.....Toronto.

Lighting, Car
Canadian Gold Car H'g & L'g Co.Montreal
Safety Car H't'g & L't'g Co..New York.

Lights, Contractors' and Wrecking
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Locomotives (Compressed Air)
Baldwin Locomotive Works..Philadelphia.
Canadian Locomotive Co...Kingston, Ont.
Montreal Locomotive W'ks (Ltd.).Montreal.

Locomotives (Electric)
Baldwin Locomotive Works..Philadelphia.
Montreal Locomotive W'ks (Ltd.).Montreal.

Locomotives (Logging)
Baldwin Locomotive Works..Philadelphia.
Canadian Locomotive Co....Kingston, Ont.

Locomotives (Rack)
Baldwin Locomotive Works..Philadelphia.
Canadian Locomotive Co....Kingston, Ont.
Montreal Locomotive Works.....Montreal.

Locomotives (Steam)
American Car & Equip. Co....Chicago, Ill.
Baldwin Locomotive Works..Philadelphia.
R. M. Burns & Co.....Chicago, Ill.
Canadian Fairbanks Co., Ltd.....Montreal.
Canadian Locomotive Co....Kingston, Ont.
Dominion Equip't & Supply Co., Winnipeg.
J. T. Gardner.....Chicago, Ill.
Hicks Locomotive & Car Works..Chicago.
Montreal Locomotive W'ks.....Montreal.
Vulcan Iron Works.....Wilkesbarre, Pa.

Lorries, Trackla ying
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.

Lubricators
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.

Lumber
Parry Sound Lumber Co.....Toronto.
J. Harrison & Sons Co., Owen Sound, Ont.

Machinery, Cement
Jas. W. Pyke & Co.....Montreal.

Machinery and Plant, Contractors'
American Hoist & Derrick Co....St. Paul.
M. Beatty & Sons.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
Canadian Fairbanks Co., Ltd.....Montreal.
J. T. Gardner.....Chicago, Ill.
General Railway Signal Co., Rochester, N.Y.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Toronto Pressed Steel Co.....Toronto.

Machinery, Hoisting
American Hoist & Derrick Co....St. Paul.
Brown Hoisting Machinery Co..Cleveland.

Machinery, Tracklaying
F. H. Hopkins & Co.....Montreal.

Machinery, Wood and Iron Working
Canadian Fairbanks Co., Ltd.....Montreal.

Machines, Boring and Turning
John Bertram & Sons Co.....Dundas, Ont.

Machines, Drilling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Milling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Planing and Shaping
John Bertram & Sons Co.....Dundas, Ont.

Machines, Radial Drilling
John Bertram & Sons Co.....Dundas, Ont.

Machines, Shaping
John Bertram & Sons Co.....Dundas, Ont.

Machines, Slotting
John Bertram & Sons Co.....Dundas, Ont.

Machine Tools
John Bertram & Sons Co.....Dundas, Ont.

Manhole Frames and Covers
American Brake Shoe & F'dry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.

Marine Repairs
Goldschmidt Thermit Co.....Toronto.

Marine Supplies
Rice Lewis & Son.....Toronto.

Metal, Anti-friction
W. Abbott.....Montreal.

Metal, Babbit
Tallman Brass & Metal Mfg. Co. Hamilton.

Metals
Goldschmidt Thermit Co.....Toronto.

Metal Work, Structural
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bruge Co.....Montreal.
Montreal Locomotive W'ks (Ltd.).Montreal.
Jas. W. Pyke & Co.....Montreal.

Milepost Numbers
Acton Burrows Limited.....Toronto.

Motors
Canadian Fairbanks Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.

Motors, Electric
Allis-Chalmers-Bullock Ltd.....Montreal.
Canadian Crocker Wheeler Co., Montreal.
Northern Electric & Mfg. Co. Ld.Montreal.

Motor Generator Sets
Allis-Chalmers-Bullock Ltd.....Montreal.

Motors, Turntable
Taylor & Arnold.....Montreal.

Nickel
The Orford Copper Co.....New York.

Nickel for Nickel Steel
The Orford Copper Co.....New York.

Numbers
Acton Burrows Limited.....Toronto.

Nut Locks
Positive Lock Washer Co....Newark, N.J.

Nuts, Clevis
Cleveland City Forge & Iron Co., Cleveland.

Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto

Oakum
The Hudson's Bay Company.....

Office Fittings
Can. Office & Sch'l Furniture Co..Preston.

Office Signs
Acton Burrows Limited.....Toronto.

Oils
Galena Signal Oil Co..Franklin & Toronto.

Packing
The N. L. Piper Ry. Supply Co..Toronto.

Paints
Standard Paint & Var. Co., Windsor, Ont.

Patterns
Hamilton Pattern Works....Hamilton, Ont.

Pile Drivers, Railway
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.

Pinch Bars
The N. L. Piper Ry. Supply Co..Toronto.

Pipe, Culvert (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Gas (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe, Sewer (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Pipe Stocks
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.

Pipe, Water (Cast Iron)
Gartshore-Thompson Pipe Co....Hamilton.

Planers
John Bertram & Sons Co.....Dundas, Ont.

Platforms, Steel
Standard Coupler Co.....New York City.

Ploughs, Contractors'
Mussens Limited.....Montreal.

Ploughs, Grading
Meaford Wheelbarrow Co., Ltd ..Meaford.

Poles
J. Harrison & Sons Co., Owen Sound, Ont.

Porter
E. L. Drewry.....Winnipeg.

Posts
J. Harrison & Sons Co., Owen Sound, Ont.

Powder, Blasting
Standard Explosives Limited.....Montreal.

Printing
Southam Press.....Toronto.

Pumps
Canadian Fairbanks Co., Ltd.....Montreal.
S. F. Bowser & Co., Limited.....Toronto.
Ontario Wind Engine & Pump Co..Toronto.
James Smart Mfg. Co.....Brockville, Ont.

Pumps (Centrifugal)
M. Beatty & Sons.....Welland, Ont.

Rail Benders, Roller
Dominion Equip't & Supply Co., Winnipeg.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.

BABCOCK & WILCOX
LIMITED

Patent Water-Tube Boilers
(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.

HEAD OFFICE FOR CANADA, 11 Place d'Armes = MONTREAL
BRANCH—TRADERS BANK BUILDING, TORONTO

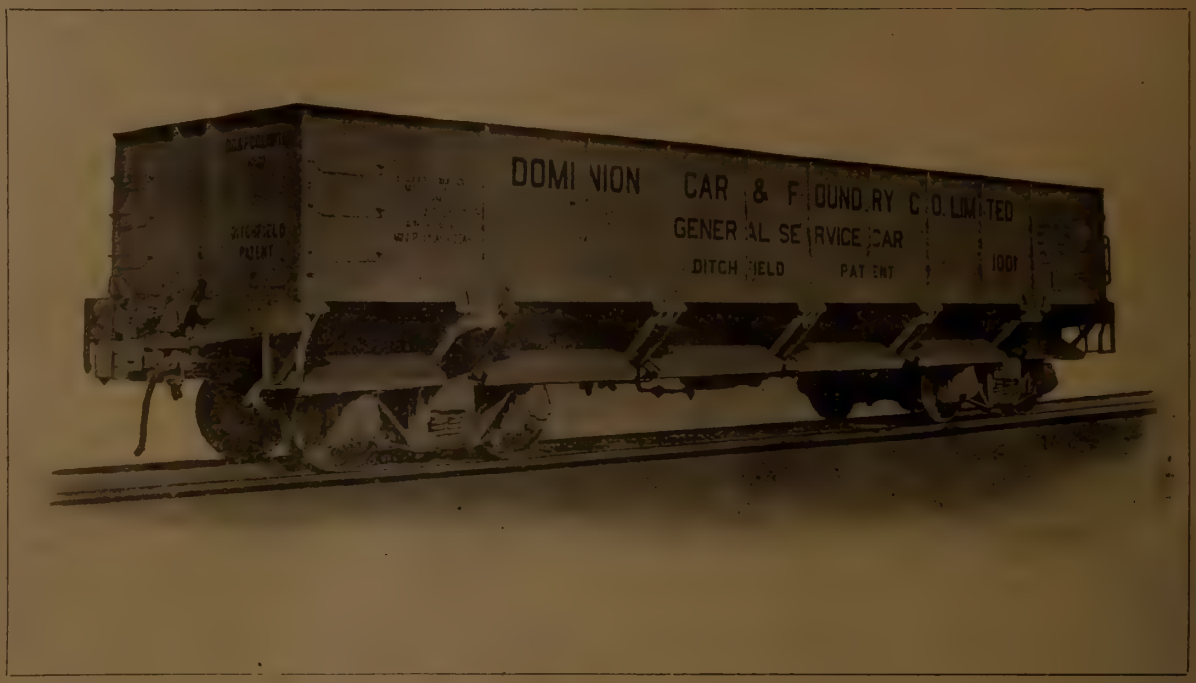
The Purchasing Agents' Guide—Continued.

Rail Drilling Machines
A. B. Jardine & Co.....Hespeler, Ont.
Rails (new)
Dominion Iron & Steel Co....Sydney, N.S.
Drummond, McCall & Co. .....Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co...'.....Montreal.
Rails (for relaying)
F. H. Hopkins & Co...'.....Montreal.
J. J. Gartshore.....Toronto.
Mussens Limited.....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rail Joints
Goldschmidt Thermit Co.....Toronto.
The Rail Joint Co. of Canada....Montreal.
Railway Supplies
Canadian Fairbanks Co., Ltd.....Montreal.
T. McAvity & Sons .....St. John, N.B.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Rice Lewis & Son.....Toronto.
Ranges
Stearnes Steel Range Co.....Chicago, Ill.
Reamers
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Replacers, Car and Locomotive
Alexander Car Replacer Mfg. Co..Scranton.
Dominion Equip't & Supply Co., Winnipeg.
The Holden Co., Ltd .....Montreal.
F. H. Hopkins & Co.....Montreal.
Rivets, Boiler, Bridge and Structural
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
Rock Crushers
Allis-Chalmers-Bullock Ltd.....Montreal.
Roofing, Car
Drake & Wiers Co.....Cleveland, O.
Rope
F. H. Hopkins & Co.....Montreal.
The Hudson's Bay Company.....
Ropes, Coal Haulage
The B. Greening Wire Co..Hamilton, Ont.
Ropes, Derrick
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.
Ropes, Switch
The B. Greening Wire Co..Hamilton, Ont.
F. H. Hopkins & Co.....Montreal.
Scales
Canadian Fairbanks Co., Ltd.....Montreal.
Scows, Dump and Deck
M. Beatty & Sons.....Welland, Ont.
Scrapers (Wheel and Drag)
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Mussens Limited.....Montreal.
Screw Plates
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Screws, Coach and Lag
Montreal Rolling Mills Co.....Montreal
Toronto Bolt and Forging Co.....Toronto.
Seats, Station
James Smart Mfg. Co....Brockville, Ont.
Semaphore Arms
Acton Burrows Limited.....Toronto.
Semaphores
General Railway Signal Co., Rochester, N.Y.
The N. L. Piper Ry. Supply Co..Toronto.
Saxby & Farmer, Ltd. .....Montreal.
Shafting, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.
Shingles
J. Harrison & Sons Co..Owen Sound, Ont.
Ships
Polson Iron Works.....Toronto.
Shops
The Hudson's Bay Co.....
Signal House Numbers
Acton Burrows Limited.....Toronto.
Signals
General Railway Signal Co. Rochester, N.Y.
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
Saxby and Farmer, Limited.....Montreal.
Signals, Fog
International Marine Signal Co....Ottawa.
Signs
Acton Burrows Limited.....Toronto.
Slack Adjusters
Chicago Railway Equipment Co..Chicago.
Sledges
James Smart Mfg Co.....Brockville, Ont.
Snow Ploughs
Crossen Car Mfg. Co.....Cobourg, Ont.
Rhodes, Curry Co., Ltd.....Amherst, N.S.
Solder
Tallman Brass & Metal Mfg. Co. Hamilton.
Spikes, Railway, Ship or Pressed
Hamilton Steel & Iron Co., Ltd.Hamilton.
F. H. Hopkins & Co.....Montreal.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.
Toronto Bolt and Forging Co.....Toronto.
Spreader Cars
F. H. Hopkins & Co.....Montreal.

Spring Dampeners
McCord & Co.....Chicago, Ill.
Springs
B. J. Coghlin & Co.....Montreal.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.
Stand Pipes
T. McAvity & Sons .....St. John, N.B.
Station Name Signs
Acton Burrows Limited.....Toronto.
Staybolt Bars, Charcoal Iron
Falls Hollow Staybolt Co..Cuyahoga Falls.
Staybolt Iron
Taylor & Arnold.....Montreal.
Staybolt Iron or Steel Bars, Hollow
Falls Hollow Staybolt Co..Cuyahoga Falls.
Staybolts, Flexible
Flannery Bolt Co.....Pittsburg, Pa.
Staybolts, Locomotive
Falls Hollow Staybolt Co..Cuyahoga Falls.
Flannery Bolt Co.....Pittsburg, Pa.
Staybolt Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Steam Couplers
Safety Car H't'g & L't'g Co....New York.
Steam Hammers
John Bertram & Sons Co.....Dundas, Ont.
Steam Shovels
M. Beatty & Son.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Steamships
Polson Iron Works.....Toronto.
Steamship Signs
Acton Burrows Limited.....Toronto.
Steel
W. Abbott...'.....Montreal.
Hermann Boker & Sons.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.
Wm. Jessop & Sons.....Sheffield, Eng.
Steel, Fire Box
Taylor & Arnold.....Montreal.
Steel for Axes
Montreal Steel Works.....Montreal.
Steel for Saws
Montreal Steel Works.....Montreal.
Steel for Springs
James Hutton & Co.....Montreal.
Steel Shafting
Nova Scotia S. & C. Co., New Glasgow, N.S.
Steel, Speedicut High Speed
Montreal Steel Works.....Montreal.
Steel, Nickel, for Nickel
The Orford Copper Co.....New York.
Steel Plates
Jas. W. Pyke & Co.....Montreal.
Steel, Tool
W. Jessop & Sons.....Sheffield, Eng.
Montreal Steel Works.....Montreal.
Stokers, Mechanical
Babcock & Wilcox (Ltd.).....Montreal.
Stoves
James Smart Mfg. Co.....Brockville, Ont.
Superheaters
Babcock & Wilcox (Ltd.).....Montreal.
Switches
Canadian Ramapo Iron W's Ld.Niagara Fs
Montreal Steel Works.....Montreal.
Switch Stands
Canadian Ramapo Iron W's, Ld.Niagara Fs
Switch Targets
Acton Burrows Limited.....Toronto.
Tanks and Tank Fixtures
Ontario Wind Engine & Pump Co..Toronto.
Tanks, Oil
S. F. Bowser & Co., Limited.....Toronto.
Tapes, Measuring
Lufkin Rule Co.....Saginaw, Mich.
Taps
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
Telegraph and Telephone Apparatus
Northern Elec. & Mfg. Co., Ltd.Montreal.
Telegraph and Telephone Office Signs
Acton Burrows Limited.....Toronto.
Thermit
Goldschmidt Thermit Co.....Toronto
Ticket Cases
Can. Office & School Furniture Co.Preston.
Tie Plates
B. J. Coghlin & Co.....Montreal.
Hamilton Steel & Iron Co..Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.
J. Harrison & Sons Co..Owen Sound, Ont.
Tie Plugs
J. Harrison & Sons Co..Owen Sound, Ont.
Ties
J. Harrison & Sons Co..Owen Sound, Ont.
Parry Sound Lumber Co.....Toronto.
Tires, Steel
James Hutton & Co.....Montreal
Jas. W. Pyke & Co.....Montreal.
Standard Steel Works Co..Philadelphia, Pa.
Tools and Supplies
Canadian Fairbanks Co., Ltd.....Montreal.
James Smart Mfg. Co.....Brockville, Ont.
A. B. Jardine & Co.....Hespeler, Ont.

Tools, Track
John Bertram & Sons Co.....Dundas, Ont.
B. J. Coghlin & Co.....Montreal.
Dominion Equip't & Supply Co., Winnipeg.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
Mussens Limited.....Montreal.
Tools, Pneumatic
The Holden Co., Ltd.....Montreal.
Tools, Cast Steel Track
American Brake Shoe & F'dry Co.Mahwah.
Track Equipment
Canadian Ramapo Iron W's Ld.Niagara Fs.
Tramway Equipment
J. J. Gartshore.....Toronto.
Transformers
Allis-Chalmers-Bullock Ltd.....Montreal.
Transmission Appliances
Canadian Fairbanks Co., Ltd.....Montreal.
Trolley Wheels
Tallman Brass & Metal Co., Ltd.Hamilton.
Trucks
James Smart Mfg. Co.....Brockville, Ont.
Trucks (Electric Car)
Baldwin Locomotive Works..Philadelphia.
Montreal Steel Works.....Montreal.
Trusses, Roof
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Tubes, Boiler
Jas. W. Pyke & Co.....Montreal.
Turbines, Steam
Allis-Chalmers-Bullock Ltd.....Montreal.
Turnbuckles
Cleveland City Forge & Iron Co..Cleveland.
Montreal Steel Works.....Montreal.
Turntables
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Typewriters
United Typewriter Co.....Toronto.
Valves, Brass Gate
Kerr Engine Co.....Walkerville, Ont.
Valves, Brass Globe
Kerr Engine Co.....Walkerville, Ont.
Valves, Iron and Brass
Canadian Fairbanks Co., Ltd.....Montreal.
Valves, Iron Gate
Kerr Engine Co.....Walkerville, Ont.
Valves, Locomotive Pop
T. McAvity & Sons .....St. John, N.B.
Taylor & Arnold.....Montreal.
Varnishes
The Dougal Varnish Co., Ltd....Montreal.
Standard Paint & Var. Co., Windsor, Ont.
Vessels
Polson Iron Works.....Toronto.
Washers
Montreal Rolling Mills Co.....Montreal.
Waste
B. J. Coghlin & Co.....Montreal.
N.L. Piper Railway Supply Co....Toronto.
Water Softeners
Babcock & Wilcox, Ltd.....Montreal.
L. M. Booth Co.....Chicago, Ill.
Welding
Goldschmidt Thermit Co.....Toronto.
Wheelbarrows
F. H. Hopkins & Co.....Montreal.
Meaford Wheelbarrow Co., Ltd...Meaford.
Wheels, Car
Canada Car Co., Limited.....Montreal.
Canada Iron Corporation, Ltd....Montreal.
Jas. W. Pyke & Co.....Montreal.
Rhodes, Curry Co., Ltd.....Amherst, N.S.
Standard Steel Works Co..Philadelphia, Pa.
Wheels, Locomotive
Canada Iron Corporation, Ltd....Montreal.
Wheels, Rolled, solid forged
Standard Steel Works Co..Philadelphia, Pa.
Wheels, Steel tired
Standard Steel Works Co..Philadelphia, Pa.
Windmills
Ontario Wind Engine & Pump Co..Toronto.
Wire and Wire Rope
Dominion Wire Rope Co.....Montreal.
The B. Greening Wire Co..Hamilton, Ont.
Mussens Limited.....Montreal.
The Wire and Cable Co.....Montreal.
Wire Cloth
The B. Greening Wire Co..Hamilton, Ont.
Wire, Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.
Wire, Electric
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.
Wire, Insulated Copper
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.
Wire Rope Clips
American Hoist & Derrick Co.....St. Paul.
Wire, Telegraph and Telephone
E. F. Phillips Elec. Works, Ltd..Montreal.
The Wire and Cable Co.....Montreal.
Wire, Transmission and Trolley
The Wire and Cable Co.....Montreal.
Wrenches, Cast Steel
American Brake Shoe & F'dry Co.Mahwah.
Yachts
Polson Iron Works, Ltd.....Toronto.

DOMINION CAR & FOUNDRY CO.
LIMITED



FREIGHT CARS

(ALL-STEEL AND COMPOSITE)

CAR TRUCKS **STEEL UNDERFRAMES**

FORGINGS OF ALL KINDS

SIMPLEX

Bolsters, Brake Beams and Susemihl Frictionless Side Bearings

---

CAST STEEL COUPLERS

Works---MONTREAL WEST

P. O. ADDRESS:
Box 2392, Montreal

NEW YORK OFFICE:
Hudson Terminal, 30 Church St.